

**The Constitution of Resistance in the Open
Source Software Movement:
Gentoo Linux and the Universe at the End of Organization**

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it previously been submitted as part of requirements for a degree.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Abstract

Bureaucracy is dead and resistance is ineffective. That is, in summary, what some of the organization literature oriented to ‘post-bureaucracy’ would have us believe. As society has progressed to become post-industrial, such that a new knowledge economy has become as important, if not more important, as a source of economic growth, scholars have predicted the decline and death of the bureaucratic form to make way for the imminent arrival of a range of new technology-driven post-bureaucratic forms that embed rules and policy in systems. These systems are seen to obviate the need for overt controls and flatten hierarchies, dispense with physical offices and equipment by virtualising organization and dispense with the notion of career by turning organizations into short-term projects. As power moves from relatively explicit and overt coercive and manipulative modes to progressively more subtle dominating and subjectifying approaches, the acts of resistance that are the inevitable reactive consequences of such organizational exercises of power are also seen to become progressively more subtle. The problem for resistance to exercises of power designed to dominate and subjectify is that they often take the form of subjective mental escape attempts that amounts to little more than a letting off of steam with no real imposition on the source of power that is resisted that may also have the effect of further subjugating the resistant employee by ‘cooling’ them out. A theory of polyarchic bureaucracy offers a way out for both bureaucracy and resistance as a form of organization that permits resistance where it stands to improve organizational practices without disturbing established power structures. This study responds to a call for further research on polyarchic bureaucracy by taking advantage of an unusual opportunity to observe an organization from its genesis to the present day. A multi-faceted qualitative analysis is made of interview data and a range of found data that includes meeting transcripts, chat-room logs, mailing list discussions and Internet forums. In seeking to study the Gentoo Linux Project as “something... normal, Just a different kind of normal”, insights are uncovered that would have remained hidden had this “weird, exotic” organization been presented as a mere “sociological freak show”. Key findings are that the theory of polyarchic bureaucracy is supported, that polyarchic bureaucracy may extend to permit resistance on the part of both individuals and groups that fundamentally alters both power relations and organization structure, and that widely shared vocabularies of motive in OSS communities may misrepresent the ‘true’ motives of individuals operating in gift economies.

Keywords: organization forms, bureaucracy, post-bureaucracy, power, resistance, gift economy, motive, identity, self, cultural meme

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Ray Gordon introduced me to organization behaviour, organization theory and power. Those *'in the know'* will recognise that the title of this work is an honorific to Ray. To say that he *'introduced'* me is an understatement, *'inspired'* is more true. I can count on one hand the number of people I know who truly *'get'* management and who truly *'practice what they preach'*, and Ray is one of them. I have never met, before or since, a teacher like Ray; to this day, *'inspirational'* seems so inadequate; the guy is amazing! *"You really made a difference today"...* no, mate, you really did!

This book is, fundamentally, about management. Stella Ng is unequivocally, unquestionably, undoubtedly, unimpeachably the very best manager anywhere and I challenge anyone to show me better (you cannot). Stella, like Ray, is a rare treasure in that she practices *precisely* what she preaches. A great many people excel at science and a great many excel at sociology, but few transcend both. Stella – a chemical engineer, a master food scientist, a master of business administration and a doctor of education – shows the world how it is done. Stella's refusal to suffer fools means that she is routinely misunderstood, yet her kindness, compassion, thoughtfulness, attention to detail, absolute commitment to equity and complete and unwavering honesty delivers every time. Stella helped me again and again and again, and helped me most by never hesitating to show me when I was wrong. Though the bureaucracy refused to formalise her role, Stella has in effect been a co-supervisor of this work and deserves to be acknowledged for her contribution.

Stewart Clegg scared the hell out of me. *"Some say that he still does"*! I think that Stella and Ray's absolute admiration for him – since they were both his students before me (and in the sense he is 'Dad' to us all) - contributed to my fear, but I was unprepared for the challenges Stewart would set me the classroom or the extent to which those challenges would improve me. Tyrone Pitsis was kind enough to counsel me: *"this guy is amazing, he takes care of his students like no other, he will do *anything* for his students... and besides, he publishes something, somewhere, every single week. What's not to admire? Don't worry mate, it's all good, don't worry!"*¹ Tyrone was, of course, absolutely right, and I am eternally grateful to Stewart for all that he has done for me and those around me and for who he has made me. Every good idea in this thesis can be attributed to Stewart's tremendous breadth of knowledge, capacious memory and boundless magnanimity. All errors and oversights are, of course, mine.

If a bloke so powerfully cynical and unwaveringly negative as Tyrone could see such good so quickly, I am embarrassed that it took me so long. An anecdote is appropriate: In that first class, back when Google Scholar and Zotero were new things, I took it upon myself to search for and record every single verbal citation that Stewart made of the literature over the course of that first day-long lecture. Stewart spoke entirely from memory and did not refer to notes at all over the course of the day. I will concede that Stewart's photographic memory is pretty good, though of the sixty author-date references he made on that day, only fifty-nine were completely accurate. He got the date wrong on the sixtieth though, to be fair, only by a single year!

1 Please read that again in your mind, this time in Tyrone's voice!

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Anne Ross-Smith makes the impossibility of combining her roles as '*academic*', '*manager*' and '*mother*' seem easy. I say mother, because that is who she is to each of us. Anne creates and persists the environment whereby each of us can shine, rejects any sense of '*us and them*', and manages with insight, empathy and decency. Even the most difficult, recalcitrant and inane are treated equitably by Anne. I cannot but dream of being half the manager that Anne is.

Keri Spooner taught me all I needed to know about politics. Not that fancy '*theoretical*' malarkey that the folks I have already mentioned taught me, but *real* politics on the ground and, truth be known, more about bureaucracy than I betray in the rest of this book. Most importantly, Keri taught me political patience. Like Stella and Anne, Keri's insight and kindness are routinely misinterpreted. As to Stella and Anne, I am indebted to Keri.

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I am a better teacher for the attitudes that both Roger and Tom instilled in me.

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1. Introduction, Aims and Purpose

*“Sound, sound the clarion, fill the fife!
Throughout the sensual world proclaim,
One crowded hour of glorious life
Is worth an age without a name.”*
(Thomas Osbert Mordaunt 1791, p.178–9)

1.1. Prologue

Welcome.

Please let me make something clear from the outset: this is not a book about computers, computer programs, computer networks or about information technology (IT) at all.

A confronting beginning, perhaps, but an important one, for it answers an oft asked question. Asked so often, in fact, that if a dollar had been paid each time “*So, you're writing a book about IT?*” was asked, this author would have enough to buy, well, a rather nice computer with which to not write a book about IT.

This is a book about people, what people do with the technologies listed above and, in particular, the people who make those technologies.

What then, is it that they do?

As it turns out, they do the same things that everyone else is doing: they communicate, they collaborate, they socialize, they produce. They work, they organize and they resist.

And they like it!

1.2. Ending Organization Theory

This book *is* about resisting organization theories about resisting organization and also about resisting organization theories about organization theory, albeit not necessarily in that order!

This study is founded on the theoretical concern that theories of organization forms and of resistance in organizations have, in effect, consigned Weber’s bureaucratic form and the notion of employee resistance to the annals of history are flawed and the belief that if either were truly broken, we wouldn’t still be using them. These are concerns that I develop in Chapter 2 in respect of bureaucracy and in Chapter 3 in respect of resistance.

The literature on bureaucracy, in particular, is disjointed. By this I mean that an attempt to provide a temporally linear account of the development of the organization forms literature from

Weber's (1978) original prescription to the present day will be confounded by a series of endings – theories that declare the end of the bureaucratic form and its replacement with various new post-bureaucratic forms – and beginnings – theories that proclaim that the claims of ends were wrong and that bureaucracy is alive and well² – that make any number of paths through the confusion possible. I arrive, by the end of Chapter 4, at a similar position to that which du Gay (2000) realizes in his *In Praise of Bureaucracy*, albeit via a different route. It is this disjointedness that leads me to an occasionally morbid tone every time a 'death' occurs, only to switch to a more cheerful note when new possibilities for a rebirth of bureaucracy and resistance arise. The narrative of this book is also quite deliberately disjointed for the same reasons.

So as to resolve the concerns for the deaths bureaucracy and resistance, I take the Open Source Software (OSS) movement in general and the Gentoo Linux Project (Gentoo) specifically as an empirical site upon which to seek out insights into contemporary organizing. I do so on the premise that if it is somehow possible to arrange OSS organizations such that hundreds and sometimes even thousands of highly skilled computer programmers are prepared to work as volunteers and they produce highly complex computer software that is of very high quality – and it clearly is, for there is an entire body of literature about these very things – then a clear opportunity exists to develop useful insights from an organization theory perspective.

1.3. A Practical Purpose

The central purpose of this work is to demonstrate to practising managers and management scholars that, in part due to new developments in technology, social structures and approaches to organizing, resistant acts are not 'bad things' to be maligned and negatively characterized as they so often are. This understanding might best come from an examination of foundational theories in contemporary contexts.

Having worked with computers, networks and technology all of my life, I do not see these technological things as new, different or special and I am somewhat troubled by the approach of scholars and practitioners who do try to characterize technology as being somehow new or unusual. At this point in time, I argue that technology is such a central factor in our personal and working lives that to view it as anything other than just 'the way things are' would be an anachronism. I hope that a perspective that is blind to the newness of technology and the practices it enables will offer new insights by seeing what many others still do not.

2 And had been living at the bottom of our garden all along.

1.4. Theoretical Resolutions

The core theoretical premise of this study is that the organization forms literature makes dire predictions for the future and utility of bureaucracy, and that the power and resistance literatures make equally dire predictions for the future and utility of resistance. A theory of productive resistance within polyarchic bureaucracies (Courpasson & Clegg 2012; Courpasson, Dany & Clegg 2011) offers the promise of a new beginning. This study tests polyarchic bureaucracy theory by assessing it in a broad empirical context where apparently unusual forms of organization are usual and where resistance to organization and to many other things is very much the order of the day.

By applying cultural theories of motive, discourse, identity, meme and self to an empirical examination of a specific organization within the aforementioned broad empirical context, the extents to which polyarchic bureaucracy theory argues that resistance ought to be permitted are tested and confirmed, and a series of proposals for further research given by Courpasson and Clegg (2012) are adopted.

The qualitative analysis of data from interviews with participants from the broad empirical context and also from within the specific organization, and a range of different types of found data conducted herein, demonstrates that the new beginnings for bureaucracy and resistance offered by polyarchic bureaucracy theory are supported by the empirical data. The research is presented in the form of an ethnographic account of themes drawn out by a combination of textual analysis using nVivo software, deeper understandings the result of a focus on “*handling my own rat*” and supported by secondary data identified using some rather fun³ automated textual analysis techniques. Not all of the findings of this study are generalizable, however, and one key finding is that it is possible to ‘go too far’ with polyarchic bureaucracy, such that resistance becomes more damaging than productive. The evidence indicates that there is a role for hierarchy and for a single senior leadership role even in the newest and most open of bureaucracies.

In these ways, while the findings that this study reaches are well grounded theoretically and well supported empirically, the path by which they are reached is not so tidy. Observing the disordered mixture of endings and beginnings – the polyphony if you like – it seemed that this book ought to be written such that the reader could choose their own paths through it. To that end, I shall now set out in some detail what each of the following chapters does and then invite the reader to choose your own adventure!

3 Fun was, as I explain in Chapter 6 and on Professor Hugh Willmott’s advice, an important goal for this research.

1.5. Choose Your Own Adventure!

This work is comprised of twelve Chapters, including this present one, and broadly follows the usual linear path we expect of scholarly research. There are some diversions from the usual path though, the result of decisions I have taken to help the narrative flow of the work, and I expect that not all readers will wish to take the same approach.

Much like the *Choose Your Own Adventure* novels that we enjoyed as children, this book is designed so that it can be read in different ways according to the particular interests of the reader. I shall offer suggested routes after first setting out what each Chapter entails.

Chapter 2. The End of Organization

This Chapter reviews the organization forms literature from the premises on which Weber (1978) based his theory of bureaucracy, through the various efforts to develop, qualify and understand his theory, and then to post-industrial developments of technology and knowledge industries that, inevitably, forced bureaucracy to be refined. This chapter examines, and for the most part rejects, a series of theoretical attempts to end bureaucracy and replace it with new post-bureaucratic forms. The Chapter concludes with the argument that, consistent with du Gay (2000), bureaucracy is alive and well and still entirely useful and necessary.

Chapter 3. Resisting Organization

In continuing to review the scholarly literature, this Chapter considers resistance theory. I adopt a model designed by Fleming and Spicer (2007) that characterizes resistance theory in an approximate parallel for power theory, so that a set of four ‘faces’ of resistance are described in terms of the faces of power that they oppose. In that sense, this material will be instantly familiar even to theorists who are more familiar with the power literature than the resistance literature. Necessary diversions to consider power are made to consider power so as to properly evaluate the defence that Lukes’ (2005) makes of his third face of power and to consider a Foucauldian subjective fourth face which power and resistance are concomitant and inseparable. The Chapter concludes with the view from the literature that resistance is all but ended, and with the hope of a new relevance for resistance that polyarchic bureaucracy theory offers.

Chapter 4. Resolving Resistance

The role of this Chapter is to introduce a number of theoretical tools that are required to resolve the problems posed by the preceding two Chapters. Theories of cooperative resistance and polyarchic bureaucracy are invoked as a potential to resolution for those problems. Theories of motive, discourse and identity are wrapped with a biological-evolutionary theory of cultural

mime as the tools needed to offer a new beginning for both bureaucracy and resistance. Whilst vocabularies of motive theory (Mills 1940) is a widely accepted approach for assessing motives as they are expressed and imputed, I argue that the externalized perspective alone is insufficient to explicate the ways in which individuals conduct themselves and adopt the encompassing notion of memes to resolve this. Research questions are set out in this Chapter.

Chapter 5. Open Computers, Programs and People

In my introduction I promised that this would not be a book about computers and IT. In Chapter 5, I very nearly break that promise. A historical account of the OSS movement provides an insight into the background and drivers for some of the key features of the Gentoo organization, and so some talk of computers is necessary. By a combination of published accounts and shared accounts and of this author's own experience, a narrative is given that suitably established a foundation for this study. I adopt the 'fast food' metaphor introduced to good reader feedback by Ng (2014) because it has proven to be an effective mechanism by which to explain the technical components and personal roles that go together to produce OSS. This Chapter considers the premise on which the OSS movement is founded and the nature of and reasoning for notions of 'open' and 'free' as they apply to computer software. Production of OSS can be seen as a form of resistance to commercial and proprietary approaches to producing computer software.

Chapter 6. Doing Organization Research

Responding to Wray-Bliss' (2003b) ethical thesis, Chapter 6 approaches methodology by way of a detailed consideration of suitable approaches and historical-methodological antecedents for this study rather than a brief self-authorizing statement of intent. The anthropological tradition is first considered, with evaluations of a series of studies beginning with the classical approach of embedding oneself with the '*piratical head hunters of Borneo*' to produce an encompassing account of a primitive society through to more narrowly focused and theoretically deeper contemporary studies in what are sometimes less physically challenging circumstances and then to consider new – to some – approaches to research enabled by technology and the public Internet. Each of these prior approaches and methodologies have their problems, of course, and as I proceed I seek to highlight key points from each and the affects they stand to have on this research. Further consideration of ethical matters, along with methodologies suitable for the questions and context and data with which this study works are made, and finally a presentation of an approach designed to make this work "*interesting and fun*" (Willmott 2012) is given.

Chapter 7. Researching Gentoo

Separating method out onto its own, Chapter 7 begins with an account of prior works that I employed in developing this study by pre-identifying themes, theories and even interview

subjects. A bibliographic approach to explaining the array of scholarly influences – both theories and people – that led me to conduct this study is taken so as to give credit to some of those who have helped. Turning then to this study, I explain in detail the selection of participants, conduct of interviews and sources of primary and secondary found data. My processes for analysis, both successful and unsuccessful, are given and evaluated. Further ethical considerations relating to the consequences of writing about people and the need to take feedback from them, are covered in this Chapter.

Chapter 8. Only Penguins – Organizing Gentoo

Placed after the methodology and method chapters because this chapter begins to rely on empirical data collected by the afore-presented means to continue to develop the empirical site for this work. Where Chapter 5 looked at the broader OSS movement, this Chapter focuses directly on Gentoo, and takes advantage of an unusual but welcome opportunity to observe an organization continuously from its inception and examines Gentoo structurally and in terms of rules, policy and other bureaucracy-like features before addressing the first research question by observing the role that resistance has played in shaping Gentoo.

Chapter 9. Leading Gentoo – Herded by Cats

This data analysis chapter considers leadership and management at Gentoo. The mechanisms by which individuals are assigned to their roles and how they conduct themselves in their roles are key focuses for this chapter. Despite selection processes that imbue leaders with substantial authority, those leaders are reluctant to exert their authority. This presents some interesting challenges for leaders who are, in effect, given the task of directing a very large herd of cats and also some interesting consequences for productivity and organizing. The question of motive is a continuing secondary theme in this chapter; the notion of the '*personal itch*' first introduced in Chapters 5 and 8 is also further explored.

Chapter 10. Contesting Gentoo – Death in Paradise

Where Chapter 9 presents something of a utopian ideal for organization where everyone has a say and everyone '*plays nice*' with each other, Chapter 10 shows a precise opposite. Conflict that is sometimes quite ugly is a recurring theme at Gentoo and it presents something of a dark side to what has, to this point, been presented as a congenial and collegial organization. The notion of the personal itch is further developed in this chapter such that it becomes a central theme for understanding why individuals who operate in a gift economy and rely almost entirely on peer repute for status will reach a point where bitter conflict overrides their usual instincts. This chapter concludes the analysis of empirical data relating to Gentoo.

Chapter 11. Generalizing Gentoo

The way in which the research questions are set out make it appropriate to reach a kind of conclusion in respect of the first two research questions before proceeding to consider the third. To that end, this chapter begins by ending before ending by beginning, with a discussion and pre-conclusion of the issues identified in the preceding data chapters. The notion of the personal itch is drawn out and assessed as a valid and real classification of expressions of motive; other expressions from the Gentoo vocabulary of motive do not fare so well, however, and certain motives are shown to fail to properly link expressed goals with executed actions. The latter part of Chapter 11 returns to an analysis mode, invoking additional sources from outside Gentoo to address the third research question regarding the generalizability of this research to the broader OSS movement.

Chapter 12. The Universe at the End of Organization

The book ends in Chapter 12 on a positive, hopeful and somewhat playful note. It takes the conclusions reached in Chapter 11 and the generalizations subsequently argued in the latter part of Chapter 11 and offers a concluding assessment of the findings of this study and how they ought to be interpreted and applied by practising managers. Whilst the Gentoo organization is unquestionably successful, there are some practices upon which improvements can be made. I conclude by arguing that if practising managers hope to find some resolution to contemporary national debates around employment and immigration that we need to find ways to create jobs that people want, and that polyarchic bureaucracy is one mechanism by which that might be achieved.

With a synopsis of each chapter in hand, the reader will be well placed to decide which chapters and in what order to approach.

1.6. How To Read This Book

Whilst this is definitely not a book about technology, there is inevitably some talk of technology herein. This will be welcomed by some readers, and perhaps less so by others. I have tried to make everything readable – the use of Stella Ng’s food metaphor is an example – by everyone.

Scholars will likely prefer to begin with the literature review Chapters, 2 and 3, then the assessment of the theoretical problematic and presentation of research questions in Chapter 4. Then, according to usual scholarly practice, they might consider the chapters that introduce the empirical arena – Chapter 5 – and the specific empirical site – Chapter 8 – before proceeding to methodology – Chapter 6 – and method – Chapter 7 – followed by data analyses in Chapters 8, 9 and 10 then ending with discussion in Chapter 11 and conclusion in Chapter 12. Note that the

empirical site is introduced after methodology and method because some of the techniques described in method and methodology are used to introduce the empirical site.

Geeks, computer scientists and other technical people, will likely find the theories presented in Chapters 2, 3, 4 and 6 to be somewhat dry. Each of those chapters begins in a fairly introductory way, and so you might choose to read the first sections, but should not feel bad about scanning over the more complex parts. Note that, as I say in therein, Chapter 5 presents one story about how OSS began; there is much in this Chapter with which many geeks will disagree and that is perfectly OK. The Chapter is designed to provide a foundation for subsequent Chapters and for a lay person's understanding; I do not claim to present The One True Way TM. Chapter 7 explains in practical terms why I chose to study OSS and Gentoo, and how I carried out this work. Reading that will help you to decide whether or not I've got this right. Chapters 8, 9 and 10 tell the story of what I found at Gentoo and relate the findings to the theory, arguing that our 'personal itch' is true, but other parts of our language are not. Chapters 11 and 12 wrap things up.

Practising managers may, similarly to the geeks, find some of the theory in Chapters 2, 3 and 4 to be somewhat 'heavy'. Do press on, though, because some of the key lessons for practising managers come from the problems that I identify with management theory in these chapters. Enjoy Chapters 5 and 8, please; they are designed to introduce OSS to an audience that is not entirely familiar with 'open source' in technology. If you're the kind of person for whom experiences speaks louder than research theory, then you may find skipping straight to the data analysis in Chapters 8, 9 and 10 and then to the discussion and generalization in Chapter 11 and the advice for practising managers in Chapter 12 will be best for you.

Though each Chapter in this book is designed to build directly upon the preceding Chapter, each also stands well enough on its own that you should feel comfortable about reading in whatever order interests you. I leave it until Chapter 12 to promote time travel as a way to theorize management effectively, but you can start with travelling back and forth in time right now, if you wish.

With that advice, you're good to go. I will just, if I may, offer a small piece of advice on being wrong.

1.7. On Being Wrong

“These discoveries that lead to sudden realizations. And I’ve been having them, over 200 dirty jobs, I have them all the time, but that one – that one drilled something home in a way that I just wasn’t prepared for. [...] and I just was struck by – if I’m wrong about that, and if I’m wrong so often, in a literal way, what other peripatetic misconceptions might I be able to comment upon?”

(Rowe 2008)

There are a number of references throughout this book to a talk given at the TED Conference in California in 2008 by an engaging yet unassuming television host named Mike Rowe. The talk is experiential, not scholarly, and yet the message of his talk is striking and has affected the way I think about work and life and research a great deal. The central message of the talk is, I think, *“be ready and open to the possibility that you are wrong”* and that by being open to the possibility of anagnorisis and peripeteia everywhere and always we open ourselves to greater possibilities for learning and understanding than we could possibly achieve otherwise.

That is how I have approached this work: with reflexivity and a preparedness to be wrong. It is an approach that I have found invaluable.

2. The End of Organization

Man 1: *"I'm not dead!"*

Body Collector: *"'Ere, he says he's not dead"*

Man 1: *"I'm getting better!"*

Man 2: *"No you're not, you'll be stone dead in a moment"*

(Gilliam & Jones 1975)

2.1. From Beginnings to the Ends

This chapter charts the path of organization theory from Weber's (1978) notion of and typology for the bureaucratic form to the end – ends, actually, for there are several – of organization. Weber had observed a consistent pattern of characteristics in organizations and in his *Economy and Society* (1978) set out typologies for organizing and the authority that secures the cooperation of organization members. Almost as soon as Weber's works were translated into English, scholars began examining and questioning his assertions. Bureaucracy was variously determined to be the best possible way of organizing, the product of a racial- or religion-oriented work ethic, structured according to efficacy, efficiency, technology, obfusability, contingencies and resource availability. As a type, bureaucracy was deemed to be very useful, not useful at all, very useful again, then subsequently seen to be dead or at least dying, replaced by one of any number of new post-bureaucratic forms.

By the end of this chapter, the reader will be absolutely satisfied that bureaucracy has reached its end. Or not. To reach that end, though, we must begin with an inadvertent beginning.

2.2. Theorising Organization

Organization theory as a scholarly pursuit was born of a kind of a convenient accident. Weber wrote about a great many things; his observations that led him to present bureaucracy as a form of organizing *"superior to any other form"* (1978, p.223) have been perhaps the most influential and have served as a major source of genesis for the field of organization studies, though he did not intend them to be so (Clegg 1994b). Insofar as organization theory is concerned, Weber's detailed observations have been *"pressed into service in the context of a discipline that had neither framed nor generated them"* (Clegg 1990, p.28).

Weber's particular contribution, at least inasmuch as selected works have been translated to English (Pugh & Hickson 2007), and co-opted into organization theory (Clegg 1990), has been to present a form of organizing – bureaucracy – in which authority, as distinct from power, invests in individuals the right to exercise control in a hierarchical organization by virtue of the positions they occupy in the hierarchy. Said individuals operate in more or less strict observance of a

system of rules and policy that enumerates exactly what exercises of authority are available to or required of them in the position that they hold.

Weber's bureaucracy is an idea far from uncontested. It has been observed to occur quite effectively (Langton 1984), rejected for an alternate explanation (Pugh et al. 1968), confirmed (Child 1972a), subsumed (DiMaggio & Powell 1983), tightened (Barker 1993), resisted (Fleming & Spicer 2007), and revived (Courpasson & Clegg 2012). In modern times, during the twentieth century, the idea of bureaucracy as an effective form of organization was the basis for most large-scale organization, whether public or private. Certainly, in the immediate post-war era and well into the 1970s it was assumed by most management theorists and lay people that bureaucracy was the default mode of organization in the modern world, that, in Weber's terms, it was the most technically rational way of managing and managing to be modern in organization. From the 1980s onwards the term, bureaucracy, as well as its practices, became ever more contested.

2.3. Debating Organization

An important debate in organization theory is one that questions the utility of critical perspectives on management. Parker, in *Against Management* (2002) gives, among many others, the example of Ritzer's *McDonaldization* (2000) thesis and questions whether such 'anti management' perspectives are of value in a field where we are all, hopefully, just trying to make things better. Parker, like du Gay (2000) before him, argues for a perspective that recognizes the value of management and organization rather than an apparent unceasing focus on tearing it apart, a charge he lays upon Critical Management Studies (CMS) theorists.

Some of the perspectives offered in this Chapter (and the next) are critical, and some simply seek to argue that organization is changing. In any case, du Gay's position that bureaucracy is not simple, and that "*popular conceptions of it are confused and paradoxical*" (2000, p.2) holds true, perhaps for scholarly conceptions as well.

The critiques of management and organization have become so many that to "*say something positive about formal organization may seem perverse in certain company*" (du Gay & Vikkelsø 2017, p.3). Consistent with Parker (2002, 2007, 1999), du Gay (2000, 2005; 2017) in arguing for the value of management and for bureaucracy as management practice, Clegg, Kornberger, Carter and Rhodes' critique is that CMS is flawed in part because it fails to properly engage, instead "CMS stays outside the game", observing that "*you cannot hijack a plane by critically analysing its route from the distant ground*" (2006, p.12).

This debate, though important, takes a different direction to that which I intend to follow herein, and so whilst I arrive at similar positions to those, particularly du Gay's (2000) 'for bureaucracy' stance, I do so by different routes and for different reasons. Where du Gay, Parker et al argue for

the *utility* of management and bureaucracy, I take utility for granted and instead argue for its *inevitability* and its continued presence in even the newest approaches to organizing.

Whatever the nuances of our end goals, however, we must all start at the same beginning, with Weber and his classical bureaucratic form.

2.4. Modern Times

What constitutes a 'modern' form of organization is, as we shall see, very much a matter of perspective. For Weber, the bureaucratic form was modern; in its monocratic form “[i]t's development is, to take the most striking case, at the root of the modern Western state” (1978, p.223). This chapter seeks to consider the development of the bureaucratic form and so a somewhat detailed review of Weber's core ideas is appropriate.

2.5. The Protestant Ethic

Weber (1950) observed a strong connection between the religion that individuals affiliated with and their standing in society. In particular, Weber noted that a great many of those whom were in management, owned capital, or occupied the upper echelons of organizations were Protestants. In seeking to understand why Protestantism was associated with capitalistic success, Weber identified the religious notion of a calling – a task set by God – as being central. Where the Catholic religion was “*indulgent to the sinner*” (1950, p.36–7), Protestants, following a biblical imperative to be diligent in business, learned that mere religious piety was not enough to ensure salvation and that “expression of virtue and proficiency in a calling” (1950, p.54) was required. It is this Protestant ethic that, for Weber (1950), constitutes the spirit of capitalism.

Weber is quick to note that not all peoples exhibit the Protestant ethic. In a global assessment reminiscent of Hofstede (1984), the Catholics and the Italians are singled out as examples of those lacking conscientiousness and thus impeding the progress of capitalism, Silesians as being only two-thirds as effective in labour as Pomeranians, and Poles as always accomplishing less than Germans! Weber does not spare his own countrymen, suggesting that whilst their work ethic is strong, their preparedness to adopt newer, more effective, approaches to labour is not; girls with a particularly Pietistic religious background were better able to receive economic education. Weber offers a description of increased piecework payments as a managerial tool to improve output which fails because the worker lacking in the Protestant ethic prefers comfort over increased income, and then demonstrates that a reduction in payments does not have the effect of increasing output either. Mere manipulation of wages alone will not ensure productivity; rather one must, says Weber, select the most appropriate people and continually educate them to an economic orientation.

Whilst at this early point Weber does not explicitly consider forms of and approaches to organization, some clear themes do emerge. Distinctions between a working class and an owning or ruling class are visible, and the notion of a calling seems to prefigure foundations for a bureaucratic notion of the idea of a profession. These elements will be examined in more detail later. The more immediate point of interest is that management can be seen to be a quite complex practice and that a rational approach to resolution of this complexity warrants consideration.

2.6. The Rationality of Rationalism

As Courpasson and Reed (2004) put it, rationalization “*has been the compulsory point of departure for any analysis of modern organization*” (2004, p.6). For Weber, rationalism was something unique to the West. He found the products of rationalism in Western examples of scientific method, art music, architecture, literature, higher education and, of course, organization (Weber 1950). Weber (1950) was at pains to present rationalism as a particularly Western phenomenon and dismissed apparent equivalents from other cultures as æsthetic or lacking rational or scientific foundation. Weber (1950) quickly narrows his attribution of rationalism as a characteristic drawn from Western society generally to those of Protestant leaning in particular, and sets it as the basis for his theories of domination and subsequently of organization (1978).

2.7. On Domination

It is fair to say that Weber's notion of domination – or authority, the legitimate form of domination – is well known. Every student of organization learns of legitimacy, and the pure forms – rational-legal, traditional, and charismatic – that Weber assigns. The concepts are palatable because their manifestations can be readily observed in day-to-day life; they are pervasive, everywhere.

Weber (1978) draws a distinction between exercises of power and influence over other persons that occur without voluntary compliance and those that do. He labels the latter 'domination', observing that a person who permits their self to be dominated does so with some kind of an interest in doing so. The voluntary nature of the compliance speaks to an acceptance on the part of the dominated of the legitimacy of the authority to which they submit.

Authority, for Weber, is conveyed upon an individual or certain offices in a hierarchy by those who are subject to said authority because they have an implicit belief in its legitimacy (Weber 1978). Legitimate authority presents in three distinct forms; legal, traditional and charismatic (ibid).

2.8. Legal Authority, and Bureaucracy

Like a movie goer watching a film after having already perused the novel on which it is based, a first-time reader of Weber's words will recognize, and anticipate, the presentation of the bureaucratic form well before the author denotes it as such. The 'Legal Authority' pure type has an appreciable consistency with contemporary organizations.

For Weber (1978), the 'Legal Authority' pure type is characterized by a foundation of legal norms – established either by agreement or by imposition – which apply to all persons within a particular scope. The system of laws is rational, established on grounds of expediency or value and is applied consistently. Individuals in authority are themselves subject to the system of laws and execute their authority only within the particular scope. Importantly, dominated individuals subject themselves not to the authority of individuals in power, but to the impersonal role from which said authority is realized. Weber goes on to characterize at length a form of organization that features rule-bound operation within a defined jurisdiction, a defined division of labour with obligation and authority distributed therein, an established hierarchy in which superordinate roles have authority over subordinates, a rationalized system of rules and norms by which the organization conducts itself, a clear disconnection between the members of the organization and the owners of the means of production, a system of appointment of officeholders, a process of record keeping, and a range of means by which legal authority may be executed before labelling it a “*structure of domination*” and denoting it “*officialdom*” or “*bureaucracy*” (p. 219).

The ways in which individuals are appointed to and function within roles in Weber's (1978) bureaucracy are also of particular note. A single “*monocratic*” “*supreme chief*” (p. 220) occupies a prime position of dominance within the organization but even that individual is subject to the legal framework within which the organization operates. Membership of the organization is constituted according to ten criteria: First, individuals are subject to authority only within the bounds of their obligations to the organization; otherwise, they are personally free. Second, membership is established in a clear hierarchy of roles, – 'offices' for Weber – each of which, third, has a defined sphere of capacity. Fourth, members take on their roles freely and are selected for their roles, fifth, by their ability to demonstrate a technical competence to perform the role. Sixth, individuals are paid a salary for their performance of the role, are free to leave their role at any time and, seventh, hold as their primary occupation the defined role. In the pure monocratic type, individuals may seek, eighth, to be promoted through the hierarchy in the course of their career but do not, ninth, attain ownership of the organization nor an unfettered right to remain in their role. Finally, members are subject to the systematic legal norms of the organization.

Weber (1978) offers the monocratic legal type and the terms of membership of same as being applicable to a wide range of different fields, visible in differing degrees of consistency with the pure type in all kinds of organizations, political and otherwise. That the bureaucratic form is

“capable of attaining the highest degree of efficiency” and is thus *“the most rational known means of exercising authority over human beings”* (p. 223) serves to explain its ubiquity in Western organization. Though a range of organizations exist that apparently do not conform to the ideal rational-legal type, Weber is strongly committed to the type's applicability and utility in all organizational contexts where an administrative function is required; the only choice, he says, is between *“bureaucracy and dilettantism”* (p. 223).

The technical knowledge held by members of an organization is the core principle that makes the bureaucratic form superior (Weber 1978). The way in which a particular economy is organized has no bearing; bureaucracies are present and relevant in capitalist, socialist and presumably other, economic arrangements. In seeking, as we do here, to observe an organization whose economic stance appears not to be wholly capitalist, it is entirely possible that a bureaucratic form may still present. This situation is present in Rehn's (2001) Internet-based organization which presents a gift economy entirely devoid of capitalist orientation but which exhibits a clear bureaucratic form comprised of hierarchy, roles and rules. Weber suggests that a non-capitalist organization may very well place even stronger importance on professional bureaucrats. Senior professional bureaucrats may very well have greater control over an organization than their non-specialist superiors (Weber 1978).

2.9. Traditional Authority

Weber goes on to present tradition as a mechanism by which authority may be held by and granted to an individual where legitimacy is claimed and accepted *“by virtue of age-old rules and powers”* (1978, p.226). In this form, those who subject themselves to the authority of a master comply because of their whole acceptance of a traditional premise for said authority. Organizations founded on tradition will see authority delegated to particular officeholders but, in contrast to the bureaucratic structure of a legal authority, individual officeholders will have responsibilities that cross technical boundaries and will be appointed on the basis of familial ties or favour rather than by technical competence. The traditional type does not cater for formal legal principles in government, rather a master and his staff are free to act as they wish, insofar as their subjects' commitment to tradition will allow. Importantly, the traditional type lacks key elements of bureaucracy such as organization by sphere of competence, a hierarchy established on rational terms and processes of appointment that lend to career progression and free contracts.

2.10. Charismatic Authority

Charisma is ascribed to an individual personality who is seen as extraordinary by virtue of *“supernatural, superhuman or at least specifically exceptional powers or qualities”* (Weber 1978, p.241). Thus, charismatic authority is not available to an 'ordinary' person, rather, individuals attain their leadership status by divine or exemplary origin (ibid). Weber notes that,

particularly in ancient cultures, charismatic authority often rides on some sort of magical power; in other contexts particular skill, wisdom or heroism will imbue an individual with charisma. In each case, maintenance of charismatic authority is contingent on some form of proof, be it a successful hunt, giving of wise counsel, a heroic act or a magical achievement. Without such proof, authority in this form will dissipate but when appropriately maintained, the bearer of charismatic authority may expect “*complete personal devotion*” (Weber 1978, p.242) from those who recognize the ‘genuineness’ of the charismatic quality. In addition to the apparently tenuous nature of the charismatic form of authority, structure and stability are barely present. There is, Weber says, no formal hierarchy, no assignment of power on the basis of technical capacity or social privilege and no formal sense of rule making. Charismatic authority is “*sharply opposed*” (Weber 1978, p.244) to rational authority and in particular to bureaucracy.

As much as Weber waxes lyrical about the bureaucratic form and the legal authority upon which it is based, he works equally hard to establish charismatic authority as a clear opposite. It can be seen that the lack of structure and of formal offices, and the central focus on a single charismatic individual, the size and scope of an organization founded on charismatic terms must be limited. Charismatic authority is inherently nascent; it “*cannot remain stable, but becomes either traditionalized or rationalized or both*” (Weber 1978, p.246).

Whilst Weber presents the three distinct types as mechanisms by which authority is imbued in the powerful, he makes it explicit that he considers the legal type and the bureaucratic form premised upon legal authority to be highly superior (Weber 1978). Weber’s work constitutes a foundation for a deeper examination of the bureaucratic form and its development.

2.11. The Social Nature of Organization

Almost immediately after Weber's works began to be translated into English, western scholars began to examine and extend his work. Stinchcombe offered a useful definition of 'organization',

“By an "organization" I mean a set of stable social relations deliberately created, with the explicit intention of continuously accomplishing some specific goals or purposes” (1965, p.142)

In doing so he sets out the case for the organization as an explicitly social phenomenon. Acknowledging the inherently social nature of Weber's work on organization, Stinchcombe places social relations at the core of his examination of how, and why, organizations are created, what forms they take, and why they take the forms they do.

Organizations form when people become aware of better ways of doing things that aren't possible or practical in existing organizations, when they see the new organization will be sufficiently profitable to warrant effort, when they or their social group stand to benefit, they can

avail themselves of the necessary resources and when they can defeat, or avoid defeat by, their competition (Stinchcombe 1965).

Stinchcombe acknowledges Weber's presentation of the Protestant ethic, though is not wholly convinced of the link that Weber draws to industrial capitalism, instead offering a more tactful explanation than Weber's open critique of the work ethic of a range of races and religions. Offering it as a point that Weber had missed, Stinchcombe argues that Protestants were simply more literate than Catholics during early industrial times, and that it is literacy, and access to conditions and social situations which promote it, that is the key driver for formation, and success, of organizations (1965). *"In short," he says, "literacy and schooling raise practically every variable which encourages the formation of organizations and increases the staying power of organizations"* (p. 152)

Urbanization often has the effect of bringing together large numbers of people with widely varied experiences, and presents them with the possibility, even likelihood, of engagement with each other. This opportunity for exposure to differentiated perspectives is as effective as studying at university – itself a wholly legitimate means of broadening one's horizons – in producing the possibility of the awareness of better ways of doing things that is Stinchcombe's first factor that leads to creation of new organizations (1965).

As to the precise form new organizations will take, Stinchcombe offers two particular points that are of note. The first, he suggests, is experience. People will construct organizations influenced by the forms that other organizations they have worked for, or at least have engaged in business with, have taken. Experiences of both success and failure are both influential. *"[t]he main way to learn to form organizations is to form them,"* (1965, p.154) *"Beginning businessmen are more likely to succeed if they have failed before"*.

Second, new organizations form when it becomes possible for them to do so. Necessarily, appropriate social and structural possibilities must first exist. Once a new organization form becomes socially and technically possible, then new organizations may adopt that form. As new forms succeed they become institutionalized and the form tends to stabilize. (Stinchcombe 1965)

2.12. Technology Begets Structure?

An inference which might be drawn from Stinchcombe's findings is that extant organizations, in effect, serve as a rationale for organizations of similar structure to be founded or that, at least, existing organizations influence the way in which newly founded organizations are structured. This stability of methods continues until a disruptive event occurs that renders a new approach to organization possible or necessary. The question of why particular organizations adopt particular structures remained an open one, however.

Woodward set out to examine the relationships of responsibilities between technical specialists and line supervisors in Essex in the United Kingdom. It became quickly apparent that the single relationship could not be effectively studied in isolation and so their investigation was extended to the whole management structure of 203 firms in the south of Essex county. Acknowledging the difficulty in examining the effectiveness of a given arrangement, Woodward (1958) points out the danger in an almost Darwinian assumption: that a given structure is effective because it exists – the implication being that if it wasn't effective, it would have been supplanted by something else that did work.

Woodward found marked differences in the way individual firms organized. Some employed strict line hierarchies, some were true Taylorist (1911) functional organizations and others had very few structural layers or spans at all. Wide variations also occurred in terms of levels of management, span of control, costs associated with staffing and mechanisms for promotion. Overall, the group of organizations proved very diverse. When organizations deemed to be particularly successful were separated out, diversity of organization structure remained. The adopted mode of organizing, in and of itself, had no apparent affect on organizational effectiveness (Woodward 1958).

When Woodward examined the degree of technical complexity of the work undertaken by organizations, consistencies began to appear. When grouped by the technical nature of their work, organizations which engaged in production of unit quantities of bespoke products, organizations whose products were made on production lines, and organizations that produced batches or continuous flows of output each had distinct modes of organizing that were consistent within each group. A direct lineal relationship between the number of levels of authority and the nature of production was visible: unit production organizations had relatively flat hierarchies, most mass production firms had between four and six layers of management, and process production firms had between five and eight layers in their hierarchies. The span of control number of senior management was higher for mass production firms than for unit or process types, and the number of staff per supervisor increased markedly as unit production organizations grew in overall size, increased somewhat as mass production organizations grew in size and reduced as process production organizations became larger. The nature of relationships between managers and workers, and general levels of conflict, also varied according to manufacturing technology (Woodward 1958).

The overarching finding for Woodward's work is that the mode of organizing adopted by firms is directly affected by the nature of the production technology employed by those firms. Woodward's work is a precursor to a more comprehensive contingency theory of organizing.

2.13. Structuring Organizations

Weber presented the legal type, the bureaucratic form and their features as the somewhat inevitable product of organizing in modern times. Much of the 1950s research agenda (Reed 1989) saw exceptions and deviations from the Weberian ideal type identified. For instance, Blau and Scott (1963) were interested in notions of rationality, in particular the way in which exercises of power and control transition into authority. Where a group – the effect does not apply to individuals – rationalize control and form a social norm that deems obedience to be appropriate, the control becomes authoritative as compliance becomes voluntary. Authority is inherently social; it is the collective acceptance of control that leads individuals to submit themselves (Blau & Scott 1963). Compliance, for Blau and Scott (1963), is as voluntary as the custom of wearing shoes when out in public – we do so as much in obedience of a social norm as we do for personal comfort.

Blau and Scott sought to classify organizations, noting that the question of ‘who benefits’ from a particular organization's activities would vary according to the nature and purpose of the organization and that what constituted being ‘rational’ would be dependent on that contextual understanding. They distinguished among examples of organizations that benefited (1) the membership of the organization, (2) the owners of the organization, (3) the clients of the organization and (4) the public at large (Blau & Scott 1963, p.34). What activities are in the interests of participating members of organization will depend on how their varied interests are best served. Their conceptions of what is rational and what is legitimate authority are thus dictated by the question of ‘who benefits’.

By the 1960s, the ideal type approach exemplified by researchers such as Blau and Scott was in decline and systems frameworks were becoming dominant. Using an open systems framework researchers sought to identify which contingent features of organizations best predicted the structural features of variants around the classic bureaucratic organizational structure. Arguably, the most important of these investigations were conducted at the University of Aston. The Aston group sought, by way of an empirical study of 52 organizations, to establish a set of dimensions by which to measure the structure of an organization. They put it that by observing an organization in terms of five primary variables – specialization, standardization, formalization, centralization and configuration – a succinct summary of an organization’s structure could be made (Pugh et al. 1968). The Aston studies present problems for Weber’s work; Child (1972a) reads the mutual independence of specialization and standardization in the Aston study as an implicit rejection of the Weberian stance associating structuring and decentralization. Additionally, because “*organizations may be bureaucratic in any of a number of ways*” (Pugh et al. 1968, p.88), an ideal type is not useful (Child 1972a).

In order to resolve the apparent insufficiency of Weber’s single ideal type, the Aston group arranged the variables into dimensions and sought to establish the first three dimensions as the

basis for a broader taxonomy of organization types (Pugh, Hickson & Hinings 1969). By considering structuring of activities, – incorporating employee behaviour, role specialization, task allocation, routinisation of work and formalization – concentration of authority, – the sources and hierarchical location of decisions affecting the organization – and line control of workflow, – the extent to which workers control the course of their own labour, the group established a set of seven bureaucratic types and argued that organizations take on forms that may be represented in terms of one of those types (Pugh, Hickson & Hinings 1969). Inkson (1970), writing with Pugh and Hickson, re-validated the prior Aston studies with the goal of improving the practicality of their technique for organizational assessment.

Child (1972a) was critical of the sample of organizations chosen for the Aston study because they were geographically undiverse but otherwise broadly dissimilar in terms of make-up and industry. He set out to replicate the Aston study to resolve these problems. In a new 'National' study of eighty organizations, Child (1972a) was able to re-confirm Weber's (1978) link between centralization and control and, to that extent, rejected the Astonian position.

Child (1972b) departs from a line of studies that set out to attribute organization structure to functional imperatives by introducing the idea of political action. What is missing from prior studies, argues Child, is an understanding of the processes that underlie the statistical relationships they identify. Rejecting theories that claim organization structure is effected by factors such as 'size' or the ill-defined (1972b) 'technology' as deterministic, Child offers a theory of strategic choice. Decisions made by power-holding actors within an organization will determine the structural form that an organization takes but may also include manipulation of environmental factors and selection of the standards by which performance is measured. By imposing upon the environment which in turn affects the organization and by adjusting what constitutes good performance, there is a move away from an understanding of organizations as the explicit product of their environment to a view that considers political action effective of organization forms. (Child 1972b)

2.14. Contingencies Effect Structure

Woodward was by no means the first to consider that organizations will take on forms that are influenced by environmental factors. Burns and Stalker (1961) offered forms that they called mechanistic organization and organic organization; the former being representative of Weber's bureaucratic form with differentiation of tasks on functional lines, abstraction of tasks, defined rules and policies and hierarchical control structures and the latter a polar opposite with individuals contributing more broadly to the overall goals of the organization, continual adjustment of assigned tasks according to need and negotiation, and a network structure of control. For Burns and Stalker these were not so much distinct types as poles between which organizations might position themselves according to and as a result of environmental impacts (1961).

Lawrence & Lorsch (1967) also sought to understand the relationship between organization and environment and identified a link between the degree to which differentiation and integration in an organization met the requirements of the environment in which it operated, and the economic performance of that organization. Differentiation refers to the way in which an organization is segmented into subsystems. By including behavioural characteristics of subsystem members, the definition extends beyond a simple division of labour. Integration is “*the process of achieving unity of effort among the various subsystems in the organization's task*” (1967, p.4). Ideally, organizations need to achieve high differentiation of subunits so as to achieve best fit between each subunit and the environmental factors that affect it specifically, and need to achieve high integration between organizational subunits to enable them to best meet the needs of the organization as a whole. By way of example they offer sales and research departments that must differentiate highly to address their goals as subunits, but must integrate tightly so as to feed back market demands and develop products that the market actually requires. Differentiation and integration are essentially mutually antagonistic states and it is difficult to achieve both effectively. Lawrence and Lorsch' work is also interesting because it considers the ways in which environmental factors affect orientations of organization members to their work processes. (1967)

Donaldson's work (2001, 1985) draws on that of the Aston group in seeking to cement a strongly positivist perspective on structural contingency theory (Pugh & Hickson 2007). In adopting bureaucratization and differentiation of activities as structural premises and adopting organization size, the degree of task uncertainty and the degree of interdependence between tasks as key contingencies, Donaldson argues that the degree to which an organization's structure has fit with its contingencies affects its performance (2001). Organizations are intrinsically linked to their environment and, to perform at their most effective, must operate and interact with their environment in ways that are as complementary as possible, that is, at best 'fit'. Inevitably, changes in internal and external contingencies such as technology, market factors, competition and such like can cause organizations to fall out of fit with their environment and organizations are forced to adapt structurally to regain optimum fit.

Donaldson, having presented his contingency theory of organizations and an explanation of the means by which organizations adapt to achieve 'fit' with their environment (1987), rejected Child's (1972b) theory of strategic choice for his own explanation that organizations engage in 'structural adaptation to regain fit' (Donaldson 1996).

On reading Donaldson's contingency theory, one feels compelled to ask “*where are the people?*”. For all its detailed consideration of organizational activity, human actors are strangely absent from contingency theory. Contingency theory is criticized for its failure to consider political action, and resistance to change (Clegg 1996b), and for a selective perspective that is not properly representative of the polyphony of views that constitute organization theory and the practice of organization itself (Clegg 1988).

The veracity of the Aston studies is further challenged by Ackroyd (2011) who argues that the character of the British firms that Pugh, Hickson and their colleagues examined was fundamentally misrepresented. The large motor vehicle manufacturer BMC (British Motor Corporation) was seen and represented as a single large organization when in fact it was made up of an aggregate of many small subsidiaries imperfectly subsumed corporately and operating, at least to some extent, independently (Clegg 2012) and so it might be argued that at least some of the subjects of the Aston studies were more representative of what are now viewed as small, independent and networked post-bureaucratic structures.

2.15. Resources Effect Organization

Pfeffer and Salancik (1978) take a perspective that can be linked to that of Stinchcombe (1965) and Child (1972b) in that they recognize the social nature of organization that others (Donaldson 1996) reject, do not consider (see Pugh, Hickson & Hinings 1969; Woodward 1958), or barely acknowledge (see Burns & Stalker 1961; Lawrence & Lorsch 1967). Acknowledging that ability to cope with environmental contingencies contributes in part to organization success, *“organizational environments, however, are not objective realities”* (Pfeffer & Salancik 1978, p.133). Rather, organizations are comprised of and affected by social actors, that may be other organizations, groups or individuals, who have control over resources upon which the organization relies. Because actors' commitment to an organization is incomplete, their control of needed resources gives them some degree of power. To the extent that they control critical resources, actors have the ability to direct organizational outcomes. Actors offer their resources in return for a degree of *“control over the collective effort, and then, they use that control to initiate actions for their own interests”* (p.132). Pfeffer and Salancik's resource dependency theory is important for its introduction of social actors, their interests and the concept of power to research of organization forms.

2.16. Why Bureaucratize?

The rise of bureaucracy as a form of organization can be explicitly linked to the capitalist imperative to generate surplus value (Marx in Simon 1994) in ever increasing amounts. A determined procession towards industrialization, itself a product of the capitalist thrust, is at the core of the development of management. The earliest examples of systematic thought being applied to the exploitation of labour in capitalist industrialization, can be traced back to American slavery. Though the operation of plantations reliant on slave labour is excluded from modern management theory by its ‘unsophistication’ and ‘pre-capitalist’ nature, the imposition of discipline and order – however crude – to large-scale production constitutes the plantations as a starting point for industrialism, according to Cooke (2003).

While Weber described bureaucracy in great detail, and even warned of its negative consequences, his work fails to consider how and why bureaucratization occurs (Langton 1984). Marx is keenly aware of the negative consequences and investigates those at length but his critique turns directly to the quest for surplus value and the personal and social consequences – particularly for workers – of doing so. Precise details of the process leading to bureaucracy are missing (Langton 1984). Marglin's (1974) systematic presentation of the development of bureaucratic firms seeks to address this failing and he is forthright in presenting his explanation of the 'true reason' for the rise of bureaucracy as an approach to organizing.

Marglin demonstrates, in blunt and strongly critical terms, that the sole and central purpose for the application of the bureaucratic method to industrial production is to ensure a place, and a profit, for a largely unnecessary entity: the capitalist entrepreneur. The principles of scientific management are not, argues Marglin, a means to achieve the best possible efficiencies in production. Using Smith's (1776) pin factory as his example, Marglin shows that efficiencies can equally well be achieved by a single worker devoting their effort to a particular step in a production process for long enough to offset the set-up costs of that step before moving on to a subsequent step. There is no reason in terms of efficiency for different people to be committed to each sub-process and, in practice, allowing a single individual to be involved in a greater portion of the production of a given product would likely serve to mitigate the alienating affects (Simon 1994) of such work. Rather, the reason for the Taylorist approach to task design and allocation is to ensure that no one worker learns enough about the production process such that they could establish their own enterprise in competition with the one by which they are employed (Marglin 1974).

Even where processes need not be broken down into small steps there is no benefit, Marglin argues, to centralizing production in factories. Situations where batches of work are 'put out' to small private producers who have their own machinery are as effective as mass production in a factory. The reason for centralization of production into factories, and for legislative measures limiting ownership of machinery such as weaving looms and flour mills is to artificially construct a place for the capitalist as a profit-making intermediary and to abrogate the possibility of competition (Marglin 1974).

Marglin rejects out-of-hand claims that application of hierarchies and division of labour are means to achieve technological efficiencies and advances the firm view that the outcome was *"the result of a search" ... "for an organization which guaranteed to the entrepreneur an essential role in the production process, as integrator of the separate efforts of his workers"* (1974, p.62).

Considerations of the motivations for bureaucratization are plentiful; Marglin's critique is more pointed than many. Bureaucracy survived early criticisms however, and continued its rise.

2.17. The Rise and Rise of the Bureaucratic Form

A more recognizable account of bureaucracy can be seen in Langton's (1984) empirical account of Josiah Wedgewood's bureaucratization of the British pottery industry in the late 1700s. Langton (1984) argues that Weber falls short of establishing bureaucracy as a paradigm in the Kuhnian (1970) sense because of his failure to explain how bureaucratization takes place and for his failure to provide a "*satisfactory empirical account*" (Langton 1984, p.334) of why bureaucratization occurs.

Langton attempts to resolve the flaws he identifies in Weber's work by invoking a biological-evolutionary perspective, arguing that theories of systematic adaptation (Darwin 1964) and the law of effect (see: Dennett 2007) suitably explain that which Weber did not. Whether one takes the mainstream view – that organizational profitability is enhanced by increased effectiveness and efficiency – or the Marxian – that division of labour into a hierarchy is designed to intensify workers' performance – position, the fundamental reason for the rise of bureaucracy lies in its potential to "*improve [its] input-output efficiency and [its] ability to extract surplus value*" (Langton 1984, p.330).

Langton's (1984) empirical account presents a striking picture of pre-industrial work, in which by contrast with contemporary terms workers were seen to be indolent and uncommitted. Notwithstanding that Wedgewood's workers were paid, it seemed that they had little real compulsion to work. Wedgewood's intent was to produce greater quantities of better quality pottery for sale at a cheaper price than that produced by then conventional means. To achieve this, Wedgewood considered it necessary to structure his organization on bureaucratic principles so as to render his workers compliant, committed and effective (ibid). Wedgewood's objectives were greatly aided by John Wesley, a Methodist cleric who had begun preaching in Staffordshire shortly after Wedgewood established his pottery business. Establishing amongst his parishioners what amounted to a variation on Weber's Protestant ethic, Wesley instilled an imperative for a sober, respectable and hard-working life as a means for his congregation – many of whom were also Wedgewood's employees – to prove their worth before their God. Naturally, these pious characteristics were also of substantial benefit to Wedgewood in his capitalist endeavours. Langton's characterization of bureaucracy is one of a mechanism designed to contain worker resistance (Courpasson & Clegg 2012).

Perrow (1985) is not convinced by Langton's arguments and returns to a position similar to that of Marglin (1974). In Perrow's eyes, Langton treats Wedgewood far too kindly.

Wedgewood, for Perrow, was an entrepreneur, a capitalist and a member of the elite who was afforded special privileges by his societal status. Wedgewood successfully lobbied the state to provide infrastructure in the form of roads and a canal that would provide ease of ingress for raw materials and egress for finished product. If Wedgewood had been a peasant seeking to start a

small pottery, his requests for infrastructural support would have been rejected out-of-hand, argues Perrow (1985).

Langton's claims of evolutionary development of organizational form to assure environmental 'fit' also attract Perrow's criticism. Where Langton seems happy to accept that the nature of work and organization has evolved to the point where it best fits societal needs, Perrow argues an opposite: that members of the elite desire a new environment and reward the efforts of people like Wedgewood whose activities 'fit' the environment they prefer (1985).

2.18. Trapped by Bureaucracy

There is some debate over precisely what Weber meant by what one translator called the “*iron cage*” (Weber 1950, p.181) and another a “*shell as hard as steel*” (Baehr 2001, p.154) and a context that a literal translation labels a “*polar night of icy darkness and hardness*” (ibid, p. 155) but the broad premise seems clear: as the ascetic protestant work ethic observed by Weber (1950) and exploited by Wedgewood with Wesley’s assistance (Langton 1984) filtered into mainstream industrial society, the rise of bureaucratic organization in a capitalist economy brought with it an irresistible push for economic acquisition – Marx’ quest for surplus value (Simon 1994) – that binds all of society. The lives of all, regardless of whether or not they are directly engaged in profit-seeking activities are affected – in a negative and alienating way, Marx would argue (Simon 1994) – by the structured, rational rule of bureaucratic capitalism. In this way, bureaucracy produced a consequential change in the “*nature of class and status in society*” (Greenwood & Hinings 1996).

2.19. Post-Bureaucratic Organization

By the 1960s, especially after the student movements of those times, some scholarly interest turned to a new transition, from industrial to post-industrial capitalism (Heydebrand 1989), to what was beginning to develop into a post-industrial society in both capitalist and socialist contexts (Touraine 1971).

Whether or not the transition from industrial to post-industrial and its concomitant transitions of organization forms constitute an epoch event of the magnitude of the industrial revolution (Gordon 2007) or an epoch event at all (McSweeney 2006) is a matter for debate.

While the new organization forms of post-industrialism to be considered here are clearly significant and wide-reaching, bureaucracy itself is still very much alive and well (Courpasson & Clegg 2012) and present in many organizations; doubly so in niches such as public sector and government organizations (Heydebrand 1989).

For Touraine, post-industrialism is characterized by a movement away from a society where the central focus of economic and industrial decisions and actions is on labour that is directly

productive. Society is more focused than ever on growth, but the means by which growth is achieved are far broader than the simple accumulation of capital that sufficed in the industrial age; it is more accurate to consider growth as a product of the entire political process than as the simple result of industrial productivity (Touraine 1971). Touraine sees social domination becoming wider in its reach and in its social, cultural and political effects and also increasingly alienating for workers.

Whilst they make similar observations about the evolution of economic developments, where Touraine's interest was broadly sociological, Heydebrand's observations are specifically organizational. Also recognizing a move away from direct production as a means of achieving growth and towards a '*knowledge economy*', Heydebrand's (1989) '*second industrial divide*' brings with it marked changes to the forms which organizations adopt.

2.20. What About the People?

The considerations of organizational forms presented so far have as their focus largely on technical factors: organization size, organization structure, the nature of production and so forth while the humans who work in those organizations are conspicuous primarily by their absence from the studies. In setting out to define a set of structural variables by which organization forms might be portrayed, Heydebrand offers an anthropocentric approach and orients his variables to human labour rather than technologies (1989).

In Heydebrand's (1989) terms, the size of the labour force is a central causal factor with direct structural effects that may extend so far as to cause changes in form as an organization grows. Considering the object of labour permits differentiation of organizations by way of what they produce. The move from direct production of physical commodities to delivery of services and information is a defining characteristic of post-industrial organization. The means of labour observes the way in which production is executed and most notably sees a transition from human interactive mechanical processes to situations where humans interact with computers that either produce outcomes directly or control the machines that do. Division of labour considers how people are assigned to tasks and varies from a formal rational managerial allocation of individuals to specific positions with its concomitant implications for control to a more flexible and democratic division based on needs, specializations and control. Control of labour itself as it applies to managerial control at the point of production and considers the extent to which managers control work directly or factors such as division of labour and the embedding of technology in processes effects control, the social interactions "*between and among workers and managers*" (1985, p.13) that Burawoy described as "*relations in production*" (ibid, emphasis Heydebrand). Finally, a consideration of ownership and control looks at control at the institutional and societal level; in terms of Burawoy's social "*relations of exploitation*" (1985, p.13) or "*relations of production*" (Heydebrand 1989, p.327). In post-industrial organizations

Heydebrand (1989) observes a return to pre-industrial flexible, informal, decentralized approaches to control that are culturally oriented.

Observing that, with the exceptions noted above, the classic bureaucratic organization appears to be disappearing, Heydebrand offers a generalized picture of what a typical post-industrial, post-bureaucratic organization may look like:

“it would tend to be small or be located in small subunits of larger organizations; its object is typically service or information, if not automated production; its technology is computerized; its division of labor is informal and flexible; and its managerial structure is functionally decentralized, eclectic, and participative, overlapping in many ways with nonmanagerial functions.” (1989, p.327)

Heydebrand's arguments for the existence, and definition, of new organization forms are not, of themselves, controversial. There is little question that as society has moved on, at least in part, from direct industrial production with physical outcomes to a situation where many products and the means of their production are intangible, the organizations which emerge in execution of these new forms of production take on new forms. This transition might be interpreted as an invalidation of Weber's prediction, discussed previously in this chapter, that the human pursuit of rationality and our concomitant favouring of the bureaucratic form will see us locked in his iron cage of bureaucracy. Hannan and Freeman's (1977) population ecology theory take the view that organizations compete for scarce resources and must adapt by taking on forms that best suit their environment in order to survive. The result of this adaptive competition is a proliferation of diverse organization forms (Hannan & Freeman 1977) that seems further to reject Weber's position. DiMaggio and Powell offer a view of diversification of organization forms that remains commensurable with Weber's prediction, however.

Where Hannan and Freeman ask *“why are there so many kinds of organizations?”* (1977, p.956), DiMaggio and Powell might be seen as responding *“there are not”*. Giddens' (1984) structuration – the means by which organizations are created and reproduced as the combined products of both societal structure and human agency – is, for DiMaggio and Powell, the root cause of a homogenization of organization forms. Organizations adopt the forms they do in part for the purely instrumental reasons identified by Hannan and Freeman, in part for the social constructions offered by Giddens (1984) but additionally out of a need to be recognized as socially legitimate (DiMaggio & Powell 1983). Individuals in organizations, attempt to deal rationally with the conflicts, uncertainties and constraints that they face, and do so in ways that comply with, or at least do not offend, established socio-cultural norms. The net effect of individuals acting in socially bounded ways is homogeneity of organization structures, cultures and outputs (DiMaggio & Powell 1983).

Organizations do, of course, take on different forms in different fields. Within each field, however, there is a strong trend to homogenization as fields mature as field-specific and

profession-specific socio-cultural norms become institutionalized. Organizations, therefore, do not diversify widely on the basis of reaction and adaptation to environmental concerns, but rather they adopt field-specific forms as the result of an institutionalized isomorphism (DiMaggio & Powell 1983). The result of this is that organizations “*are still becoming more homogeneous and bureaucracy remains the common organizational form*” (DiMaggio & Powell 1983, p.147). Importantly, the influence of socio-cultural factors means that the organizations that derive of this institutionalized effect are not necessarily the most appropriate or most efficient organization for the task at hand. The incorporation of socially constructed factors means that many organizations “*dramatically reflect the myths of their institutional environments*” (Meyer & Rowan 1977, p.341) but does not “*necessarily make them more efficient*” (DiMaggio & Powell 1983, p.147).

Heydebrand questions institutional theory's loyalty to bureaucracy, observing that post-industrial organizations do actually adopt post-bureaucratic forms in direct contrast to the persistence of bureaucracy born of the collective rationality that institutional theory predicts (1989). What institutionalism actually anticipates, argues Heydebrand (1989), are forms that are either variations on the bureaucratic theme or forms that focus more heavily on cooperation than decision-making.

Mintzberg's (1983, 1980) work on the structures that organizations adopt informs a consideration of new organizational forms (Heydebrand 1989). In particular, Mintzberg's 'professional bureaucracy' and 'adhocracy' are representative of the new forms that Heydebrand observes (ibid). Within a professional bureaucracy, formalized mechanisms of control can be dispensed with because the established structure of professional practice provides a built-in coordinating mechanism. This coordination of efforts by way of a common application of professional skill sets appears to be a parallel in professional practice for the embedding of rules into technical systems in post-bureaucratic organizations, though Heydebrand does not explicitly link the two. Adhocratic organizations, as described by Mintzberg (1980), are flexible, oft changing, structures that adapt to the needs of the organization and its customers on a task-by-task basis. Formalisation in terms of both activities and division of labour is minimal, coordination and problem resolution are by way of direct communication and mutual adjustment and the precise form that the group takes is dependent on the demands of the task at hand.

In offering a “*generic profile of the new organization forms*”, Heydebrand posits that new organizations are either small or subunits of a larger organization, that computers are inherent to the operation, that they are staffed by “*specialists, professionals and experts*” (1989, p.337) who work in decentralized teams that are structured and re-structured as and when a particular goal requires. Formality in division of labour is de-emphasized, technical and management functions often overlap and the fluid, organic nature of the organization relies heavily on social cohesion and formation of a corporate culture to be effective (Heydebrand 1989). In summary, post-bureaucratic organizations are characterized by a move away from several key features of the

bureaucratic form. They incorporate elements of social construction in place of pure formalized rationality, hierarchies and divisions of labour are more flexible, less strict and less formal, formal procedural mechanisms of control are less visible, replaced by system and process-embedded controls, and interactions between groups and individuals, like the structures that shape them, adopt a less formal, more task oriented character (Heydebrand 1989).

2.21. Technology as Control

In something of a parallel for the way in which shared professional understandings and practises obviate the need for overt control mechanisms in Mintzberg's (1980) professional bureaucracy, control mechanisms may also be internalized to processes. Heydebrand (1989) seeks to distinguish between Weber's rationalization as a social mechanism of domination and control that is based on technical knowledge and formalized rules but is not, of itself, a technical system, and a technical rationalization that is premised on the introduction of technologies – often computers – to processes of production and service delivery to effect managerial goals of productivity and control.

As organizations are subjected to increasingly turbulent environments and progressively become more internally complex when they grow, the pure bureaucratic form tends to obstruct, rather than facilitate, effective operations and so bureaucracy loses its effectiveness and its legitimacy (Heydebrand 1989). Additionally, pressures for autonomy and structural informality, particularly from skilled and professional workers, and from unions, renders the bureaucratic form more tenuous. Adoption of an organic form (Burns & Stalker 1961) serves to address the need for flexibility and adaptability but brings with it a diffusion of control. The introduction of technology, both facilitative and productive, offers management a solution by way of the possibility of internalizing control to the systems themselves (Sewell 1998). By building formalization, proceduralisation and calculability into the programming of the technical systems themselves, managers maintain control without the need for strict social oversight (Heydebrand 1989). These new technocratic forms of organization are characterized by informalism in the way that individuals and groups interact, a universalism of rulemaking that provides guidance rather than strict direction, a weakening of the strict classification of roles that characterizes bureaucracy in preference for a recognition of knowledge and expertise and, in particular, a degree of democratization of decision-making is present. Individual organizations, and subunits, are highly independent and are encouraged to make their own internal and external linkages. The absence of formal-legal rationality in a technocracy places reliance on trust and loyalty, and so the building of a corporate culture is important.

2.22. Transitioning Organizations

We investigated the definition, examination and testing of the bureaucratic form, and canvassed clear proofs that bureaucracy is dead or at least dying, a construction that presents two clear problems, however. First, bureaucracy is not dying, much less dead, and second, bureaucracy has not simply ceased to exist one day to be replaced by some new post-bureaucratic form the next. Where organizations have moved on from the bureaucratic form, there has been a more gradual transition; indeed some organizations have effectively straddled both. Johnson et al (2009) found that whilst there is a continuing evolution of approaches to organization and of adoption of post-bureaucratic techniques, the process is very uneven and differs markedly between different organizations and different industries. One post-bureaucratic approach that departs significantly from the core tenets of bureaucracy is that of projects. Here, we shall first attend to the notion of 'project management' and then to the question of whether or not the bureaucratic form is actually in decline by way of a treatment of another allegedly new form, the 'virtual organization'.

2.23. Organizations as Projects

Project management is an unusual beast. A brief review of Australian university web sites shows that, as a field, it is predominantly the domain of arts, architecture, science and engineering schools, and that it is very rarely taught in business or management schools at all. As the name implies, project management is centrally focused on a specific task or goal. Projects are temporary organizations (Lundin & Söderholm 1998) established with a specific deliverable in mind – be it to undertake a construction project, to organize and operate an event, or to produce a particular item of computer software – and are expected to disband when the goal is achieved or abandoned. This approach conflicts directly with the bureaucratic notion of a career (Clegg & Courpasson 2004) and seems to threaten the idea of positional authority.

Within a broadly bureaucratic organization, the need to attend to a particular need might lead to the formation of a project team. A team of individuals with the required skills will be assembled, nominally reporting to an appointed leader in what is, in effect, a sub-unit of the parent organization that exhibits many of the features of new organizational forms already discussed. The for-purpose assembling of skilled individuals is an organic construction (Burns & Stalker 1961) in which the presence of professionally shared understandings merges the functions of professionals and managers and to reduces the need for explicit oversight (Heydebrand 1989). The approach produces a structure in which hierarchy is barely, if at all, present. The notion of a career disappears from within the sub-organization because the arrangement is entirely temporary (Clegg & Courpasson 2004) and members expect their time in the organization to be finite. We might view this as a '*career of discrete memberships*' or life as a series of projects organized around work projects.

In the absence of bureaucratic notions of authority, hierarchy and career, articulated motivations for individual participants are quite different to that which they would experience in a bureaucracy. For members of the team, working lives are nomadic, and the fear that “*you are only as good as your last success*” means that in order to be invited to join future projects, one must perform well on the present project. Together with the absence of hierarchy and the *ad hoc* assembly of a range of skill sets, individuals are required to form social links and to build trust quickly so as to work effectively. A central plank (Johnson et al. 2009) of post-bureaucracy is the need to replace rules with social interaction and shared principles (Heckscher 1994).

For the leader of an organic sub-organization, the situation is more nuanced. The means of their selection as leader – be it on merit, by way of direct involvement, or by sheer luck of opportunity – is relatively unimportant; despite the local absence of hierarchy, their appointment to the project positions them as a part of the greater organizational governance and so project members regard the leader's authority as legitimate (Clegg & Courpasson 2004). Appointment to project leadership provides a mechanism for career progression within the larger organization. It is, in effect, a real-life test of an individual's capabilities that is set aside from the organization as a whole with a direct affect on future career progression. The position to which the individual returns in the organization when the project they lead disbands is directly affected by their performance as project leader (Clegg & Courpasson 2004).

So, whilst the concept of a career is absent from the post-bureaucratic sub-organization, it remains central in the longer term. Project leadership can be seen as a test that, successfully completed, assures career progression. Good performance in project membership assures future membership, and possibly promotion, within the parent organization. Additional opportunities for future advancement by way of secondments to new projects are also possible. Projects, and the practice of project management, are activities that lead to the creation of organizations that are far from bureaucratic. What they do not do, however, is subsume bureaucracy. Project *management* is not so much a transition from bureaucracy to post-bureaucratic professionalism and organic collaborative structures as it is a temporary diversion for the accomplishment of particular goals that has the effect of strengthening the places of some individuals in the corporate bureaucracy. The establishment of project management as a profession taught in universities has, by establishing a unified discourse with its own rules, processes and practices, subjected project management to processes of rationalization with the perverse effect that project management itself has become bureaucratized (Räisänen & Linde 2004). The short-term establishment of internally autonomous satellite organizations have more to do with the enablement and perpetuation of the bureaucratic form than with replacing it.

Hales (2002) observes that in situations claimed to be post-bureaucratic, there still lies some sense of individual responsibility and vertical accountability. He argues

*“that where the **principle** of hierarchical control is retained (regardless of any reduction in the number of hierarchical **levels**), and centrally-imposed regulations are retained (regardless of changes in their **focus**) the result is not ‘post-bureaucratic’, ‘network’ organizations, but attenuated and more efficient versions of bureaucracy – ‘bureaucracy-lite’.”* (Hales 2002, p.52, emphasis in original)

What defines bureaucracy, for Hales, is that there exists a reliance on hierarchy and rules, not the extent to which that reliance occurs. He argues that the movement towards flatter structures and greater autonomy is a correction to badly managed bureaucracy, not a move away from bureaucracy itself (2002). Post-bureaucracy may well be defined by the presence of non-hierarchical features in an organization (Höpfl 2006) rather than an organization form in its own right.

In this way, new organization forms are not by any means free from the dominative effects of hierarchy but *“it does mean that organizations and their managers are caught in intrinsically ambiguous democratic mechanisms”* (Josserand, Teo & Clegg 2006, p.55). By including project-based sub-organizations, an organization doesn't escape bureaucracy but rather places itself in a situation where bureaucratic rationalism is combined with social relations and democratic principles (ibid). Project managers in particular are placed in a strange position where their own authority is premised in part on democratic legitimacy based on creativity and innovation (Clegg & Courpasson 2004) and in part on a bureaucratic power of office premised on rules and routines (Josserand, Teo & Clegg 2006).

Castells sees the progressive diffusion of technology – information technology specifically – as productive of a need for *“an autonomous, educated worker able and willing to program and decide entire sequences of work”* (2000, p.241). Certainly greater exercises of autonomy are present, but they still occur within a broader bureaucratic context (Courpasson & Reed 2004). The addition of technology to organization results in a hybridization of forms, not a change of forms *per se* (Harris 2006). To claim an epochal transition from bureaucracy to post-bureaucracy, proponents would need to demonstrate not only increasing instances of the latter, but also few movements back to the former (McSweeney 2006). Leaving this obligation unfulfilled renders arguments for a trend towards post-bureaucracy as more of a rhetorical device encouraging such a trend rather than a literal representation (Hodgson 2004; du Gay 2003).

If, therefore, what we see is a movement to a future of projects as a predominant form of organizing – a projectified society (Lundin & Söderholm 1998) – then the future is not too different from the past (Clegg & Courpasson 2004). The days of the notion of career – at least as we understand it now – are numbered, but project management is a mechanism for remote control of activities and actors and *not* a replacement for bureaucracy (Clegg & Courpasson 2004). In short, *“changes in the bureaucratic form cannot be characterized as a straightforward*

trajectory of historical decline” (Clegg 2012, p.69); “*the report of*” bureaucracy’s “*death was an exaggeration*” (Twain 1897).

Having cast post-bureaucratism and its incarnations – with project management the example considered here as being neither an epochal change of the type considered by Gordon (2007) and McSweeney (2006) nor a Kuhnian (1970) paradigm shift but rather a progressive development that is the result of Weberian bureaucracy adapting to technical and societal changes (Clegg 2012) – we are well placed to consider other developments in a similar light. First, however, a review of the notion of career is appropriate, for to this point the presentation is founded on an assumption of concomitance between workers’ roles and their status in the organization, though this may not always be the case.

2.24. Distinguishing Task and Status

As Clegg (2013) observes, Weber’s (1978) prescription for bureaucracy established the notion of an official hierarchy in which members are situated according to their assigned role and are conferred a level of authority consistent with their place in the hierarchy; persons at higher levels have greater authority, and so on. At the same time, a notion of career in which individuals rise progressively to positions at higher levels in the hierarchy as they are deemed suitable by members who already hold higher authority – and thus status – exists in the organization. This progressive rise, or ‘*promotion*’, brings with it concurrent increases in status and authority; Weber does not offer the possibility that these may occur independently of each other; Offe (1976) denotes this configuration a ‘*task-continuous status organization*’.

Offe (1976) goes on to observe that, under certain circumstances, the linkage between task and status may dissolve. As labour is divided on increasingly specialized grounds, a consequence of introductions of technology that render particular skills more important than a mere capacity to exert effort, organizational recognition of better qualifications or greater skills give rise to what is, in effect, a kind of second hierarchy where an individual’s status is linked to their capabilities rather than their position on the formal rational-legal hierarchy that Weber prescribed. When this abstraction between role-status and skill-status occurs, a ‘*task-discontinuous status organization*’ (Offe 1976) based on “*an increasing differentiation between mental and manual labour*” (S. R. Clegg & Dunkerley 2013, p.463) is established. Clegg and Dunkerley (2013) argue that this idea of discontinuity between task and status is pertinent to a consideration of power in organizations – a matter that will be addressed in the next chapter – specifically because the establishment of this notional ‘second hierarchy’ brings with it a second skill-based structure of power relations that are distinct from those established by the formal hierarchy.

As the skills of individual organization members become a factor that is increasingly more important than capacity for manual labour, the form that the organization takes becomes progressively distanced from Weber’s bureaucracy. Again, however, this is not an epochal shift

or a paradigmatic change; it is another example of the adaptation of bureaucracy to technical change (Clegg 2012). Virtual organizations are interesting because they too distance themselves from bureaucracy and present additional paradoxes for managing.

2.25. Virtual Organizations

Exactly what constitutes a virtual organization seems to be not so much a matter of active debate as of a variance of opinions regarding what they produce and how they are organized. Davidow and Malone (1992), credited with defining the concept (Clarke & Clegg 2000), offer a relatively limited view (Kreher 2001) of what constitutes virtual enterprise. They see 'virtual products' as those customized to suit individual consumers and produced on very short time frames – specially-ground prescription spectacles produced in sixty minutes and customized cars produced in seventy-two hours are offered as examples – and 'virtual organizations' as the firms that produce those products (Davidow & Malone 1992).

While Davidow and Malone's definition of virtual is problematic (and even self-contradictory in their first chapter) their contribution lies in observations regarding the transformations that an organizational move to responsiveness and flexibility will entail. Presenting hierarchy as a communication and reporting device, an imperative for growth of large corporations and supplanted in communication terms by computers and network technology, they predict a sharp decline in the need for large numbers of layers in an organization. Employees, too, must be empowered – not in the panoptic and dominative mode observed by Barker (1993) but in a genuinely participative sense. The introduction of networks and reporting technologies makes it possible for individual employees to have access to information that would otherwise and previously only be available to those at the top of a tall reporting hierarchy and so an inevitable ignorance in individual employees is supplanted by a very real capacity to make operational decisions without the need to wait for members of the upper hierarchy to engage or respond. The isolating nature of bureaucracy promoted by Taylor's 'American Plan' (Passos 2000) and bemoaned by Marglin (1974) is not only unnecessary, but quite possibly damaging in this new context. "*The residues of Taylorism, more than any other business philosophy,*" argue Davidow and Malone, "*have to be eliminated before a company can successfully produce virtual products*" (1992, p.28). The imposition of technology has, as predicted by Woodward (1958), made the new 'virtual' form possible but also appears to offer a way out from the alienating (Marx in Simon 1994) and dominating (Barker 1993) nature of work in the bureaucratic form.

Where Davidow and Malone (1992) offer a perspective on virtuality that is implicitly physical, comprised of physical organizations producing physical products with little more than a bypassing of hierarchy enabled by electronic communications to differentiate themselves from more conventional bureaucratic organizations, Nohria and Berkley (1994) proceed to an almost opposite view which seeks systematically to dismantle bureaucracy by virtualising many of its key tenets.

Taking a perspective on the 'virtual' as descriptive of structures and things “*whose ontological status lies in the fuzzy realm between fact and apparition*” (1994, p.117) which, per Baudrillard (1994), will ultimately proceed to a status “*disconnected from any question of ontology*” (1994, p.113), Nohria and Berkley (1994) argue that organizations were perhaps always virtual – in effect social constructions (Berger & Luckmann 1967) – that have simply changed in structure and degree of 'virtuality' as technology has made it progressively more possible for them to do so.

Consistent with Davidow & Malone's (1992), bureaucracy and Taylor's (1911) implementation of bureaucratic principles in scientific management is presented as a mechanism for the control and transferral of knowledge and information, one which is supplanted by the timely and widespread access that technology provides. Like many of the other authors reviewed in this chapter, Nohria and Berkley (1994) mean to consign bureaucracy to history but their enthusiasm for this goal betrays them. The example of the insurance company that hopes to imbue a single individual with all of the information and decision-making capacity they need to function effectively as a “*one person insurance company*” (Nohria & Berkley 1994, p.123) is ambitious but disingenuous: the establishment of such a situation would defeat the capitalist's goal of control for profit (Marglin 1974) and so the one-person is more likely to be a Castellan “*autonomous educated worker*” (2000, p.241) operating in a one-person projectified sub-organization (Heydebrand 1989).

Knights et al acknowledge a “*legion*” (2007, p.749) of “*sweeping claims*” (2007, p.748) of virtuality and what it might mean, and offer three classifications. First, virtuality might be seen as an 'electronic mediation' of activities rendering 'cyberspace' as a point of passage for conduct of business, and organizing. Second, they offer virtuality as 'mimesis' and associate notions of simulation, imitation and “*presence in effect though not in fact*” (Knights et al. 2007, p.749) and consistent with the perspectives on virtuality offered by Clarke and Clegg (1998) and by Nohria and Berkley (1994). Third, Knights et al (2007) offer a conception of the virtual as disposal, with the dual possibilities of ready availability and easy disposability. The implicit duality in this third perspective inherently establishes an 'other'; when something is defined as 'virtual' it is also defined in terms of what it eschews, replaces or denies (Knights et al. 2007).

In their empirical material, Knights et al present the case of a real physical organization attempting, and failing, to launch a virtual product. The virtual product – a mechanism for virtualising cash payments – and the part of the organization which effects it can be seen as a form of virtual sub-organization and so it still falls short of an example, or even an attempt, at supplanting the bureaucratic form. Knights et al (2007) argue, however, that their case remains a useful example of performing organization.

The accounts of virtual organization presented to this point are consistent in that they, by and large, convey a giddy enthusiasm for the concept of virtuality, then proceed to apply the term to

implementations that are little more than progressive reductions in layers of hierarchy and authority effected as technological advances make those reductions possible. The Knights et al (2007) presentation is unique in that it accounts for, and questions, the societal and organizational enthusiasm for the virtual.

Clarke and Clegg (1998) had already observed the proliferation of automatic teller machines as an indication of the coming of a virtualisation of services. Knights et al's (2007) account sees this for what is disposed of: the bank branches and physical offices whose services are largely replaced by the machines. The banks described in these cases have not become virtual, however. The function of dispensing cash is served by machines, but a smaller number of bank branches still exist and they are backed by offices filled with bureaucrats making decisions, applying rules to processes of lending and investment, and generally running the organization. Indeed, the reader is invited to consider the contemporary case of the retail bank 'ING Direct', an Australian subsidiary of the Dutch 'ING Group'. All customer-facing functions of this organization have been entirely outsourced. Customers operate their accounts via the Internet, draw cash from automatic teller machines operated by other banks and make their only human-to-human interactions with the bank via telephone. (Remarkably, the bank does operate its own in-country call centres.) The one statutorily obligated face-to-face interaction that Australian banks must have with their customers, the process of proving the customer's identity as a precursor to opening a new account, is outsourced to the government owned postal service which has itself, in many cases, further outsourced customer-facing functions to private operators of physical branches!⁴ Even with this level of disposal (Knights et al. 2007) of physical functions, this banking organization has not managed to dispense with bureaucracy. Company documents, published on their public web site, offer employment in a range of functional departments that include sales, operations, information technology and, of course, customer contact, and at a range of hierarchical levels within those departments. Customers are presented with a clear list of rules about what interactions they are permitted to have with the virtual, and real, parts of the organization. Clegg (2006) sees a threat in project organizations for the way they dispose of hierarchy, career and rules – the very mainstays of bureaucracy – and his observations are certainly valid insofar as they apply to particular projectified sub-units of this example of near-complete virtuality. Certainly, some roles are disposed with the functions and presences that are

4 More recently, many organizations have begun to comply with their statutory obligation to verify customer identities by outsourcing – yes, *again* – the function to third-party services providers that carry out the verification process by cross-matching secondary features of identity documents like serial numbers and expiry dates to customer-provided identity information across multiple electronic databases. When the process works (it is not always reliable), a customer may find themselves conducting their entire relationship with a business without ever dealing with another human.

disposed, but other roles, rules and hierarchy are necessarily created within the broader organization to enable that disposal. Bureaucracy here is not in decline, merely in transition.

2.26. Discussion

Whatever Weber's intentions, his prescription for a form of organization premised on a hierarchy of offices occupied by individuals appointed on merit in whom authority is vested by the positions they hold and set out in written records, rules and policies gave, in bureaucracy, a central premise for the field and study of organizations (Clegg 1990).

Authority as a quality invested in individuals that leads others to voluntarily obey their commands, is premised on rational-legal principles vested by virtue of a particular office holding, on traditional principles by virtue of a hereditary 'right to rule', or in rare instances, because those dominated choose to obey a charismatic individual (Weber 1978). Rationalised authority, of its nature, is borne of a group acceptance of a particular course of rule where the group's interests are suitably served, and individuals comply out of concurrence with social norms (Blau & Scott 1963).

Whatever the motivation for organizing bureaucratically – Weber considered it the most efficient approach to organization, others would argue that its purpose is to provide a role for an otherwise unnecessary capitalist and security for knowledge and technique that might otherwise be appropriated by workers (Marglin 1974), bureaucracy has been quickly and widely adopted as a form of organization. Applied by Josiah Wedgwood to industrialize the artisan craft of pottery making (Langton 1984), workers were compelled by Wesley's emulation of the Weberian 'protestant ethic', a god-sent mandate for hard work and commitment (1950). Perrow (1985) argues that the bureaucratic form was chosen not on efficiency grounds but because the environment it creates fitted the preferences of an elite.

As industrialization proceeded into the establishment of large manufactories, bureaucratic delineation of roles and tasks was called pointedly into play by way of scientific analysis of the minutiae of production techniques so as to break them down into the smallest possible unit tasks with a view, purportedly on the grounds of efficiency, to have each individual task performed repetitively by one man (Taylor 1911).

The precise structure that a new organization adopts will be in part affected by the prior experiences of those who create it (Stinchcombe 1965) and in part by the degree of technical complexity in the organization's work (Woodward 1958). The Aston group set out to examine the factors that effect particular organization structures and returned results apparently disproving of Weber's association between structure and decentralization (Pugh et al. 1968). A more detailed examination of the Aston taxonomy (Pugh, Hickson & Hinings 1969) of organization types by

Child (1972a) highlighted problems with the original selection of organizations and re-confirmed Weber's link between centralization and control.

Much effort has been devoted to determining relationships between organization structure and environmental contingencies. Woodward's (1958) relation between structure and technology stands as an early effort built upon by others. Burns and Stalker (1961) argued that organizations develop somewhere on a continuum between wholly mechanistic – representative of the bureaucratic form – and wholly organic. Lawrence and Lorsch (1967) observed that organization structures would adapt to whatever market forces demand of them. In a wholly positivist, but problematic, approach, Donaldson (1987) argues that organizations must continually make strategic structural adjustments to achieve and maintain fit with their contingencies.

Subsequent to much debate over what precisely constituted the bureaucratic form, new debates came into being regarding the continuing relevance of bureaucracy and whether or not some new post-bureaucratic form was progressively replacing it.

A principle trigger for this new consideration was the transition, for many organizations, from the direct production of physical products in industrial settings to situations where products are themselves services. A social consequence of this post-industrialism is a widening of the dominative effects of organization, leaving people with a cycle of exercises of power and resistant acts, and with greater potential for alienation (Touraine 1971). In structural terms we can expect to see movement, at least in small sub-units of organizations, away from strict hierarchies to informal and flexible applications of labour in a decentralized participative approach to decision-making (Heydebrand 1989).

Post industrial organizations take on particular forms in part because those forms suit the needs and goals of the organization (Hannan & Freeman 1977) but also out of a need to be seen to be socially legitimate. This need for social legitimacy has the effect of causing organizations to homogenize in terms of structure, culture and productivity (DiMaggio & Powell 1983). As social factors come to affect the forms organization adopt, the situation becomes more about confirming to socially constructed realities (Meyer & Rowan 1977) and less about a pure focus on efficiency (DiMaggio & Powell 1983).

That particular organizations form when it becomes technically possible to do so (Stinchcombe 1965) is an explanation for the rise of the post-bureaucratic form. That computers are a core feature of post-industrial forms (Heydebrand 1989) renders them a prerequisite for adoption of such forms. The introduction of computers also makes it possible to relax classical bureaucratic approaches to control by building controls into the software programs that workers use so that they are in effect controlled by the technology and managers are released to a degree from direct hands-on supervision (Heydebrand 1989). This technocratic approach allows a degree of informalism and a decentralization of decisionmaking. The absence of rational authority

increases the need for trust and so the establishment of a corporate culture is necessary to maintain a degree of control (Heydebrand 1989).

Though even he may have been surprised by the realization, Taylor's (1911) scientific management, itself an attempt to extend and perfect bureaucratic division of labour, can be seen as marking a kind of end for bureaucracy in that he was perhaps the first to see knowledge as central (Drucker 1992). Post-industrially, the generation and transferral of knowledge is central.

The division of organizations into goal oriented projects is a move that adopts clear post-bureaucratic features such as the substitution of networks of relationships and trust for a hierarchical authority, decentralization of decisionmaking and a flexible, informal structure. The temporary nature of projects necessarily dispenses with the bureaucratic notion of a career (Clegg & Courpasson 2004), at least insofar as career within the project is concerned, though a successful temporary secondment to a project may hold positive career implications for individuals within the broader organization (Courpasson & Reed 2004). The sub-organizational nature of projects (Heydebrand 1989), the fact that project management is formalized by it being taught as a profession in universities (Räsänen & Linde 2004), and that principles of hierarchic control are maintained, if only from outside the project itself (Hales 2002), means that projects to create inherently ambiguous situations for (Josserand, Teo & Clegg 2006), and place unusual demands on those who work and manage within them (Castells 2000) but that they do not constitute a new organization form of their own right.

Virtualisation may be taken to mean the fast and flexible production of tangible products (Davidow & Malone 1992), the replacement of physical products and services with ones that seem real but are not (Knights et al. 2001; Clarke & Clegg 1998), or the disposal and possible easy replacement of the organization or part thereof (Knights et al. 2001).

A new organization form differs substantially from its precedents when it differs on four core features – “*goals, authority relations, technology and served markets*” (Rao, Morrill & Zald 2002, p.242). Such new forms are strongly specialized (ibid). By this measure, even if project organizations and so-called virtual organizations might be called new forms, they fail Rao et al's test for strong differentiation because, for the most part, their core features remain unchanged.

2.27. Beginnings after the Ends?

In this review we see a clear development, testing and progression beyond bureaucracy to a point where project/network and virtual organizations come to sufficient light for formal definition. What we have failed to establish, however, is the fall of the bureaucratic form. Project organizations and virtual organizations still require a support structure to operate and notwithstanding the strongly post-bureaucratic natures of these sub-organizations, the

bureaucratic form itself remains strong. For all the diversions we have observed, “[b]ureaucracy is not fashionable – but it remains real” (Courpasson & Clegg 2012, p.56)

There remains, however, the possibility of something new. The cases brought to bear in the research reviewed here have all, at some point, fallen back to a physical bureaucratic organization at some place in their structure. The case of the Open Source Software movement and the organizations that form under that metaphorical umbrella are unusual in that they offer the possibility of an 'Internet organization' where everything from the structure to the communication and control to the very product are entirely virtual. Before our focus turns to matters empirical, I wish to turn to another important but also much maligned, the issue of resistance in organizations and the question of how we might finally stamp it out... or not.

3. Resisting Organization

“The story so far:

In the beginning the Universe was created.

This has made a lot of people very angry and been widely regarded as a bad move.”

(Adams 1980, p.1)

3.1. More Beginnings, and Ends

In this chapter, Fleming and Spicer's (2007) framework in which a presentation of the development of resistance theory approximately mirrors that of the well known three faces (Lukes 1974) and potential fourth face (Digeser 1992) of power is adopted. A broad overview of resistance theory is given as a precursor to a more detailed consideration of concepts that are particularly relevant to this study in subsequent sections. For the purpose of this review section and following Fleming and Sewell (2007), a dualistic view of resistance as the other to exercises of power is presented: first as refusal, the other to Dahl's (1957) coercion, then as voice, the other to Bachrach and Baratz's (1962) manipulation, as escape, the other to Luke's (1974) domination and as creation, the other to Foucauldian notions of subjectification. It is important to note that these four faces of resistance are not direct parallels for the four faces of power; rather they are a mechanism to assist an examination of resistance and useful metaphors to characterize the ways in which resistance often occurs. It is equally important to recognize that power is shifting and inherently unstable (Foucault 1980) and has circuitous affects (Clegg 1989) that in turn effect other exercises of power: whilst the division into a discrete typology is a useful practice for understanding and theorising resistance, it must be understood that multiple theoretical 'faces' will be present in any practical exercise of resistance.

The review is designed to consider the resistance literature in detail. Power, the generally theorized other to resistance, is not the focus of this review and so theories of power are only introduced where they have some direct relevance to the point at hand. This reading of resistance theory begins with resistance in its most basic form, a simple refusal to comply.

3.2. Resistance as Refusal

Where power in the Dahlian (1957) sense is exerted when A coerces B to do something that B would not have otherwise done, then a resistant response must be, in its simplest form, B's refusal to act as A demands. This fundamental form of resistance is, at least initially, passive because the response to an attempt to exert power is one of simple non-compliance (Fleming & Spicer 2007). Non-compliance may involve a direct refusal to comply with an instruction, a failure to respond to changes in procedure or work practice by continuing to work to a managerially eschewed rule, or an active refusal such as strike action or other escalation of

opposition. Resistance in the face of this dimension of power is overt and visible and at risk of attracting management retribution. An active refusal may change A's focus from the initial demand that prompted the refusal to recursive resistance to B's resistance in terms of an act of retribution. A worker may, for example, refuse to comply with a management direction to alter a work practice and in doing so be penalized by management. A strike in protest at the penalization constitutes a change in focus of the resistance from the direction given to the penalty administered and the nature of the resistance changes from an initial quiet non-compliance to an active strike action.

Resistance as refusal is, from a Marxist perspective, arguably inevitable (Edwards 1979, cited in Fleming & Spicer 2007): proletarian resistance to exploitative capitalist demands on their expressed in the management and organization of the labour process is to be expected.

Resistance occurs when labour refuses to subordinate itself to those demands; however, in a theme that pervades resistance literature, the net result of the resistance is often that their subordination is actually perpetuated. Where, for example, workers resist the capitalist system by fighting for better wages and conditions, they further entrench themselves in the capitalist system by 'winning' more money to purchase the products of the capitalist system or more time to enjoy those same products. Rather than undermine capitalism, this approach to resistance has the effect of reproducing the capitalist system it strives to reject (Fleming & Spicer 2007).

The possibilities for resistance as refusal extend beyond the Marxist view of direct resistance to capitalist demands on labour, for this face of resistance can be manifest in ways additional to economic demands. For example, these might include refusal to comply with a hyper-rationalized view of the workplace by playing at 'sex games' that constitute gendered identities. Doing so can introduce behaviours to the workplace that go beyond what a rationalized view would prescribe (Ackroyd & Thompson 1999; also see Fleming 2007). Individual refusal to subscribe to managerial dictates regarding adoption of particular gender identities is thus a form of resistance (Fleming & Sewell 2002; Fleming & Spicer 2007).

As power in the coercive form is a direct and overt action, resistance in the form of refusal is an overt attempt to block power. In the same way that Dahl (1957) presented his view of power as an initial and incomplete excursion that was designed to be further explored and developed, a perspective of resistance, as refusal cannot, without more exegesis, adequately explain resistance.

3.3. Resistance as Voice

*“One that laughs one that cries
One says hello one says goodbye
One does things I don't understand
Makes me feel like half a man”*
(‘Two Faces’ in Springsteen 1987)

The second dimension or face of power has been seen to reside in a form that seeks to manipulate the construction of issues, agendas, decisions and non-decisions, as offered by Bachrach and Baratz (1962, 1963). Some issues, actors and agendas are privileged at the expense of others and processes of resistance to manipulation are concerned with granting voice to issues, actors and agendas that have been marginalized by accessing and subverting the processes that exclude said issues from decision-making arenas. Resistance as voice is in effect concerned with finding or creating space for resistant voices to be heard and so it is concerned not so much with blocking power as gaining access to power (Fleming & Spicer 2007). A most graphic demonstration of this face of resistance can be seen in countries where the constitution is premised on significant political capability attaching to military intervention in the political process. A military coup d'état exercises resistance to the incumbent power by ousting large sections of the hierarchy. A less violent parallel occurs in government and organization by the wholesale replacement of large numbers of public servants or senior managers when a new government or CEO is appointed. In each case, elements that sought to marginalize certain issues are ousted, and a new set of issues are brought to the decision making stage by those that replace them. Even more subtly, power in its second dimension may be exercised simply by not engaging with particular issues. Lukes (2005) offers the example, citing Crenson (1971), of a large steel works effectively deferring community and legislative action on air pollution by simply not engaging the issue beyond the occasional acknowledgement that air pollution is indeed a bad thing. Instead, they relied entirely upon their reputation as a powerful organization without actually demonstrating said power. Importantly, Crenson's (1971) analysis extends beyond the simple inaction of a corporate entity and acknowledges a linked partisan political dimension to the case. I say linked because, contrary to the Dahlian (1961) perspective of plurality as multiple independent activities, the refusal of Crenson's large steel company to engage the issue of pollution control occurs with a concomitant effort on the part of party politicians to contain the concern to a minority of constituents; the company and the political party in effect work together to exclude the issue from decision-making for mutual benefit

Exercises of resistance in this form do not, of course, always enjoy the ability to act so swiftly or emphatically. Collinson's (1994) comparison between acts of resistance that distance themselves from centres of power and resistance that engages directly with the power they hope to subvert demonstrates that engagements can be more successful in achieving desired outcomes – though it should be noted that the meaning of 'success' is a key point of debate to be addressed forthwith –

for the resistant party. Collinson's female research subject engages the help of a labour union to force her voice to be heard by managers who quickly reversed a decision not to promote her once she was able to bring a version of events that made her more visible. Much resistance is even less effective than Collinson's example. Organizations established for the purpose of gaining voice for marginalized issues, such as feminist, environmental and anti-globalization groups may lobby and protest loudly for extended periods of time but see highly variable and in some cases little or no visible results for their efforts (Boje 2001).

Resistance need not necessarily be entirely formal or serious. Carl Rhodes finds representation of resistance to management practice and corporate hegemony in the loud, silly and colourfully carnivalesque settings of television cartoons (2002, 2001a). Boje – perhaps as well known for his work on narrative, voice in organizations and resistance as for his own practical commitment to resistance – observes obstreperous carnivalesque resistance in the anti-globalization protests that occur on university campuses and in conjunction with international forums on global trade (2001). Whilst Rhodes remains silent on the effectiveness of the carnivalesque resistances he observes, Boje characterizes such resistance as 'spectacle' (Debord 1970) and observes that whilst this form of resistance is important in lending voice to otherwise marginalized issues, spectacle tends to prevail because of the status of the formally legitimized and official standpoint in any conflict situation; spectacular resistance becomes more of a media event than an effective alternative to that opposed.

Occasional acts of sabotage are a less visible form of resistance that will send a clear message to those in authority but, in the same way as Collinson's (1994) factory workers acting to resist by distancing themselves led to a relatively ineffective campaign of resistance, the disengaged nature of the resistance renders it less likely to gain legitimacy without a concerted campaign (Fleming & Spicer 2007). Clegg and Dunkerley (2013) observe that sabotage is a practice that is a frequent feature of normal work; individuals engaged in work never come to work and abandon all other than their commitment to *“that work”* (p499) and for *“certain interests”*, sabotage *“may well be an overarching goal”* (p272).

Power in its coercive and manipulative forms has as its focus the arenas in which decisions are made. Where exercises of power either seek directly to effect decisions or to control which issues become the subject of decision making processes, resistances to power in these forms have the same foci, they seek to resist decisions, or to gain access to the sites of decision making. When exercises of power become more elaborate and devious as in the case of Lukes' (1974, p.24) *“supreme and most insidious”* domination of individual's *“perceptions, cognitions and preferences”* (p.24), the forms of resistance that oppose them become equally subtle and complex, and resistance can take the form of a subjective mental escape.

3.4. Resistance as Escape

When workers discover – as they often might – that the work and life they lead are dominated by wants and desires that have been constructed in them by another, and that these are constitutive of their present situation and condition, then they may very well seek escape. As exercises of power become cognitive in their effect, so too does the resistance that opposes them. Cohen and Taylor's (1976) phenomenological review of the mental strategies that individuals employ to disconnect themselves from their working lives presents an elaborate and multi-faceted, multi-layered project engaged by individuals in what, for Cohen and Taylor, is an ultimately futile attempt to regain control of their lives and their identities. In the organizational context, corporate culture campaigns such as the corporate 'excellence' programs offered by Peters and Waterman (1988) and subsequently the subject of apparently endless prescriptions for the achievement of organizational utopia in 'airport book store' management texts (Rhodes 2004) offered by management consultants "*are a control system, in the truest sense of the term*" (Peters 1988, cited in Willmott 1993, p.530). Willmott (1993) criticizes – and rightly does so with little restraint, for the approach is every part as insidious as Lukes cautioned – the corporate culture management project for its theoretical deficiencies and its failure to deliver the emancipatory benefits that are claimed.

Corporate culture campaigns assume a degree of plasticity on the part of those subject to them that is entirely unrealistic and unfounded in empirical analysis. Workers who are the subject of corporate culture campaigns will tend to resist by operating at a cynical distance to the culture they are expected to adopt, with scepticism as to the true benefits, dis-identifying with the cultural discourses presented to them. As Fleming and Sewell (2003) observe, however, cynical rejections of the ideological principles presented by the corporate discourse do not necessarily harm the corporate project. Whilst workers who do not internally subscribe to the approved culture reject the prescribed ideology their doing so provides sufficient release that they are able physically to perform the roles their employer expects of them. Employees engage in cognitive distancing when they believe that their comprehension of the true nature of the corporate culture program situates it as 'ideology' or 'propaganda'; in such cases their perceived awareness serves as evidence of their own autonomy despite that they continue to exhibit behaviours that indicate identification with the corporate culture (Kunda 2006). When cynicism about the culture is visibly enacted and voiced by employees, and permitted by employers, the interpretation on the part of the employee may be that the employer's permission confirms that the employee enjoys a level of freedom and autonomy and does not proceed to further challenge the ideology, and so the cynical rejection of the culture actually serves to reinforce and reproduce the domination (Willmott 1993).

Collinson's (1994) shop floor workers responded to the imposition of a corporate culture campaign by distancing themselves from it, rejecting management attempts to invoke discourses of friendship and partnership by maintaining the status quo in the form of a discourse that

differentiated 'workers' and 'managers' and ascribed particular roles, skill sets and behavioural norms to each. Notwithstanding that Collinson deems the shop floor workers' resistance to have been ineffective, observing that the resistance had the net effect of intensifying the domination of the workers, the conflict of discourses that occur in the case is instructive. On Willmott's (1993) terms these workers maintained a level of democratic engagement with the organization that would have been silenced had the corporate culture campaign been permitted to take hold; nonetheless their resistance failed in the sense that their subjugation became self-imposed and self-maintained.

An additional problem for resistance in this frame lies in the inherent certainty and comfort that an established normative discipline provides. A situation where workers have actual, or even partial, autonomy is a complex and disordered one, plagued with ambiguity and ambivalence, where individuals must negotiate work and outcomes and compete on a politicized stage with the personal challenges, insecurities and threats to identity that are incumbent in democracy. Democratic organizational forms, as Willmott observes, although they allow for pluralistic representations, *"are not 'nice' because they fail to protect the individual from 'the dirt' – the existential insecurity – associated with competing value-orientations and interests"* (1993, p.534). Allowing pluralism does not mean that all pluralities have the same status. The situation can be worse, however. An organization that has constructed a normalized discourse of work, goals, measures of success and a culture that actively pathologises those who do not subscribe to the established set of universal organizational truths provides an unchallenging and comfortable alternative to democracy, albeit one that lacks moral necessity (Willmott 1993), that stands to strengthen the corporate culture's hold on individual workers. *"Cultural diversity"* says Willmott (1993, p.534) *"is dissolved in the acid bath of the core corporate values"*.

Resistance that manifests as a mental distancing in the resistant subject has a disturbing consequence, as Willmott observes, in that *"by playing the role at a psychological distance [...] the individual feels little existential responsibility for its consequences"* (1993, p.537), an effect that is evidenced in stark terms in Clegg et al's confronting demonstration of the Nazi run total institution that administered the Holocaust during World War Two (Clegg 2009; Clegg, Courpasson & Phillips 2006). Notwithstanding the potential for deeply negative outcomes, resistance as a form of escape also offers some possibility for achievement of the emancipation that is posited as desiderata by critical and labour process theory. A similar potential can, in a sense, be read in the individuals who participated in administering the Holocaust in the sense that their mental disengagement from their work allowed them to disconnect from the horrors they managed. More conventional disengagement is visible in conventional contexts such as Fleming and Spicer's (2003) McDonald's worker who surreptitiously wears a 'McShit' tee-shirt under her company-supplied uniform. The difficulty for any claim of emancipation in these situations is that whilst the worker may gain the ability to let off steam and draw some relief from their

mental callisthenics, the net outcome is that the worker continues to perform the work they perceive themselves as resisting, and no change to the status quo precipitates.

It will be by now apparent that the organization literature, depending on one's perspective, either holds grave fears for or grants little credence to worker resistance. In citing Boje and Winsor's somewhat facetious claim that "*TQM programmes have succeeded in eliminating the resistance that has long characterized management/labour relations*" (1993, p.66), Knights and McCabe (1999) seem to take the claim more seriously than might be expected but they do nonetheless arrive at a valid conclusion: that Total Quality Management (TQM) is little more than a thinly veiled and modernized derivative of Taylor's (1911) scientific management. Peters' (1988) admission that TQM programmes are simply more highly developed control mechanisms is pertinent. Human Resource Management (HRM) is bundled along with TQM and both are similarly rejected by Willmott as variants of corporate culture programs that are "*a mode of control that purposefully seeks to shape and regulate the practical consciousness and, arguably, the unconscious strivings, of employees*" (1993, p.523). Lukes' (1974, p.24) "*supreme and most insidious*" exercise of power is manifest in Willmott's reading of TQM, HRM and corporate culture. In highlighting this "*dark side*" (Willmott 1993, p.515) of the managerialist literature, Knights and McCabe (1999, 2000) arrive at a similar position to Ackroyd and Thompson (1999): that, if the organization literature is to be believed, management appears to have reached a level of refinement whereby resistance has either been eliminated, or at least suppressed to the point where it is of little significance (see also: Thompson & Ackroyd 1995). All agree that these managerialist literatures are not to be believed but they arrive at this judgement from very different positions. Knights and his colleagues invoke a Foucauldian perspective on power and resistance, and stress the importance of the role of subjectivity in resolving the problem of the apparent disappearance of resistance, whereas Thompson and Ackroyd revert to an orthodox Marxist view of the labour process. These differences constitute a significant debate in Labour Process Theory.

The three faces of power constructed by Dahl (1957), Bachrach and Baratz (1962), and Lukes (1974) have some common ground: they are agentic in the sense that particular agents, be they individuals or organizations, either have power or are the focus of exercises of power, they are episodic (Clegg 1989) in that the focus is on discrete exercises of power and they are escapable in that there are situations where power is not in effect. It follows that exercises of resistance described herein as refusal, voice and escape similarly resist defined agencies, occur in particular and discrete instances, and that there are times when resistance does not take place. Foucault's view of power presents an entirely different perspective in which an all-pervading and inescapable power exists in all people and all things at all times, and inescapably constructs subjectivities. Resistance to power in this face is creation.

3.5. A Diversion to Consider Power

Fleming and Spicer (2007), by presenting resistance to what Digeser (1992) termed a fourth face of power, see resistance as creation, before discussing the debate between 'orthodox' labour process theorists and those of what Wray-Bliss (2002) termed the *Manchester* school.⁵ There are particular problems with the Foucauldian view that they draw on that are conveniently masked by Fleming's presentation of resistance as creation and so it is necessary to make a diversion in a chapter about resistance to discuss Foucault's concept of power and to consider some points raised by Lukes.

3.6. A Fourth Dimension of Power

"We kind of live in Orwellian times where what's true can be made to seem a lie, and what's a lie can be made to seem true" (Springsteen 2007)

A view of power as subjectification takes a dramatic departure from the one, two and three dimensioned views offered by Dahl, Bachrach and Baratz, and Lukes. This fourth face (Digeser 1992) portrays power as *"productive of subjects, accompanied by resistance, intertwined with knowledge, and – in modernity – insidious, totalising, individuating and disciplinary"* (Digeser 1992, p.977). Where the conflictual models of power are silent on the issue of what power can produce positively and the manipulative view is avowedly critical of power for its negative, destructive character, power in a subjectifying mode is seen as productive. The foundation for this perspective lies in Foucault's writings on power.

For Foucault, *"power produces; it produces reality; it produces domains of objects and rituals of truths. The individual and the knowledge that may be gained of him belong to this production"* (Foucault 1995, p.194). Power is present in knowledges of the things that it is acceptable to say and the things that it is acceptable to do in particular societal contexts. Knowledge such as medicine with its accompaniment institutional forms that include examples such as hospitals and clinics, and the practices that take place in those institutions, such as procedures for diagnosis and treatment (Fleming & Spicer 2007) is saturated with power relations between people and things. The boundaries of 'knowledge' limit the practices and the very thinking of the individuals who participate in them and who are touched by them. In the case of medicine, the practices, beliefs and understandings of entire societies are effected by the 'truths' that medical knowledge provides. In this way, for Foucault, power *"reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives"* (1980, p.39). Importantly and in contrast to the liberal and radical forms of power, power in this form does not emanate from a single sovereign source. Rather, it

5 See footnote on page 71 regarding Wray-Bliss' characterization of the 'Manchester' school.

comes from a diverse array of understandings, prominent society-wide 'knowledges' that include medicine, science and law, bodies of knowledge that might be common to a very large number of individuals, as well as more localized bodies of knowledges such as safety regulations in a particular industry, practices of work allocation and reward in a local factory, fashion trends in a sporting club or moral standards in a particular family group. Bodies of knowledge combined and assembled in groups of individuals exposed to them provide a particular set of discourses that enunciate and reproduce as well as innovate these knowledges collectively. The set of discourses limit not only views of what is possible and acceptable but even what can be imagined such that eventualities that cannot be described by a particular discourse are automatically excluded from consideration. Processes for thinking and learning and even the conduct of everyday lives are, in this way, effected by a "*fragmented network of small-scale relations of force*" (Fleming & Spicer 2007, p.23) that are the power relations embodied in this network of knowledges. In this way, power embodied in knowledges produces subjects. Because each individual's life experiences are unique to that individual, power in this conception is not only productive but also individuating. Power, in Foucault's conception, is pervading and inescapable, it permeates the social body and there is no space where power is not in effect (1980).

In the organizational context, a conception of power as subjectifying leads to a position where the goal in the exercise of power is to produce certain types of subjects, subjects who have internalized norms, goals and beliefs that are consistent with organizational goals and productive of organizationally desirable outcomes. Power in this context manifests in, for example, discourses of accounting that rationalize suitable profit making modes of work and organization and in the human resource management discourse that establishes individual status, individual identity and divisions of work (Fleming & Spicer 2007). Subjects produced by discourses of organization work to construct identities with which they can position themselves within these discourses. For instance, the discourse of medicine produces identities that include 'doctor', 'nurse' and 'patient' and practices such as 'diagnosis' and 'prescription'. Power is imbued within these identities and practices, with relations of superiority, skill and vulnerability immediately obvious to any who are familiar with the discourse.

Barker's (1993) striking critique of the management practice of empowering employees, purportedly with the project of granting workers greater freedom, autonomy and control over how they do their work, demonstrates that empowerment is often no more than a mechanism for control and very much a wolf in sheep's clothing from the critical management studies perspective. Barker demonstrates that an organizationally espoused value "*We are a principled organization that values teamwork*" (p. 412) may lead to the creation of a discourse that says "*To be principled and value teamwork, we must all come to work on time*" (p. 412). In an environment of concertive control, the level of surveillance is heightened to the extent that all workers, themselves products of the shared discourse, survey and correct their peers, leading one

worker to observe that where in the past he only needed to be concerned about his supervisor's surveillance of him, “[n]ow the whole team is around me and the whole team is observing what I'm doing” (Barker 1993, p.430). Beyond the scope of Barker's (1993) study there is the additional presence of self-surveillance, also evident in his case study. Workers, keenly aware of the discourse that drives their work and equally aware of the consequences of transgression will self-monitor and self-correct, obviating, at least to some extent, the need for external mechanisms of control.

The parallels to the form of surveillance engendered by Bentham's (1995/1791) proposal for the Panopticon are obvious.⁶ Samuel Bentham designed and built a manufactory in Russia in 1772, constructed so that it is always possible for the supervisor (one who has superordinate vision) to observe workers' activities but never possible for an individual to know whether surveillance is occurring at any given time, so as to produce a situation where the observed must assume that surveillance is always potentially taking place. The 'panoptic gaze' leads the individual subject to self-discipline, regardless of whether or not they are actually being watched at any given moment.⁷ Samuel's older brother, Jeremy, further developed, theorized and documented the idea and was responsible for the subsequent promotion of the Panopticon (Werrett 1999).

When power embodied in discourses produces subjects constituted by those discourses, then subjects monitor themselves to ensure compliance with these discourses. Nurses will stop short

6 “*Panopticon; or, the Inspection-House: containing the idea of a new principle of construction applicable to any sort of establishment, in which persons of any description are to be kept under inspection; and in particular to penitentiary-houses, prisons, houses of industry, work-houses, poor-houses, manufactories, mad-houses, lazarettos, hospitals, and schools with a plan of management adapted to the principle: in a series of letters, written in the year 1787, from Crecheff in White Russia, to a friend in England. by Jeremy Bentham, of Lincoln's Inn, Esquire.*” (Bentham 1781, p.29)

7 The most breathtaking invocation of the ‘panoptic gaze’ (Bentham 1995) that I have seen exists at the ‘Myer’ department store in Bondi Junction, Sydney, Australia. Mounted high on the wall in a foyer where customers will wait for an elevator to take them to different levels within the store is a television that has a small video camera mounted above it and a placard bearing a generic notice to the effect that ‘surveillance’ is taking place mounted below it. The television displays a live image of the foyer so that customers can see images of themselves moving about the foyer on the screen. It is only when one examines the back of the television with a technically experienced eye that it becomes apparent that the video camera is connected *directly* to the television and to *nowhere else*. The construction is, in effect, an elaborate electronic mirror; there is no possibility of an other viewing the images and the only surveillance that is taking place at all is by the customer of themselves! Thankfully, Bakhtin offers us the possibility, by laughing uproariously at this elaborate, if sinister, confidence trick, to free ourselves from the “*great interior censor*” (Iswolsky 1984, p.94)!

of performing tasks that only a doctor is 'permitted' to perform, patients will be reticent to question or disobey a nurse's instructions. Discipline becomes self-imposed and internalized and in this way, in contrast to the other faces where power acts from outside the subject, in this conception, power acts from within.

Clegg (1994b) contrasts Foucault's work on power with Weber's presentation of power and authority in organizations and in doing so offers a multifaceted assessment that provides insights useful in critique of three dimensional power, the presentation of Foucauldian power and contexts of organization theory and methodology. Clegg (1994b) observes, as he has done before (1990), that organization theorists invoking Weber have tended to adopt the parts of Weber's thesis concerned with forms of organization and organization structure and have paid relatively little, if any, attention to the broader sociological and anthropological themes of Weber's writings.⁸ Clegg's (1994b) contribution is important because it has a 'permission giving' character: it permits a broader interpretation of Weber, to re-invoke culture as a theme of Weber's work and so to render Weber relevant to consideration of power in three and four dimensions.

In Clegg's (1994b) view, the central premise of Foucauldian power is that it is shifting and inherently unstable, pervading and inescapable. Clegg (1994b, p.158), observes of the effects of Foucauldian power on the individual:

*“What emerges is a 'capillary form' of power, a power that 'reaches into the very grain of individuals', a 'synaptic regime of power, a regime of its exercise within the social body, rather than from above it' (Foucault 1980, p.39), a disciplinary power. The subjectification of disciplinary power operates primarily through enhancing the 'calculability' of individuals (Foucault 1977, p.192–4)”*⁹

Foucauldian power also permeates the social body so that there is no space absent of power. For Digeser, *“within the radical and liberal conceptions of power there is always the possibility for human relations not to be mediated by power. This is not true of the omnipresent fourth face”* (1992, p.981). In Foucault's words,

8 It ought be noted that Lukes offers a similar critique of writers who have invoked Foucault in their works on power; I shall return to this point shortly.

9 Quote from Clegg (1994b, p.158), including his quotes of Foucault (1980, p.39, 1977, p.192–4).

“It seems to me that power must be understood in the first instance as the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization; as the process which, through ceaseless struggles and confrontations, transforms, strengthens, or reverses them; as the support which these force relations find in one another, thus forming a chain or a system, or on the contrary, the disjunctions and contradictions which isolate them from one another; and lastly, as the strategies in which they take effect, whose general design or institutional crystallization is embodied in the state apparatus, in the formulation of the law, in the various social hegemonies.” (1978, p.92)

What we see then is a form, or forms, of power that are all-encompassing and all-pervading. Individuals, and the social relations that they form, are all products of power. The critical problem for this perspective is that if all subjects and all social relations are products of power, then there is no scope for any sense or invocation of human free agency. Digeser (1992) begins to acknowledge problems with viewing power in this way and alludes to variations – he sees them as inconsistencies – in lectures and interviews that Foucault gave later in his life but does not offer a detailed critique of the totalising nature of this view of power. In a footnote, Digeser considers that *“Foucault is not a theorist of freedom”*, saying *“Perhaps the most that can be said is that power”* [in its fourth face] *“engenders the kinds of individuals for whom the freedom to do what one wants to do may or may not be seen as valuable”* (1992, p.981). It is an unsatisfactory way to leave the problem, as Lukes (2005) recognizes when he treats the issue more comprehensively in his second, extended, edition of *Power: A Radical View* (hereafter 'PRV').

3.7. Problems with Foucauldian Power

Lukes' second edition of PRV includes additional chapters designed to respond to critique of his original three-dimensional view of power, and to attend to problems with the Foucauldian perspective (2005). In those additional chapters, Lukes is highly critical of Foucault's work on power, saying that it is of *“an excessively rhetorical style entirely free of methodical rigour”* but admitting that it is so *“in a way that has stimulated much thinking and research in a variety of fields”* (2005, p.61). The criticism may be a somewhat undue; Foucault was a philosopher and it is a philosopher's job to theorize but if Foucault is to be excused then criticism must necessarily turn to those who have interpreted and applied his work. In this way Lukes' critique of those who have invoked Foucault is similar to Clegg's (1994b) of those who invoke Weber; that they are, in effect, selective about the way they use the work. Lukes' concern is that *“far too much of the voluminous writing about his view of power is either obscurantist when friendly or dismissive when critical”* (2005, p.88).

Lukes, in demonstrating his complaint that Foucault's view of power undermines *“the model of the rational, autonomous moral agent”* (2005, p.91) characterizes Foucault's position on power as passing through a series of stages in which it is progressively developed and altered to address

apparent problems. In what Lukes describes as a first phase, Foucault has subjects constituted by their subjection to power. This position, argues Lukes, is deterministic and leaves no space for human agency within Foucault's definition of power. Foucault's somewhat abstract (Lukes 2005) response to this is his presentation of power as concomitant with resistance "*or rather this resistance is never in a position of exteriority in relation to power*" (Foucault 1978, p.95). This position, in Lukes' view, is merely a conceptual necessity, included to justify Foucault's broader definition of power (Lukes 2005).

In subsequent writings, Foucault grants the subject a sense of voluntarism by suggesting that power is "*exercised only over free subjects, and only insofar as they are free*" (Foucault in Dreyfus and Rabinow 1983:221), granting individual and collective subjects the possibility of realising self from a range of possibilities. Lukes, clearly unconvinced, complains "*So this version of 'making up people' is supposed to preserve their freedom*" (2005, p.96). Foucault progressively softens his position on the productive nature of power to the point where he draws a distinction between "*strategic games between liberties*" and "*states of domination*" (Foucault in Bernauer and Rasmussen 1988:19). A delighted Lukes seizes upon this as evidence that the idea of productive power "*made no sense*" (2005, p.98).

It is important to note here that the concepts of domination for Weber and for Lukes are different. For Weber, as discussed in the preceding chapter, domination can be legitimate when acceded to by those subject to power; legitimacy can be attained by way of collectively accepted rationality, or by tradition, or by the charismatic nature of those in power (1978). Lukes shows that the Weberian view extends across situations where power induces subjection against the will or interests of the subject and where power relations are more positive and seen as legitimate. A distinction between 'illegitimate' – dominative – and 'legitimate' exercises of power is necessary for Lukes to make his case for a three dimensional view of power.

The idea that power relations constitute identities is rejected by Lukes and was, he points out, ultimately disowned by Foucault. It is necessary, of course, for Lukes to dismantle Foucault's view of power because the Foucauldian position has destructive implications for Lukes' three-dimensional view. If human agency is excluded from power, if Foucault's early claim that all subjects are constituted entirely by power is accepted there is no scope for the conception of real interests on which Lukes' position relies as being anything other than what Luke's 'theorizing power' (Clegg 1975) constitutes.

Lukes (2005) concern with the totalising nature of Foucault's early perspective on power is consistent with similar concerns raised by other scholars, though Lukes' objections are by far the most emphatic. Clegg, for example, had already noted of Foucault's comparatively "*cavalier*" (1989, p.2) treatment of the concept of power its stronger focus on normative analyses rather than empirical proofs. Clegg offers a characterization of post-structuralism, "*which had recently had its obituary written*" (1989, p.151), as a theory of discursive practices constitutive of

subjectivity where identities are reproduced and transformed discursively that leaves no place for a rational human subject as the source of identity. No explicit link is drawn by Clegg (1989, p.151–2) to Foucault's power relations constitutive of subjectivities, that being outside the scope of the particular work but the connection to and the totalising flaws within the theory are clearly visible. Other commentators either explicitly reject readings of Foucault's work that exclude agency (Knights & Vurdubakis 1994) or adopt Foucault's later position with regard to space for resistance (Fleming & Spicer 2007), and proceed to theorize resistance apparently satisfied that the flaws Lukes highlights are resolved.

3.8. Resisting Power in its Fourth Dimension

As the focus of writings on power moved away from simple $A \rightarrow B$ relations to positions informed by debates about the absence of Marxian class struggle, due to the presence of 'false consciousness' or 'hegemony', before becoming more influenced by Foucauldian micro-exercises of power that are seen to occur everywhere, resistance necessarily took the same direction. In this view, resistance deflects power to create outcomes contrary to those intended by authority but does not necessarily do so in a radical way. Often they serve the purpose of effecting minor changes to power relations and these may serve simply to create small spaces of control for otherwise dominated workers without significantly upsetting the power relations that they resist.

As we have seen in the preceding section, the Foucauldian position on resistance is markedly different to those discussed to this point. Foucault's theory of power, at least in the way that it developed towards the end of Foucault's life, is unique in that in the course of theorising power it also accounts for resistance, whereas Dahl, Bachrach and Baratz, as well as Lukes, offer theories of power without corresponding treatments of resistance. Moreover, Fleming and Spicer (2007) observe that Foucault's approach is a departure from the overt, reactionary and confrontational images of 'industrial struggle' that define much of the preceding research on resistance and so Foucault gives us the freedom to think about resistance in ways not limited by considerations of interests, conflict and struggle. The possibility of viewing resistance as potentially positive, constructive and creative emerges. It is in this perspective that we consider resistance to the Foucauldian conception of power, as creation.

3.9. Resistance as Creation

Collinson's (1994) review of resistance theory observes that resistance has been a key focus for management scholars for much of the twentieth century, reflecting on managerialist attempts to reduce employee recalcitrance and resistance, organizational psychologists' strategies to overcome resistance to change, industrial relations writers addressing strikes, industrial sociological approaches to matters such as output restriction on the factory floor, workplace

pilfering, industrial sabotage and the general problem of workplace practices opposing formal policy. He considers that labour process writers made a key contribution by observing the “*irreducible relationship between employee resistance and managerial control*” (p.26) highlighting that in critical studies, “*resistance is very much a response to practices of managerial control*” (ibid). Collinson laments that this dualistic view and current (circa 1994) research fails to consider a range of questions including the conditions under which resistance emerges, the effectiveness – or otherwise – of acts of resistance, as well as the consequences of resistance. In order to develop the direction that Collinson takes, the Foucauldian view on power – and, by implication, resistance – is effective.

In highlighting what they identify as a recurring problematic in the labour process literature views on power – termed “*the problems of location, agency, and justifiability*” (p.175) – Knights and Vurdubakis' (1994) reject the dualistic view in favour of a reading of the Foucauldian perspective that characterizes power as something that occurs by way of processes and actions rather than something that individuals or institutions 'have'. In their view, by refusing to essentialise power, Foucault denies attempts to define what power 'is' in preference to observing how power 'occurs'. For Clegg (1994a), power in Foucauldian terms achieves its effects by disciplinary techniques that begin in the prison, proceed to the hospital, the school, and ultimately the workplace that are, importantly, not powers in their own right, but rather “*constitutions of powers*” (p.276) that manifest as “*discursive practices*” (p.277) – reproductions of knowledge in learned and evolved institutional and organizational practices. There is not, however, a fixed 'practice' of power or a 'discourse' of power, nor a counteractive discourse or practice of resistance; rather, power is represented by “*the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization*” (Foucault 1978, p.92) or, as Foucault himself puts it, “[*power*] is a field of analysis and not a reference to a concrete instance” (Foucault 1990, p.38). The necessary consequence of this position is that power, and resistance, cannot be observed nor catalogued a priori, but may only be represented as they are constituted in particular empirical settings. By implication, research cannot claim to catalogue power per se, but can only purport to represent power as constituted in a specific setting. “*Power and resistance*”, say Knights and Vurdubakis, “*are best examined in specific sites with definite socio-historical conditions and means of operation*” (p.175).

Knights and Vurdubakis (1994) eschew readings of Foucault that present dichotomies between power and resistance, resistance and absence of resistance, power and absence of power. Their preference is for a reading that sees an unstable multiplicity of exercises of power and of resistances. Foucault's position that “*power is already there*” (1980, p.141 cited in Knights & Vurdubakis 1994) in power relations and immanent therein, creates a dichotomised view of power and resistance in a situation where power is always present in social relations, and resistance is always excluded. Foucault allows for resistance to continue existing by observing that “*there are no relations of power without resistances*” (ibid, p142) and sees power relations

as having the potential to compete with, contradict and even reinforce one another (Knights & Vurdubakis 1994). Importantly, the potential for conflict between power relations is inherently productive of resistance in the sense that exercises of power have the potential, in effect, to present a resistance to other exercises of power. Addressing the aforementioned 'location' problem is important because it not only deproblematizes the issue of 'where' power is located by positioning power in every subject in every power relation but also removes the requirement that resistance be entirely excluded for power to be 'successful'. Thus it establishes 'space' for resistance to occur internally to power relations and permits power and resistance to exist concomitant with each other.

A key point of differentiation with previous theories of resistance is the central role of subjectivity. Collinson, in particular, views subjectivity and the maintenance of identity as a way to resolve the problem of resistance having the net effect of furthering the very subjugation it seeks to oppose. Collinson (2003) explores identities in the workplace from the particular perspective of insecurity. He cites a trend in social and workplace culture towards identities built on performance, identities that individuals must actively work to build and to maintain. These 'new' identities are contrasted with those of older times that were in effect assigned by birth right and were far less open to manipulation or 'construction' than performative identities because the individual subject bears the onus for maintenance of their identity. Correspondingly, contemporary management sees subordinates as anonymous and dispensable; with the demise of lifetime employment comes a new pressure to perform in order to maintain employment and associated senses of identity. The social requirement that individuals must work to 'become' their identity brings a risk of failure to achieve a desired or mandated identity and a concomitant insecurity for the individual (Collinson 2003).

Identities with assigned characteristics such as being a 'breadwinner', appearing 'rational' or showing 'common sense' are constructed by workers as tools for 'survival' in that they provide a level of mental comfort and also, when the identities are successfully projected, ensure the prospect of job security or even promotion. In making these constructions, however, individuals find ambivalence between the need to construct a unique individual identity and the need to construct a sufficiently compliant identity to ensure survival. Collinson (2003) observes that this leads individuals to establish multiple identities with different identities for different contexts. Says Collinson: "*The attachment to identity can be especially problematic given that in practice, we simultaneously occupy many subjective positions, identities and allegiances [...] Rarely, if ever, do we experience a singular or unitary sense of self.*" (2003, p.534). Organizations attempt to produce particular types of subject by establishing discourses that promote and privilege certain identities. As is the case with corporate culture programs, identity production programs are designed to lead workers to thinking, acting and constructing their own identities in ways that are consistent with corporate goals and are presented as approaches to minimize resistance by placing workers in situations where to resist would be to resist one's colleagues and to resist

oneself. In practice, more complex control mechanisms do not suppress resistance; rather, they simply beget more complex forms of resistance that, in an ironic but sadly unsurprising turn, again have the net effect of furthering subjugation.

Kondo's (1990) Japanese factory workers deflect a corporate discourse of belonging, designed to promote loyalty to the organization, and produce alternative versions of the discourse that parody and criticize the company. Similarly, in demonstrating the role of engagement in resistance, Collinson's (1994) factory workers were so focused on maintenance of their own identities in spite of the culture that their employer tried to impose on them that their oppositional actions had the affect of intensifying the very controls they sought to resist. Collinson observed that the maintenance of identity can be counter-effective to an intended resistance because "*the more concerned individuals are with crafting selves, the less effective will be their oppositional resistance practices*" (1994, p.56). The same behaviour is evident in Hodgson's (2003) insurance salespeople as they operate within company-constructed discourses of autonomy, masculinity, being breadwinners with 'hunger' for sales that invokes behaviour designed to increase sales performance. However, they re-invoke those same discourses to demonstrate their self-discipline and independence from surveillance mechanisms. In these instances, the resistance, from the perspective of management, is minor and relatively ineffective but is productive in the sense that it creates alternatives to the official narratives.

In this discussion of resistance as production, in particular as productive of identity, a number of factors are salient. First, the point made earlier about the fluidity of resistance is evident, particularly in a blurring between the effects of culture control programs and identity production programs and the corresponding processes of resistance to them. Some resistances to these attempts at control become manifest as escape from existing conditions and others as productive of changed conditions. Second, as noted in the preceding comments in the section 3.4 titled 'Resistance as Escape' on page 58, above, the increasing subtlety of control is met with correspondingly subtle resistance that viewed from an a priori perspective of the goal of overthrowing or at least substantially altering capitalist controls appears less and less successful. One consequence is the widely reported perception that resistance has finally been suppressed by increasingly advanced managerial controls (Thompson & Ackroyd 1995).

Reading resistance theory demonstrates a development of theory that necessarily parallels that of power theory. The two are not strictly parallel, of course; there is some overlap between different modes of resistance in response to particular exercises of power. The progression towards a reduction in visibility of resistance and the apparent concomitant reduction in effectiveness is an important factor to be considered in more detail in light of OSS seen in terms of resistance theory that will follow, particularly in respect of the consideration that maintenance of identity, though clearly important, has the apparent effect of negating resistance.

A review of resistance theory will be incomplete without a consideration of the debate regarding the introduction of the subject to labour process theory, the problems it presents and some proposed solutions. This debate is considered next.

3.10. Debating Subjectivity in the Labour Process

A central debate in organization theory is that between those who prefer an agentic foundation and those who prefer a structural one with which to theorize organization. What Thompson called the 'missing subject' (see, for example: Thompson & Findlay 1996; O'Doherty & Willmott 2001; Knights & Vurdubakis 1994; Thompson & Ackroyd 1995; Knights & Willmott 1989b) is central to the debate which argues the appropriateness, or otherwise, of including the concept of subjectivity in labour process research. The introduction of Foucault is seen as a solution to the failure of labour process theory to adequately explain situations where workers effectively consent to and act to further their own subjugation for some, while for others it is a mere distraction (Knights & Vurdubakis 1994). In this section I shall not attempt to re-summarize the debate in its entirety; instead I commend Parker's (1999) detailed assessment to the reader who wishes to review the matter. Here I shall address the key factors relevant to resistance in the context of the present research.

Labour process theory (LPT) bases itself on a Marxist reading of the capitalist process of production, the labour process. The capitalist labour process centres on the expropriation of surplus value from workers – the working class in Marxian terms – by capitalists who own the means and process of production. Marx draws a distinction between necessary labour – the labour that a human must do in order to survive – and surplus labour – that which produces value beyond that which is necessary for survival. In capitalism, necessary labour and surplus labour are indistinguishable (O'Doherty & Willmott 2001) and the goal for the capitalist is to exploit labour as best as possible so as to gain maximum profit from the sale of the products of labour.

As noted above, LPT can be divided into two distinct theoretical areas. The orthodox labour process theorists take a position that strongly adheres to the Marxist roots of the tradition and privilege a structural perspective on the labour process that sees workers as a class of people who work, negotiate and resist collectively and who exhibit few, if any, individualist characteristics. A second, radical, view of the labour process – labelled the Manchester school by Edward Wray-Bliss (2003b)¹⁰ – problematizes the orthodox position for its failure to consider the agency of

10 Wray-Bliss invokes the term 'Manchester school' to describe, as he puts it, "*a loose community of labour process writers who use Foucauldian frameworks to reintroduce and explore subjectivity in LPT*" (2002, p.30) and in doing so he makes it clear that he intends it as a broad, high-level collective and acknowledges that individual authors do take varying theoretical positions. Wray-Bliss denotes Knights and Willmott as the key writers in the 'Manchester' branch of the labour process tradition. Not all agreed with the classification however;

individual actors, arguing that resistance, and in particular resistance that has the ultimate effect of reinforcing subjugation, cannot be properly explained without consideration of the subjectivity of individuals in the labour process. The Manchester school claims to remain true to labour process theory's Marxist roots, but invokes Foucault to explain the subjective elements of resistance – and more importantly self-subordination – evident in empirical studies but not, they claim, adequately explained by theory that excludes consideration of the subject (Knights & Vurdubakis 1994).

Key to the Manchester perspective is the inclusion of the subject as a factor of analysis in the labour process as something necessary to resolve certain empirical concerns such as the question of apparently consensual self-subjugation. Importantly, in a point sometimes apparently missed by the orthodox writers, the subject is not something that is constructed entirely individually; rather it comes in part from the self. The identity that an individual constructs in the workplace will be significantly affected by the corporate identity programs in place but it is not entirely controlled by a corporate identity program. The result of an identity construction that is in part drawn from the organization and in part from the individual, contrary to orthodox arguments (see: Thompson & Ackroyd 1995), is variability in employee action leading to a level of unpredictability and brings about continuation rather than suppression of resistance (Knights & McCabe 2000).

Writers who reject the individualization thesis – “*the effect of the power of a humanistic discourse that elevates and celebrates the autonomy of the self in contrast to the communality of the social*” (Knights & McCabe 2000, p.424; see also: Knights 1990; Knights & Willmott 1989a; Collinson 2003) – misunderstand what Foucault and the Manchester writers meant by individualization and take it to mean a focus on the individual to the exclusion of collective and social factors. Such a view is incorrect as there is no exclusion of community; rather the subject is introduced as an additional factor that contributes to identity construction and workplace behaviour (Knights & McCabe 2000).

It must be said that in some places the orthodox school's arguments appear to be occluded by something of a 'red mist' on the part of opponents that renders these authors as seemingly more focused on disproving the Manchester perspective than on resolving debate. In any case, the two

perhaps most notably, Collinson's heated response (2002) to Wray-Bliss (2002) rejects the Manchester label as a collectivity that “*artificially combines together, and denies, significant temporal, spatial and theoretical differences between a considerable number of different people*” (p.43). The criticism seems unduly harsh however, since surely all acts of labelling collectivities commits the same crime to some extent and, in this instance, Wray-Bliss establishes, delimits and defends the label in a form consistent with and appropriate to the use he makes of it. The collective title 'Manchester school' is applied herein in the same way as it is applied by Wray-Bliss.

sides of the debate often appear to be closer to agreement than either seems prepared to admit. Thomson rejects a labelling of his position as Marxist (1990) but strongly criticizes those who stray too far from an orthodox Marxian conception of the capitalist labour process (Thompson & Ackroyd 1995). The Manchester scholars are criticized (ibid), as are organization scholars generally (Ackroyd & Thompson 1999), for neglecting resistance in the labour process by turning the focus of research from the labour process itself to the individual subjects therein, yet the Manchester writers make it very clear that their aim is to explain empirical instances of apparently consensual self-subjugation that could not be otherwise adequately explained, and they are also at pains to make it clear that an exclusion of collective notions of work is neither the intent or the result of their research (Knights & McCabe 2000).

Knights and Vurdubakis (1994) make some ground in a search for a solution by offering resolutions to key concerns raised by critics of the introduction of Foucault to labour process research; their treatment of the problem of the location, and very existence, of resistance within the Foucauldian perspective is discussed above in section 3.9 titled 'Resistance as Creation' on page 67, above. A more appropriate concern seems not to be that of whether or not Foucault's work ought to be the vehicle for a move beyond the concern of the missing subject but whether or not the focus on "*managerial 'colonization' of subjectivity*" (Fleming & Sewell 2002, p.857) has received more attention than it warrants to the detriment of considerations of the apparent disappearance of resistance from studies of organization generally. Ackroyd and Thompson (1999) make a striking assessment of the sheer lack of acknowledgement of resistance in organization research and management textbooks and propose to widen the view beyond what is commonly recognized as resistance into a far broader concept of 'misbehaviour', though Ackroyd does acknowledge that their definition including "*anything you do at work you are not supposed to do*" (1999, p.2, citing Sprouse 1992) in hindsight, was too wide-ranging (Ackroyd 2009). Ackroyd and Thompson (1999) propose a turn to a focus on resistance and Fleming and Sewell take up this call, declining to participate in what they termed the "*Foucault wars*" (2002, p.858) in preference for an exploration of, and call for further research on, new manifestations of resistance in organizations.

Parker (1999) also attempts to resolve the debate by redirecting focus away from Foucault and the (missing) subject, and on to ethics. In seeking to establish a common ground from which to proceed, Parker refuses to take the position that there is no commonality between the positions of the orthodox and Manchester perspectives, neatly dispenses with questions of dualism, subjectivism and the boundaries of what ought to be called 'labour process theory' and quite astutely points out that the fundamental goal of all of these authors is, in his assumption, "*attempting to articulate a critical politics of organizations which they believe might – to put it very simply and crudely – contribute to making the world a slightly better place*" (1999, p.41). "*If they aren't doing this*", says Parker, "*then my engagement with (and sympathy for) the papers stops here*" (ibid). As Parker puts it, decisions to use various devices such as dualisms and

particular theories, terms such as capitalism, labour process and so on are secondary considerations to the primary concern for a proper and ethical representation of the organizations under study. One ought, according to Parker, use whatever device is the most appropriate to convince others of their usefulness as persuasive tools. In granting this permission, he points out that “[o]f course, we should always be suspicious of our words, or our descriptions, but this does not mean that we can somehow do without them” (Parker 1999, p.42). This work does not propose to further engage the debate over agency and subjectivity. Rather, Parker's encouragement to select a perspective and methodology that best serves the aims of the study is adopted, the central goal being, of course, to understand organization better.

3.11. A new Beginning for Resistance, too?

We considered two key problems. The first being that, in a quaint parallel to the apparent position of bureaucratic organization in the previous chapter, resistance is by all accounts dying, if not dead. Resistance has, at the point to which the literature leads us, been reduced to a private and near-invisible practice invoked by individuals as a silent coping mechanism in the course of going about their work. The second problem lies in the academic debate over the role that individuals – subjects – play in their own subjugation at the hands of power. Just as Parker (1999) has given a resolution to the subjectivity debate, Courpasson and Clegg (2012) offer a promising route out of the apparent impotence of resistance by offering a positive and productive perspective.¹¹ In the next chapter, Chapter 4, the questions raised in Chapter 2 about the status of organization, and the questions raised here in Chapter 3 about resistance re-examined in concert and a way forward is proposed together with a set of research questions designed to respond to Courpasson and Clegg's (2012) proposals.

11 If alliterative.

4. Resolving Resistance

“Sharp-cut scientific classifications are essential for scientific method, but they are dangerous for philosophy. Such classification hides the truth that the different modes of natural existence shade off into each other.”

(Whitehead 1968, p.157)

4.1. Why Can't We Have Both?

The preceding Chapters have highlighted a series of 'end of days' predictions for both bureaucracy and resistance, and also have planted seeds of hope for both. In this Chapter I nurture those seeds so as to assert new relevance – new beginnings – for both theories. Here, I re-state the two problems that I identified in the organization and resistance literatures at the conclusion of Chapters 2 and 3, respectively and invoke Clegg and Courpasson's (2012) theory of 'polyarchic bureaucracy' as a guide to a potential way out of the darkness that has beset both literatures. Courpasson and Clegg (2012) conclude their salient and helpful theorizing with a call for further research into modes of resistance that are cooperative and productive. In this chapter I respond to this suggestion and construct a set of research questions that are designed to facilitate responses to their proposals.

To facilitate a response to Courpasson and Clegg's call, insofar as it applies to motive, requires that a theory of motive as a shared and mediated understanding of future intended action be introduced, as well as invoking a theory of self developed by Stella Ng to reinstate a subjective perspective on motive missing from the dominant theory. Because these applications of motive and self, along with the notions of discourse and identity that are inevitably drawn in, become somewhat discursively unwieldy, I apply Dawkins' theory of cultural meme to make it all a little more cognitively manageable.

Finally, research questions are proposed that seek to address the stated problems in terms of Courpasson and Clegg (2012).

4.2. Two Problems

Having reviewed the literature on organizational forms in Chapter 2, and on resistance in organizations in Chapter 3, we arrive at two distinct, but related, problems. The core of each problem is presented again here; the reader is referred to the discussion sections in each of the two preceding chapters for a more detailed account.

The first problem is one of forms of organization. The superiority, and long-running success of the bureaucratic form was evaluated in some detail in Chapter 2. Bureaucracy has endured a great many challenges; questions about its precise nature (Pugh et al. 1968; Blau & Scott 1963),

empirical enquiry about its structural characteristics (Woodward 1958), means of formation (Stinchcombe 1965), its motivations (Langton 1984; Perrow 1985) and its legitimacy as a defined form (Child 1972a). The death of bureaucracy has been regularly predicted: new forms such as projects (Lundin & Söderholm 1998); organic forms that are temporary (Burns & Stalker 1961), subsuming key tenets of bureaucracy, such as notions of hierarchy and career (Clegg & Courpasson 2004) have been suggested as its replacements as have organizations that claim varying degrees of genuine virtuality (Davidow & Malone 1992; Kreher 2001) characterized as much by what they remove as what they create (Knights et al. 2007). These proposed new forms can all be seen to have the effect of making minor improvements to and progressive adaptations of the bureaucratic form rather than offering a genuine post-bureaucratic way to organize, typically as advancements in technology have made it possible or necessary to do so (Heydebrand 1989; Woodward 1958).

Nonetheless, despite many claims to the contrary, bureaucracy is very much alive and well (du Gay 2002). The first problem, therefore, is to decide whether or not bureaucracy is changing – indications are that it probably is – and whether or not some new form will subsume it.

The second problem is the role of resistance in organization. Resistance is, of course, not new to organization theory concerns, although in its classical conception in Marxist and Labour Process perspectives resistance, as a viable means whereby capitalist control can be overcome through class struggle, is a fading hope (Thompson & Ackroyd 1995). Not only the critical but also the managerialist literatures have been preoccupied by resistance and what we should 'do' about it for much of the twentieth century. Courpasson and Clegg note that “[b]ureaucracies have never been apolitical zones of efficiency” (2012, p.56; citing Gouldner 1954), rather, they “can be said to be recursively patterned by politics” (ibid). It is not the presence of resistance that is interesting *per se* but the effective role that resistance performs. Fleming and Spicer (2007) have charted that resistance takes many different forms in a parallel path to the development of notions of power, effectively merging with power (Foucault 1980) or being at least permanently coexistent with power (Clegg 1994b). Foucauldian critical scholars have, by invoking concepts of identity and the self, granted resistance some small chance of success, albeit on terms that are largely individually configured (Knights & McCabe 2000). Even so, perspectives that allow for considerations of subjectivity in resistance see the opportunities for it as largely internalized within individual resistant subjects and barely affecting the overall organization (Fleming & Spicer 2007). Rhodes (2001a), for example, is concerned that resistance may have attained a status that is little more than an internal mechanism to “let off steam” (p.382).

The second problem thus relates to the role of resistance in organization. If resistance is a negative, obstructionist practice that can be managed, as much of the managerialist literature would have us believe, how is it possible that it recurs? How is it that employees who are aware of the limited nature and effects of their resistance (Fleming & Sewell 2002) resist at all? Why do they make ‘escape attempts’ (Cohen & Taylor 1992)?

Courpasson and Clegg (2012) offer a way out of these two problems by linking them together and by proposing that organizations *are* changing and that resistance plays a central role in that change. They further elaborate their arguments in Courpasson, Dany and Clegg (2011), offering a polyarchic (Dahl 1971) mode of organizing with resistance playing a central and positive role as 'cooperative resistance'.

4.3. Cooperative Resistance

Clegg and Courpasson's (2012) concern is that classic accounts of the bureaucratic form present static structural views of organization. These accounts are blind to the dynamic nature of bureaucracy and they do not consider the affects that resistance within organizations have on structure and operation (ibid). Acknowledging that resistance occurs and makes a positive contribution, within and from both the 'rank and file' membership of the organization as well as mid-level management, post-bureaucratic logics require that organizations permit and accommodate dissent and the changes it brings. An organization that does this is called a 'polyarchic bureaucracy' (Courpasson & Clegg 2012).

As organizations become increasingly open to post-bureaucratic notions such as empowerment, dialogue and deliberation, the door is opened, in effect, for exercises of resistance – denoted 'dissent' by Courpasson and Clegg (2012) – to effect new practices within organizations, perhaps also to effect new organization forms that feature notably different goals, power relations and technologies to the forms that preceded them (Rao, Morrill & Zald 2002), which they later termed 'productive resistance' (Courpasson, Dany & Clegg 2011).

Dahl (1971) offers polyarchy as an approach to organization that has some consistency with the concept of democracy. Three necessary pre-conditions for democracy exist: citizens of a democracy must be able to formulate, signify and have their preferences weighed equally by those in power (Dahl 1971). To weigh a preference 'equally' is to consider it on its merits, not merely its subject matter or content alone. Polyarchy, for Dahl, is a political construct in which there is a real possibility of dissent upsetting the order of the day (ibid). Tannenbaum (1961) extends the concept of polyarchy to organization by observing voluntary organizations in the form of the largely autonomous local branches of the League of Women Voters. Tannenbaum (1961) found variations, from branch to branch, in the degree to which different parts of the local hierarchy exercised control but also found examples where a high level of control was present at the levels of president, board and the membership. A polyarchic organization, for Tannenbaum, is one where all levels of the organization participate in determining organizational policy and action (1961). It is important to note that polyarchy is neither a pure political democracy where the lower membership levels of the organization have the greatest control or a laissez faire approach where no level exercises a great deal of control (Courpasson & Clegg 2012). Nor is the approach pure bureaucracy, where upper levels of the hierarchy would tend to prevail when dissenting views are raised (ibid).

In a polyarchic bureaucracy, various levels of the organization have the power to reshape the organization's practices and policies but, importantly, they may only do so within the broad framework of domination set by the organization's leadership. Exercises of resistance that fall outside a scope deemed 'acceptable' attain a negative status and are not tolerated (Courpasson & Clegg 2012). This is an important point for polyarchic bureaucracy is not a reversion to an 'anything goes' approach but rather it is a measured acceptance of resistant activity within bounds that are specified as acceptable and if not productive, at least well intentioned. A polyarchic organization "is one where members have a de facto informal right to contest organization leader's decisions as long as, in doing so, they do not damage the structural fundamentals of power arranged as a system of hierarchical authority" (Courpasson & Clegg 2012, p.58). Individuals attain the right to contest decisions primarily by way of expert knowledge and personal credibility (Courpasson & Clegg 2012), characteristics that they may accumulate, for example, by way of the successful performance in project organizations and relationships built in network organizations, as considered in Chapter 2.

Resistance in the polyarchic sense is not obstructionist or defiant and it is not a solitary response to an individual's self-serving egoistic position. Rather, it is an opportunity to make use of the power that comes with reputation and expertise to propose alternative approaches to managing the organization. Resistance in the polyarchic context is interesting because it is a departure from the destructive and conflictual view of resistance that has pre-occupied the literature for so long. Rather than acts that are rejected, pathologized and punished by management, resistance in this sense becomes engaged with the official discourse of the organization. Resistance in a polyarchic organization holds the promise of benefit to the resister as well as to the organization. Rather than be identified as troublemakers and marked for exclusion, individuals who resist constructively and productively establish themselves as possible candidates for inclusion within the organizational elite (Courpasson & Clegg 2012). The goal here is to consider resistance not for its negatives but for the positive possibilities it offers.

The way in which resistance in organizations is permitted, or not, and how it is controlled, will dictate the form that the organization takes. Therefore, argue Courpasson and Clegg, an analysis of new organizational forms' capacity for coping with new forms of resistance is a necessary precursor to an understanding of the transformative capacity of those organizations. Rule and rationality continue to exist in these organizations but do not preclude the possibility that individuals or groups offering alternative propositions may challenge managerial decisions. The result is the creation of temporary inversions of power relations (Courpasson & Clegg 2012) that are not entirely unlike those observed by Bakhtin (1984), Boje (2001) and Rhodes (2002, 2001a), albeit less carnivalesque, yet having the potential to benefit not only the party resisting but also the organization as a whole. Hierarchy remains a strong and significant feature of the polyarchic bureaucracy which is not diluted, though leaders will need to use skill and reflexivity to negotiate and coordinate interactions with proposals for change (Courpasson & Clegg 2012).

Power is central to the polyarchic bureaucracy because the organization is constituted by power mechanisms, particularly the acts of positive and constructive resistance that are viewed and managed as exercises of power (Courpasson & Clegg 2012). As such, the model that Courpasson and Clegg offer presents a convenient mechanism by which to consider the two problems constructed in chapters 2 and 3, and reprised here.

4.4. Research on Polyarchic Bureaucracy

Courpasson and Clegg offer their model of polyarchic bureaucracy with its consideration of cooperative resistance as a foundation for future research. The model is well suited to this research for its capacity to address two problems jointly, that of progression to new organization forms and that of the place of resistance in organization. They propose that new research in this area may consider resistance and its affects on organizations in three ways.

First, Courpasson and Clegg suggest that resistant acts can trigger change rather than being simple forms of opposition to managerial regimes. Such research might consider how “*instances of change and genuine empowerment could be the result of acts of resistance rather than managerial initiatives per se*” (2012, p.76) and would serve to address the two problems by considering how organizations change and the role of resistance in framing these changes. Second, they suggest that research might expand beyond specific organizations and consider the effect as it might apply to entire industries. Although this second proposition is somewhat beyond the scope of this research, in Chapter 5 the Open Source Software (OSS) movement – arguably an industry in its own right – is introduced as the broader industrial setting for this research then, after a diversion to consider methodology and method, in Chapter 8 the empirical focus of this research is narrowed to a specific OSS project. So, while this research will not attend to Courpasson and Clegg’s second proposal, to the extent that the findings from this research are generalisable they will serve to inform future research within the same industry.

Third and finally, Courpasson and Clegg (2012) propose research that considers the roles that individuals play and the private motivations that lead them to resist. The methods that are introduced in Chapters 6 and 7 involve collection of both interview data and a range of different types of ‘found data’ (Silverman 2005) that, even without explicitly asking participants questions about motivation, will likely provide insights into their reasons for participating and resisting. Given the near ubiquitous status of relatively simplistic psychosocial appraisals of motivations for participation in OSS, particularly among OSS workers who are unpaid, I argue that a deeper sociological consideration of motive will make a more useful contribution.

4.5. On Motive

“Many a woman has in this way had a more correct and complete acquaintance with the internal causes by which the conduct of her husband has been determined, than he has had himself.” (Bentham 1781, p.296)

Invoking the issue of motivation and motive brings with it certain challenges of its own. I have written about OSS before in context of the innovation literature (see: Breach, 2008; Breach and Jenkins, 2007) and I have said elsewhere that the question of individuals’ motivations for participating in OSS projects is one that, if not completely resolved, has certainly been thoroughly tested (Lakhani & Wolf 2005; Bonaccorsi & Rossi 2006, 2003a, 2003b; Bitzer, Schrettl & Schröder 2007). In scholarly terms it is a crowded space and additional research that returns simplistic post hoc justifications for action along the lines of “*develop new skills*”, “*hone existing skills*”, “*interest*”, “*recreation*”, “*self-determination*”, “*social interaction*” and “*enjoyment*” is probably not of great value. Notwithstanding that opportunities for research on motivations from the perspective of the innovation literature may be largely exhausted, there is still scope to develop new insight from sociological and psychosocial perspectives.

The key to developing new insights on motive must be to draw on Mills’ (1940) work. While Wundt’s work is useful for the distinction it creates between conscious expression and its internal origins (Diriwächter 2012), Mills (1940) rejects Wundt’s founding ideas of language as a tool to recount experiences and existing internal conditions and substitutes the idea that linguistic analyses must extend to observing the way actors use it to coordinate actions amongst themselves and as expression of future intended actions. The perspective requires that the issue of motivations be resolved; Mills does this by arguing that Bentham’s (1817) notion of motives as subjective inner “*springs of action*” is insufficient and takes the position, building on Burke’s (1935) characterization of motive as strategic rationalization, that motive is a social mechanism whereby actors form, represent and impute motive on the basis of what is in effect a socially constructed and mutually understood set of vocabularies to describe motives that ultimately proceed, or at least aim, to action that occurs in ways that the shared understandings describe.

For Mills (1940), a situation where there is consonance between an act or an intention and shared understandings of acceptability – Blum and McHugh (1971) later set the benchmark at ‘intelligibility’ so as to require understanding but not necessarily approval – does not raise the question of motive. A need to establish motive arises when an act or an intended act is somehow brought in to question. Socially, “[*m*]otives are common ground for mediated behaviours” (Mills 1940, p.908) and so we have no need to examine conduct that is mutually acceptable but, when “**alternative or unexpected programs**” (p.905, emphasis in original) – analytical ‘crisis’ – arises, we naturally seek understanding. When that need for understanding arises then we turn to a ‘vocabulary of motive’, a kind of parallel for the Foucauldian (1995) notion of ‘discourse’

(Bertaux 2014); that is, a mutually understood set of acceptable explanations that are contingent on the situation at hand. Mills argues that:

“When an agent vocalizes or imputes motives, he is not trying to describe his experienced social action. He is not merely stating “reasons.” He is influencing others – and himself. Often he is finding new “reasons” which will mediate action.” (1940, p.907)

In this sense, expression or imputation of motive is a political move designed to justify an act or an intended act to others or even to oneself. *“Carefully chosen and publicized motives”*, say Gerth and Mills, *“often resolve social conflicts, potential and real, and thus effectively integrate and release social patterns of conduct”* (1953, p.117). Bertaux (2014) and Scott (2014) both argue separately, albeit in the same edited volume, that Mills has by way of his vocabularies of motive provided a foundation for a theory of legitimation. By advancing vocabularies that they believe will gain agreement and thus compliance from subordinates, members of an elite can preserve their status and, in Bachrach and Baratz’ (1963) sense, prevent questions from being raised about their activities. Scott (2014) founds his argument on the premise that vocabularies of knowledge are a form of discourse, whereas Bertaux (2014) makes his connection by way of Foucauldian conceptions of knowledge but they both arrive at the idea that seeing Mills’ vocabularies of motive as what are, in effect, rhetorics of motivation, makes it possible to expose the political essence of expressed motives designed to establish legitimacy.

Understanding the political aspect of motive means that we cannot expect that an expression of motive will be a pure expression of subjective internal intent. First, if we are attempting to express our own motive, we can only safely do so in terms that exist in the shared vocabulary of motive; a failure to present in mutually agreeable terms will likely result in some form of marginalization. Second, if we are attempting to construct our own motive, we can only do so in terms of the motives that we ourselves understand; if a subconscious motive is not explicable in terms of our own vocabulary of motive we will construct an explanation of motive for ourselves in terms of our own vocabulary and that explanation may subsequently be subject to further modification for expression in politically acceptable terms. Third, if we are attempting to infer motive in another, we can only do so in terms of our own ability to understand, by way of our grasp of the grammar framing the vocabulary of motives, what they express to us and, of course, what they are seen to articulate may not be representative of either any conscious or even unconscious motive on the part of the person whose motives are inferred. In short, any attempt to infer or impute motive is fraught with possibilities for misinterpretation.

That is not to say that we will not try, however. Blum and McHugh set out to *“explicate the social status of motives”* (1971, p.98) but in doing so they are more strongly critical of Mills’

conception of motives than seems necessary or appropriate.¹² On a number of occasions they explicitly reject facets of Mills' theory and substitute their 'correct' view of motive by applying concepts and terminologies that are entirely consistent with what Mills said. They take issue, for example, with Gerth and Mills (1953) apparent "*surrender*" (Blum & McHugh 1971, p.102) to a distinction between professed motives and "*real motives*" and the degree of an individual's "*awareness*" of their motives but in doing so seem to leave to one side the idea that expressions of motive are political acts subject to multiple layers of both deliberate and inadvertent obfuscations, and that vocabularies of motive are *vocabularies*: collections that may not hold all of the elements of experience, shared understandings and descriptive terminology necessary to properly explain or infer motive, particularly when the motive is examined at a subjective and perhaps partially unconscious level. Precisely as Foucauldian (1995) discourses frame power relations and limit our capacity to interpret and relate events to those understandings that are held by individual actors and shared by the actors in the pertinent context, vocabularies of knowledge constrain our capacity to conceive, express or impute motive.¹³ There is no problem, therefore, with the idea that real motives may not be discernible or that an actor may not be completely aware of his or her motives.

Mills makes it clear in his various works that context is central to his conception of motive (Nilsen & Brannen 2014). What we must do is "*to take all these terminologies of motive and locate them as vocabularies of motive in historic epochs and specified situations*" because "[m]otives are of no value apart from the delimited societal situations for which they are the appropriate vocabulary" (Mills 1940, p.913). An individual's expressed vocabulary of motive shifts according to both immediate individual context and broader social context (Gerth & Mills 1953). As an individual moves from the workplace to the community to their children to time with their partner, the vocabularies of motive they adopt will change – subject to additional influence by way of social context – in much the same way as the identities they take on and express move from that of 'manager' to 'neighbour' to 'parent' to 'spouse'.¹⁴

12 Ron Breach, my father, instilled in me the belief that "*A good salesman never needs to criticize the other guy, or the other guy's product, to sell his own*". Reflexively, I think that this may be the basis for the strength of my dissatisfaction with Blum and McHugh's (1971) assessments of their forebears' works.

13 Shane Ramos, a student of sociology and philosophy, asks a lot of questions. I am grateful for this, because her inquisitive nature in concert with my determination to give answers that are as correct as I can make them means that I'm forced to learn more myself. She was kind enough to respond with credible laughter when I told her "*We white people only have three words for snow: hard, soft and yellow. We can't hope to compete with the Eskimo peoples!*" in responding to her questions about power and knowledge.

14 This is the same conception of multiple situated identities that I relate, citing in particular Collinson (2003), Kondo (1990) and Hodgson (2003), in Chapter 3 in the section titled '*Resistance as Creation*'.

Identity as a theoretical notion is something that threatens to seep in to Mills' (1940) conception of motive and even more so as the theory is further developed by Mills with Gerth (1953) and then by Blum and McHugh (1971).

In each of these cases, however, the respective authors hold short of injecting identity theory into motive by reverting to a firm (Mills 1940; Gerth & Mills 1953) distinguishing conception of identity. They do, however, subsequently allow a moderate conception of identity (Blum & McHugh 1971) in the construction of motive as a purely analytical tool only available to us on the observers' terms. Whilst I return to acknowledge the usefulness of this strictly external perspective in the subsequent to next section, I argue that it is inadequate without careful introduction of notions of identity and self so as to account for the internal foundations of motive that are visible in the vocabulary of motive tradition but are never brought to the surface by those authors, and also for their value in more comprehensively explaining what Bentham (1817) termed 'springs of action'.

4.6. On Identity and Self

In her investigation of the consequences of organization transformation for the lives and identities of organization members, Stella Ng (2014) observes regular instances where individuals were so completely overwhelmed by rapid and continuing demands to adjust their conceptions of reality and their identities – she adopts 'self', after Mead (1934)¹⁵, a term that includes the *psychological*¹⁶ notion of 'motive' and extends beyond 'identity' – that they reach a sense of saturation analogous to the 'saturation of self'. Gergen (1991) sees this occurring in individuals who struggle under continuing demands to adjust and reconceive their private notions of self and identity from the contemporary onslaught of inputs from new technologies and the incessant stream of media narratives those technologies bring. Where technology and its consequences caused 'saturation' in Gergen's subjects, for Ng the antecedents were organization change programs that workers reported as confounding, exploitative and mercenary. Theories of identity and self customarily include contextual aspect in which individuals hold a range of conceptions of identity and self, particularly as they are performed. Ng's (2014) position is that while this is certainly true, one key conception of self is situated as a 'central' or 'master' self

15 Noting, with interest, that Mills (1940) invokes Mead's work for an opposite reason, for his "*program to approach conduct socially and from the outside*" (p. 906)

16 A distinction must of course be made between *psychological* and *sociological* conceptions of motive. Noting that the two are broadly similar ideas in the sense that both make some attempt to explain behaviour or intent but that for psychologists – if I may speak in decidedly simplistic terms – motive is an intrinsically internal notion whereas for sociologists it is, at least in the view of Mills and his adherents, exclusively external. If the reader will be so kind as to bear with me I shall 'explicate' my decision to invoke both forthwith.

that she denotes ‘Oneness’ and that the representations of alternate ‘selves’ that individuals make according to social context – examples of ‘Home-self and ‘Work-self’ are given ¹⁷ – are in a sense branches, derivative of and subordinate to the central Oneness, the product of adaptations necessary for social conformity in specific social contexts. For Ng (2014), when a social context, such as a difficult workplace environment, compels adaptations of self at such a rate or of a magnitude that the relevant subordinate identity becomes more differentiated from the Oneness than the individual can endure – i.e. the extent of cognitive dissonance (Festinger 1962) becomes unbearable – then saturation of self occurs, a “*tipping point*” (Ng 2017) is reached and the individual “*explodes*” (Ng 2017) in order to address the dissonance. Exactly what ‘explodes’ means, says Ng (2017), is contextually dependent but typically “*some sort of resistance must occur*” (ibid). Ng’s study features numerous examples of overwhelmed workers breaking down in tears during interviews with her, some of whom subsequently resigned from their positions. Since many of the corporate programs that bring about these situations are manipulative or subjectifying in nature, resistance may take the form of ‘escape’, the form of cognitive distancing that I presented in the preceding Chapter 3. Given the importance of work as a source of identity, self-esteem, income, and security (Hulin 2002) there is a risk that an overwhelmed worker may resist by “*going postal*” (p.5). Ng (2014) proposes that a solution for this problem is a continual renegotiation of self by way of reflective and reflexive means. Certainly cognitive dissonance provides an opportunity for highly beneficial instances of anagnorisis but while most will have a capacity for reflection, reflexivity is a higher order skill not available to all and so, for many, a point of permanent and damaging dissonance may remain. “*Wounds from particular encounters will heal*”, but “*scars will remain as a continuing influence*” (Ng 2014, p.62).

4.7. On Motive and Self, a Congruence

What then, we might ask, is the value of a lengthy foray into conceptions of identity and self founded in the psychological tradition to a sociological understanding of motive? While Mills (1940) approach seems perfectly adequate and, from a socio-analytical approach, preferable, he is entirely correct to say that as observers we cannot see motives as anything other than externalized post hoc accounts for an event: the upshot is that Mills seems to lack an explanation for internal aspects of motive, particularly the early subconscious and inexplicable stages.¹⁸ The

17 In the same way that Bolman and Deal (2008) explicitly provide for additions to the suite of four exemplar ‘frames’ of reference they construct for managers to employ as perspectives in the hope of understanding ‘motivations’ – a term that they found on Maslow’s (1943) theoretical hierarchy – in order to construct effective change programs by attending to worker’s collective and individualized needs, Ng’s (2014) theory affords the construction of additional ‘selves’ concomitant to the range of situated social environments in which individuals engage.

18 By this I mean the foundations of motive that we are unable to express even to ourselves.

notion of ‘self’ is not incompatible with Mills’ notion of ‘motive’, however. Mills invokes awareness of ‘self’ as something that is triggered concomitantly with awareness of motive when a “*frustration*” (1940, p.905) interrupts a life otherwise lived ‘in the moment’, so to speak. In later work, Mills establishes a thorough conception of self, albeit quite separately to motive, together with Gerth (1953). Noting Brewers’ (2005) ¹⁹ observation that Mills demonstrates a keen awareness – particularly in his reflexive and autobiographical ‘Letters to Tovarich’ and in his letters to his mother seeking information about his familial roots – of self and its construction, it would be wrong to assume that Mills entirely rejects the notion of self and its role in effecting motive. Thus, the correct approach here may be to read his decision firmly to separate inner influences from expressed motives as a methodological approach designed to ensure that we do not make interpretations, or claims, that are impossible to substantiate. Mills’ (1940) decision to eschew a consideration of internal motives in context of his vocabulary of motives theory has attracted critique, however; Marshall describes the approach as “*rather courageous*” (1950, p.18) and Campbell goes so far as to argue that “*sociologists are unwise to reject the idea that ‘motive’ refers to an internal state*” because “*this results in human conduct being treated as if it were unmotivated*” (1996, p.101).

Hopper’s (1993) study offers a striking insight into what he finds is a clear disconnect between antecedent issues and the vocabularies of motive that participants adopt once the ‘frustration’ that triggers the need to examine – or establish – motive occurs. Hopper found no discernible divide between parties to divorce proceedings in terms of the ways in which they described their marriages prior to one or the other setting the process of divorce in motion, so much so that he says most parties to divorce described similar concerns and issues surrounding their marriages. Immediately after one or the other commenced divorce proceedings, however, parties would adopt identities of either ‘initiator’ or (typically unwilling) ‘partner’ and immediately begin to use vocabularies of motive that rhetorically corresponded to whichever role had become theirs. The transition was so complete, says Hopper, that individuals who had previously gone so far as tentatively broker a divorce agreement would immediately and strongly oppose the divorce if their spouse became the ‘initiator’ and the role of ‘partner’ fell to them. Hopper (1993) contends that Burke (1935) and Mills (1940) were absolutely correct to regard motive as a rhetorical device used, in concurrence with Blum and McHugh (1971), by observers as common sense tools to understand social action – not as some sort of factual historical account of antecedent events. At the same time, Hopper (1993) maintains the important role of identity in the sense that adopted identities dictate the vocabulary of knowledge, but warns – as I consider below – that many sociological studies fail to properly discern the rhetorical nature of the motives they recount.

19 Notably, Brewer (2005) himself points out that his own account is, based as it is on disclosures that Mills *chose* to make public, necessarily imperfect.

Campbell's (1996) argument is that sociologists have abandoned the concept of motive because the dominant vocabulary of motive approach is inadequate. This is in part, he says, due to uncritical readings of Mills (1940) that have allowed a "*quite extraordinary series of substitutions and conceptual slippages*" (Campbell 1996, p.102) to introduce serious flaws, and also because the theory, despite being consistent with Weber's initial view of "*a complex of subjective meaning which seems to the actor himself or to the observer an adequate ground for the conduct in question*" (1978, p.11), departs from Weber's subsequent inclusion of subjective and psychological influence designed to give a more comprehensive account. After systematically rejecting a series of developments of Mills' (1940) theory, Campbell (1996) suggests that motive remains a useful sociological tool but argues, noting the facet of Bentham's elaborate, if aged, typology (1817) in which a distinction is made between "*a motive in prospect, and the other a motive in esse*" (1781, p.82, emphasis in original), for a Weberian conception of motive that permits a consideration of internal state and that does not wait for a 'frustration' before motive is considered at all.

It is important, I think, from an analytical perspective to acknowledge again that Mills' (1940) caution that it is impossible to infer physiological processes from expressed motives is valid. Bentham allows for the existence of subjective and internal motivations, but regards "*any attempt to discern the motives of an individual as both futile and unnecessary*" (Schofield 2006, p.44). We know from Mills that an individual cannot know, much less express, all of the factors that go to establishing motive, and Bentham agrees:

"But how (it may be asked) is it possible that the motive a man is actuated by can be secret to himself? Nothing is more easy—nothing more frequent. Indeed the rare case is, not that of his not knowing, but that of his knowing it." (Bentham in Stark 2004, p.296) ²⁰

Because of this, we must carefully distinguish between the internal "*motive or cause, which, by operating on the mind of an individual, is productive of any act*" (Bentham 1781, p.25) and the visible "*ground or reason*" (ibid) which we might employ to construct an account. For Bentham, his 'principle of utility' – a focus on promotion of general happiness that must, I argue, include shared acceptability of a motive within a vocabulary of motives – is the only reason that an act "*might or ought to have been done*" (1781, p.26).

Blum and McHugh (1971), too, allow for the existence of motivations as "*personal properties or characteristics of persons*" (p.99) but make a careful distinction between that perspective and the "*observers rules for depicting grounds of conduct*" (ibid) that give motives their analytic force.

In applying these theories to empirical work, we ought to make note of a warning against misuse or misinterpretations of these approaches to thinking about motive. Writing about the *post hoc*

20 Note also the words of Bentham with which I introduced this section; see page 80.

construction of rhetorical vocabularies of motive by parties to divorce proceedings, Hopper warns:

“The problem is that, while many sociologists use this new rhetorical conception of motives in their empirical work, many do not test whether the conception is warranted in the first place. They do not show, for example, that the motives actors give do not “match up” with the situations that the motives are intended to explain. Too many researchers take it for granted that motives are rhetorical constructs that function in social interaction, and so they proceed to describe the structures, categories, and interactional techniques of account making used by their research subject” (1993, p.802).

Methodologically, this is an important concern. I argue that motives we use to build explicated motives must be to some extent either internal, or at least effected by ‘self’, and so a theory that only allows for an inherently political and rhetorical external motive is problematic, not analytically – because a third person’s analysis is inherently externalized – but certainly theoretically – because what I argue to be a ‘proper’ assessment will be incomplete without consideration of internal, if invisible to the third person, factors. Of course from the observer’s perspective, one can only infer, even when the observed subject explicitly states a motive, so in that sense it must remain external.

The careful distinction that I identified in a preceding paragraph is one of a great many careful distinctions that ultimately constitute the real value ²¹ in Blum and McHugh’s (1971) work. Where Mills (1940) is at times somewhat unspecific, relying as much on the reader’s broader sociological knowledge as his own descriptive efforts, Blum and McHugh make the central point of their contribution to be explicit and precise.²² They take the interpretive concerns that Mills offers and assemble them into a useful typology.

4.8. To Typologize Motive

For Blum and McHugh (1971), motives as observed are a performance that is made possible by an underlying deep structure comprised of personal and social factors that, if motive is to be properly analysed, cannot be ignored. Their typology provides that, first, *“Motives are Observers Rules”* (p.103), meaning that motives are only possible in sociological terms because an observer has a set of rules for interpreting how a ‘motivated object’ – an actor whose motives we aim to discern – speaks and acts. These rules, in a sense an observer’s vocabulary of motive, are applied to impute motives where the talk and action is intelligible by application of a rule. Second, actors are aware that rules for ascribing motive exist (but do not necessarily know what those rules are)

21 ‘Real value’, like *“real motive[s]”* (Blum & McHugh 1971, p.102) does exist!

22 Another reason, perhaps, for the tone that I found confronting.

and will seek to formulate their talk and actions according to rules that they anticipate are held by the observer. In this way, “*Motivated Objects are Theorizers*” (p.104). Third, “*Motives have a Grammar*” (p.105) that facilitates a linkage between observed talk and action and imputed motive. Grammar is a rule or a set of rules applied to a biography of experiences existentially assembled as a common sense that observers draw upon when they seek to interpret talk and action. This biography, as the next rule shows, can be seen as something similar to an identity or a discourse in that biographies are situated, applicable to specific roles and situations, according to our experience and common sense of what sets of rules are situationally applicable. Thus, fourth, “*Motives Formulate a Type of Person*” (p.106) in that, when the grammar of an event is used to select a relevant biography, the situation-bound identity-like or discourse-like nature of biographies means that the ascription of motive occurs in terms of the “*type of person*” who is likely to do or say what we have observed. Fifth and finally, because actors are aware that rules exist and, by extension, understand that rules are collected into situational biographies that formulate or assign a personal type (it is in a sense an identity that is imputed), it follows that ascription of “*Motives Formulate Actors’ Methods*” (p.106). In seeking to convey a motive that the observer will find acceptable, an actor will use methods calculated to coincide with the type of person they believe the observer will link to the motive they hope to convey. This last condition has a recursive character in that the observer is aware that, per the second condition, agents are theorizers with the capacity to seek to effect particular interpretations in the observer.

Given Mills’ (1940) conception of vocabularies of knowledge and Blum and McHugh’s (1971) refinement of the terms on which motive may be analysed into a typology, we are well placed to examine the words and actions of participants to this study. At the same time, the sociological and analytical character of the vocabularies’ tradition necessarily excludes “*personal properties or characteristics of persons*” (Blum & McHugh 1971, p.99) and notions of identity and self from analysis. On Campbell’s (1996) advice and adopting Hopper’s (1993) cautions, I propose to re-invoke those psychosocial aspects by way of Ng’s (2014) theories of self, the Oneness and saturation of self to provide a more comprehensive account than might be produced on the strength of ‘observers rules’ alone.

Given that in this and the preceding sections we have wandered around the theoretical landscape such that ideas from power, Foucauldian discourse, identity and self, and motive have been imported to this discussion as related – though not identical – and complementary theories, it will be helpful to wrap them together in an encompassing notion, if only for convenience of discussing them collectively. Dawkins’ notion of the cultural ‘meme’ is suitable, but to invoke it

requires a brief step outside of the organization theory tradition, albeit with Chekov's caution at front of mind.^{23,24}

4.9. Motive (and Discourse and Identity) as Meme

"Darwin himself saw clearly that if he claimed that his theory applied to one particular species, this would upset its members in ways he dreaded, so he held back at first. There is almost no mention of our species in 'Origin of Species' – aside from its important role as a crane in artificial selection." (Dennett 1995, p.335)

Evolutionary biologist Dawkins seminal *'The Selfish Gene'* (1976) builds upon William's (1966) importation of the biological science of genetics into Darwin's (1859) theory of evolution by characterizing the biological 'gene' as unique type of molecule that is capable of replication.²⁵ After demonstrating that biological evolution is a process for perpetuating genes and the biological data they hold and *not* of seeking survival of individuals, Dawkins adapts the notion of 'gene' into an equivalent notion for non-biological things – ideas – and coins the term 'meme' to describe them (1976). *"Examples of memes"* for Dawkins (2006, p.192) *"are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches."*²⁶ Human culture, for Dawkins, is comprised at least in part of memes that persist in much the same way that genes do in that they are replicated continuously and, as with genes, the key point is that persistence and replication of the idea, or whatever the meme represents, is vastly more significant than the survival of its individual carriers. When Dennett extends the concept of meme into a theory of cultural evolution, he describes what memes carry as 'information' rather than ideas (1995), explaining that *"it was the differential copying, the differential replication of these items, these memes that accounted for the excellent design of so much in human culture"* (Dennett 2017).

23 *"If in Act I you have a pistol hanging on the wall, then it must fire in the last act."* (Chekhov, A in Ladner 2014, p.162)

24 Also see the Everipedia entry for 'Chekhov's gun' (Everipedia 2018).

25 Note that Dawkins explicitly denies any sense of intent or sentience when he describes, likely as a matter of linguistic convenience, genes and memes in anthropogenic terms.

26 It ought to be noted that the present trend on the social public Internet of creating and sharing still and video images featuring what are typically humorous or insightful textual labels and called 'Internet memes' – or usually simply 'memes' – are of a different character to that which Dawkins described. Whilst Dawkins appears to be well amused by the notion of the Internet meme, he regards it as *"a hijacking of the original idea"* (Dawkins in Saatchi & Saatchi 2013). Whilst both are cultural artefacts, Dawkins draws a distinction in that Internet memes are *"altered deliberately by human creativity"* whereas cultural memes are a product of random alterations that are subject to Darwinian evolution (ibid).

The point that I would like to bring into the present organization theoretical context is that, for Dennett, memes are a unit of cultural information that replicate extensively by being passed on, evaluated, developed, shared and adapted by individuals. In an equivalent argument which he uses elsewhere to dismiss arguments for intelligent design, Dennett notes that memes can be spread amongst large numbers of people without there being any requirement that each individual understands the information that they are passing on (1995); this might be seen in an organization sense as people attending to and complying with cultural norms – “*the way we do things around here*” (Bower 1966, p.41) – a without necessarily understanding the rationale for doing so.

Adaptations of Darwin’s (1859) evolution and its related theories are not new to organization theory. Weeks and Galunic (2003) build a theory of cultural evolution of the firm, characterizing organizations themselves as cultural artefacts and, from a theoretically opposite direction to the one taken here, link culture and identity and use ‘memes’ to “*refer collectively to cultural modes of thought: values, beliefs, assumptions, know-how, and so on*” (Weeks & Galunic 2003, p.1317).

Uncomfortable as I am with treating motive as concerned only with external and observable factors as does Mills (1940), I will adopt the notion of ‘meme’ as coined by Dawkins (1976), extended into culture theory by Dennett (1995) and drawn into organization theory by Weeks and Galunic (2003) as a means to describe collectively the shared, if not always observable, factors that go to effecting motive and the expression thereof. Having accepted that Courpasson and Clegg’s proposals for future research serve as a suitable foundation and with a basis set for an examination of the motives that they propose be investigated and a means with which to describe them, the tasks that remain are to select (or to state, as it were) an industry in which to site this study, to identify a specific organization to observe, and to construct specific research questions that adopt Courpasson and Clegg’s proposal and apply their work to the articulated problems, to wit the apparent decline of bureaucracy and of resistance.

4.10. An Industrial Focus

As I have said, the second of Courpasson and Clegg’s three proposals for further research is herein summarily deemed to be beyond the scope of this research.²⁷ Even so, the selection of what institutional theorists term a ‘field’ is a frame through which we must pass on the way to selecting a specific organization, if only to acknowledge – though perhaps reject – the possibility of future generalization of certain findings from this research.

27 In my view, the words “beyond the scope of this research” are the scholarly equivalent of the “Get Out Of Jail Free” card in the ‘Monopoly’ board game, and I shall employ it at will and to effect!

I stated right at the very beginning of this book, on the first page of Chapter 1, that this is not a book about computers. It is perhaps inevitable, however, given this author's biography of life and work, that computers will somehow be involved, and as things have transpired, this is indeed the case.

By way of industrial focus I have selected – again somewhat summarily – the Open Source computer Software movement, also called “Open Source Software” or simply “OSS”, that I have argued in Section 4.4, above, is in a sense an industry and certainly a field, albeit not a classical organized, formalized and profit-making sense *per se*.

I say that my decision to select OSS as the setting for this study is summary because I do not intend to defend my decision much beyond a claim of convenience, experience and happenstance. As I read Clegg and Courpasson (2012), and Courpasson, Dany and Clegg (2011), I quickly realized that I had seen, with regularity, examples of the types of resistant activities and political outcomes that they described in my own work-related and personal interest-related interactions with the OSS movement. When Clegg and Courpasson set out their proposals for further research, it was immediately apparent to me that the OSS movement was a field well suited to a focus such as that which they proposed.

The decision to execute this research within the OSS movement, then, is founded as I have said on my own extended experience of working with OSS both professionally and privately. Extended experience and familiarity with the industry brings great convenience in that I am able to ‘get stuck right in’ without the time costs of approaching an unfamiliar industry ‘cold’ and, I think, that experience and familiarity ought to bring with it a capacity to ‘do justice’ to the industry in my reporting of it in keeping with the ethical concerns I invoke in Chapter 6. Happenstance here is in the good fortune of the opportunity to correlate a scholarly proposal for further research with knowledge and experience of a field setting that is well suited to the proposals.

Insofar as that brief explanation is ‘summary’, the OSS movement is selected as the field setting for this research. Something of a complication – perhaps of course – lies within, however, in the issue of generalizability to which I have already alluded in this section.

4.11. An Organizational Focus

If I may let you, the reader, in on a little secret well before its time, I will say that one of the findings of this research – feel free to leap forward, Choose-Your-Own-Adventure-style, to the final section of Chapter 11 titled “Gentoo Generalized” for a discussion of that finding – is that OSS organizations are not all alike and, whilst they certainly share some common characteristics, they also exhibit a range of distinct differences in forms of organization, rules, policy, practices and so on. None of this should come as any surprise to a scholar of organization or indeed of life;

individual organizations differ – as established in Chapter 2 – and OSS organizations are, in that sense, no different to any other. To make a series of investigations of one case and thence to seek to generalise the findings to an entire field would be an error of Hofstedian (1984) proportions.

With the great benefit of experience, I knew as I read Courpasson and Clegg's proposals to which this research responds that the questions that would derive from those proposals would elicit different answers depending on which OSS organization they were directed to. For that reason, I cannot generalise my inquiry to the industry at large; I must select an organization.

Again, I turn to experience and familiarity in selecting the Gentoo Linux Project – 'Gentoo' – as the organization to place under study here. My reasons for selecting Gentoo are defended at length in Chapter 8; it is sufficient to say here that given my familiarity with Gentoo; the fact that the size of the organization was sufficient to develop structure and its accoutrements; that both willing interview participants and a comprehensive set of documents regarding the organization were available, as well as access to its members and their interactions, were all key factors in the decision.

Thus, for the reasons given and notably the distinct nature of OSS organizations, the research questions set out here are directed at the specific organization, Gentoo.

4.12. Questioning Gentoo

Chapter 5 will introduce the OSS movement as a field, an industry even, as well as a practice in which this research is broadly sited, and, after a diversion to consider methodology and method in Chapters 6 and 7, Chapter 8 will introduce a specific OSS organization, the Gentoo Linux Project, as the empirical site for this research. Because Chapter 8 serves the dual purposes of presenting the empirical setting and almost immediately turns to an examination of the empirical data I have chosen to present methodology and method first; it may suit the reader, however, to skip forward to Chapter 8 so as to be apprised of the empirical setting first. At this point, I respectfully beg the reader's indulgence in accepting that, first, the OSS movement is an industry, and second, that the Gentoo Linux Project is an organization, on the promise that these claims will be defended in subsequent chapters.

I propose three research questions for this study.

Courpasson and Clegg's first proposition is that research into changes in organizations and the extent to which resistance effects those changes be carried out. This proposal forms the central response of this research. This research seeks to understand

1. *How does the Gentoo Linux Project organize, and to what extent have resistant acts from within the Gentoo Linux Project contributed to the form of organization that has been adopted?*

Then, in response to Courpasson and Clegg's third proposition, we seek to consider the role that individual members play in shaping the organization by asking

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

Finally, it is anticipated that what we learn about the Gentoo Linux Project may, to some extent, be generalisable to the OSS movement as a whole and so, in response to Courpasson and Clegg's second proposal, we ask

3. *How can an understanding of modes of organization and resistant practices within the Gentoo Linux Project more broadly inform our understanding of the Open Source Software movement?*

In concert, these three questions form the basis on which this research proceeds.

4.13. Both We Shall Have!

This chapter has re-stated the core problems identified in the organization and research literatures. It observes that the organization literature recognizes the development of new organizational forms but that the project and network forms of organizations are not so much post-bureaucratic as mere developments of the core bureaucratic form that serve to strengthen, rather than change, what we know about bureaucracy. Resistance, too, has problems in that it seems – if the managerialist literature is to be accepted – to have been largely suppressed and mostly express irrational opposition to managerial goals and policies while from the perspective of the critical literature – if not suppressed, has been reduced to a private and internalized coping mechanism with little genuine affect on the organizations in which it occurs. Courpasson and Clegg offer a new perspective on organization that allows for well intentioned and constructive exercises of resistance to effect change to the organizations in which they occur. In offering 'polyarchic bureaucracy' as an organizational form that is open to the possibility of cooperative resistance, Courpasson and Clegg set a foundation for, and propose, new research. The proposal is adopted here, and research questions on which to proceed are set.

To respond to Courpasson and Clegg's (2012) call for an examination of the motives of those who resist, it is necessary to consider the notion of motive and to distinguish between sociological and psychosocial conceptions. Sociologically, motive is a purely rhetorical device that observers use to apply meaning to behaviours in accordance with common sense vocabularies of motive when some sort of contending 'frustration' triggers a need for analysis (Mills 1940; Blum & McHugh 1971). As Hopper (1993) shows, the notion of identity is important in that individuals adopt vocabularies of motive according to their identity-role in the 'frustrating' event. Ng (2014) demonstrates that multiple situated conceptions of identity and self play a central role in determining the point at which an individual will transition from

compliance to resistance. Whilst it is important to remember that analytically we can only expect to report on accounts of motive as political and rhetorical devices (Hopper 1993), it is, I argue, important to consider psycho-social antecedents as well.

In the next chapter, the concept of OSS is introduced by way of a historical account of the development of the branch of computer software industry that produces OSS. I then switch to a discussion of methodologies and a presentation of methods before returning to a focused account of one particular OSS project, the Gentoo Linux Project, establishing the empirical site for this research.

5. Open Computers, Programs and People

“I often compare open source to science. To where science took this whole notion of developing ideas in the open and improving on other peoples' ideas and making it into what science is today and the incredible advances that we have had. And I compare that to witchcraft and alchemy, where openness was something you didn't do.” (Linus Torvalds in Lu Stout, 2006)

5.1. Open Beginnings

This chapter serves to introduce the reader to the concept of Open Source and in particular to the Open Source computer Software movement. Members of the Gentoo Project, the empirical site for this research, identify themselves as members of the Open Source movement and their project as an Open Source Software project and so the material presented in this chapter serves as a foundation for an understanding of the Gentoo Project that is presented in Chapter 8 subsequent to a discussions of methodology and method in Chapters 6 and 7 respectively.

This chapter has three main sections. First, a presentation of the development of personal computers, the production of software programs for those computers and the conflicting ideologies that led to something of a fork in the path of computer software production is made. We observe that the initial mode of computer software production was, in support of the development of computing technology, that programs would be openly shared amongst interested parties. The change to ‘closing’ source code occurred in the name of commercialization, and the partial reversion to openness that we see in OSS is, in effect, a kind of resistance to that commercialization.

Perhaps inevitably, there must be a legal side to computer software production. Where copyright law is in most instances invoked to prevent works from being openly distributed, here copyright law is used to ensure that OSS will remain open for distribution, alteration and use and cannot be closed. The second section examines this apparent inversion.

While the motivations of the people who produce OSS have been widely studied and are well understood, the ways in which they organize are less well known. The third section offers a cursory explanation of the motivations of OSS workers before turning to the question of organization.

Finally, there is the matter of the penguins which must be addressed.

The chapter is about a technological phenomenon but it is not technical. The reader likely fears an impending rush of technical jargon and complex concepts. The aim here is to avoid those things beyond that which is absolutely necessary to tell the story properly.

The chapter invokes a metaphor by way of food and recipes for creating food as a parallel for the case of computer software, an approach introduced to acclaim by Stella Ng in her (2007) 'University Staff' review and again in her (2014) 'Working Lives' study of Australian university employees. Consider the broad, perhaps somewhat manufactured, public intrigue that follows commercial products like Coca Cola and Kentucky Fried Chicken and the obsession with which their owners guard the recipes that constitute them. In quite fundamental terms, this is a similar story: one of recipes and of a debate about whether or not they should be secret.

5.2. On the Veracity of Historical Accounts

The historical account of the Open Source Software movement offered herein is derived from various anthropological and sociological accounts, as cited, and the product of the author's own direct experience and accumulation of knowledge shared by other participants. Like all historical accounts, this is but one of a great many possible perspectives.

Bakhtin (1973) attributes the creation of the polyphonic novel to Dostoevsky, observing Dostoevsky's practice of engaging multiple actors and their individual perspectives such the overall work – the novel in Bakhtin's description – is comprised of a multitude of voices, perspectives and situations that hopes to present a more comprehensive, more real view than a story told from the perspective of a single 'hero'. Introducing his analysis, Bakhtin says "*A plurality of independent and unmerged voices and consciousnesses, a genuine polyphony of fully valid voices is in fact the chief characteristic of Dostoevsky's novels*" (1973, p.6). Hazen (1993) and Rhodes (2001b, 2000a) draw this concept of polyphony into organization arguing that, like Dostoevsky's novels, organizations are places where a multitude of voices compete to be heard with versions of events that are often heterogeneous, and not always commensurable.

Importantly, a technical reviewer of this study pointed out that the narrative, as it is told here, abbreviates history in that in his perspective open source was the founding default, not some new notion 'invented' by the apparent founding fathers that I discuss herein. As I was carrying out interviews in the early stages of this study, one participant described parts of the historical account presented herein as "*myth*", a contention that demonstrates incongruity between his experiences and mine but does not demonstrate that either of us are wrong. Readers are asked to read this account as one voice among a polyphony, an account that itself draws in other accounts, to remain open to alternative accounts, and to give their own account if they have one to offer.

5.3. A History of Personal Computing and Computer Software

What is interesting about the case of computer software is that in the beginning, recipes were openly shared; it was only later that recipes for computer software became regarded as secret.

I should begin, I think, by explaining what I mean by 'recipe' in the computer software context.

5.4. Source Code – Recipes for Computer Software

To produce computer programs, a two-step process is followed. First, computer programmers write a human-readable set of documents, called 'source code', that define logical steps, evaluations and procedures for the computer to take. Written in one, or often more than one, of a range of programming languages known colloquially as 'code', these are often very large and very complex sets of documents that, as a whole, constitute all of the instructions needed to make a particular computer program. As such, they constitute the 'source code' of the program.

Computer source code is akin to the recipe in the food metaphor. In the same way that a recipe gives detailed instructions on how to prepare a particular food, computer source code gives detailed instructions on how to prepare a particular computer program.

In the second step, a process called compilation converts the source code into a computer program. The compilation process converts the human-readable documents into a form that computers can execute. As a side effect that I consider in section 5.6 'Competition – Closing Secrets' on page 99, below the compiled program is also rendered into a form unintelligible to humans.

To again apply the food metaphor, the compiled computer program is a parallel for the finished foodstuff after it leaves the kitchen. Whilst a skilled practitioner may make some inroads into deciphering the recipe for a food product or a computer program with prolonged study, it may be assumed certainly in lay terms that the precise details of the recipe cannot be ascertained by an examination of the finished product.

Commercial producers of computer software distribute the compiled, obfuscated computer program produced in the second step to their customers, usually for a fee. The source code produced in the first step is considered a commercial secret, one that is a core asset of the company that owns it.

In the same way as determined imitators have famously worked hard and largely failed at understanding the make-up of products such as Coca Cola and Kentucky Fried Chicken, a great many people try and fail to decipher the secrets of commercially produced computer programs. In the same way that food producers are known to invoke intellectual property law and other legal protections to ensure the secrecy of their recipes, commercial computer software companies routinely and aggressively guard their source code by equivalent means.

It has long been the case that recipes for foods have been, and continue to be, widely shared both on a private personal basis between family, friends and neighbours and on a profitably commercial basis by chefs, publishers and entertainers. While the use of food production as a metaphor for computer software holds fairly well, it is argued that source code for computer

software is kept vastly more secret than are recipes for food. Interestingly, this was not always the case.

5.5. In the Beginning – Open Secrets

While this work does not purport to offer an all-encompassing history of computing, a brief recollection of certain particularly important strands of history are necessary. In this section, the emergence of the 'microcomputer' is recounted.

It became practically possible for a private individual to own something approximating a 'computer' in the mid 1970s. After the Intel company produced the first microprocessor – a device which combined a range of computing functions into a single small silicon chip – and electronics magazines published detailed instructions on how to build a 'microcomputer' by hand, individuals with the necessary technical skills began to build their own computers and to create their own software programs for the computers they had built. Naturally, the authors of these software programs shared their programs among themselves in precisely the same way as home cooks share recipes for food.

Ironically in view of contemporary standards, in pre-Internet times software programs were literally handed from individual to individual written on pieces of paper and later by more highly advanced means such as strips of paper tape, sometimes dozens or even hundreds of metres long, with holes punched to represent the details of the program.²⁸ The development of innovations such as the keyboard and the computer monitor made computers progressively more accessible, and more and more people became involved. Once technology *really* advanced, programs were shared as recorded sounds on ordinary audio-cassette tapes!²⁹ Many formed clubs to trade components and share ideas and information.

One such club, the “Homebrew Computer Club” first met at Menlo Park, California in 1975. The Homebrew Computer Club was a gathering of people interested in electronics and computer hardware and software, a “gathering of people with like-minded ideas” who met to “*Exchange information, swap ideas, talk shop, help work on a projects, whatever...*” (Moore 1975, p.1). Notably, the club stated from the outset a “*spontaneous spirit of sharing*” (ibid) and an intent to

28 Interestingly, this author worked with these paper tapes in a commercial context – electronics design and manufacturing – some ten years *after* the audio cassette tape technology described in the next footnote.

29 When this author was a junior high-school student, a cassette tape recorder was a highly coveted but unattainable device to all but, as I remember, one of the small number – about a half dozen or so – of those of us students who were lucky enough to have our own computers at home. That kid was rumoured to have had ‘rich’ parents! Later, I somehow managed to adapt an ordinary cassette radio to the task and was able to store and re-use computer programs that I had written with some, but not complete, reliability.

cooperate on software for the computers built by members of the club. The Homebrew Computer Club is also notable because a number of individuals who remain famous to this day for their contributions to the personal computer industry were involved. Steve Jobs and his business partner Steve Wozniak introduced their Apple-I computer, the first computer produced by the Apple company, to the club in 1976. The founder of the Microsoft Company, Bill Gates, also features in the club's history, but for a very different reason.

Gates, like Jobs and Wozniak, was quick to recognize the possibility of profit in the burgeoning personal computer industry. Together with his business partner Paul Allen, Bill Gates wrote a program for the then popular Altair 8800 computer that made the personal computer vastly more accessible by allowing individuals to author their own computer programs without needing to understand the deeply technical underlying logic that comprises a computer. Naming their program BASIC, for 'Beginners All-purpose Symbolic Instruction Code', and realising success with the Altair 8800, Gates and Allen formed a new company – then named 'Micro-Soft' – and proceeded to release versions of BASIC for many other personal computers. BASIC remained at the core of Microsoft's business until the early 1980s and continues to be offered as a product by the company today.

The accessibility granted by BASIC made it popular with members of the Homebrew Computer Club. The problem for Gates and Allen was that members of the club were prolific in their sharing of the tools, techniques and programs that they found useful. One member of the club made twenty-five copies of BASIC and handed them out at a club meeting; other members subsequently made further copies and distributed those. Recognising the threat to his business, Gates wrote a blistering “*Open Letter to Hobbyists*” to the Homebrew Computer Club newsletter, noting that less than ten per cent of people who used his BASIC had purchased it, characterizing the practice of sharing software as stealing. Lacking the technical capacity to thwart duplication of computer software at that time, Gates appealed to morality, arguing that 'stealing' software rendered his investment worthless and harmed the personal computer movement by preventing the production of good quality software. “*Most directly,*” said Gates, “*the thing you do is theft.*” (1976, p.2)

Gates' reaction to the open sharing of his software can be seen as a key starting point at which the commercial computer software industry began to expand its reach beyond mainframe style computers into personal computing.

5.6. Competition – Closing Secrets

Much of what we see as everyday capitalist activity is predicated on the keeping of secrets.

Strategy theory tells us that companies compete for customers and their capital by offering unique 'value propositions' that are, ideally, premised on something more than simply a lower

price (Kim & Mauborgne 2005). In adopting this as a strategic approach, companies will create a product or service that functions differently to that of their competitors', or offers features that their competitors do not (Porter 1996). The precise means by which companies achieve this differentiation is a closely – often jealously – guarded secret.

The cases of Coca Cola and Kentucky Fried Chicken are clear examples: both companies are known to go to great lengths to protect the recipes for their products. Would-be competitors work hard to emulate the famous foodstuffs, but rarely succeed in making a duplicate sufficient to convince consumers that that they are as good as the 'originals'. By hiding the recipes, Coca Cola and Kentucky Fried Chicken are able maintain a clear point of differentiation from their competitors.

In the case of computer software, the process of compilation already described above has two key outcomes that are important enough to warrant further consideration. The first outcome is the conversion of the human-readable program code – the 'recipe' in the food metaphor – into a form that can be executed by a computer and 'run' as a program. The second outcome, essentially a convenient side effect of the first, is that the compilation comprehensively obfuscates the human-readable code, making it entirely incomprehensible to all but the most highly trained, and patient, computer programmers.³⁰ For all intents and purposes, the process of compilation has the practical effect of hiding the recipe from the end-user of the computer program. By publishing – perhaps for a fee – the compiled computer program whilst keeping the source code – the recipe – secret, computer software companies manage to guard their secrets.

Before proceeding to a discussion of the further development of the personal computer and software industries, a brief note on what this study will not consider is appropriate.

5.7. On Duplicating Computer Software

It should be understood that the practice of compiling computer source code and keeping the recipe secret does not, in and of itself, prevent the duplication of computer programs. Little technical skill is required to make and distribute copies of computer software. Recognising this, computer software companies have developed a range of techniques to hinder or prevent duplication of their products.

A discussion of the nature of these 'copy protection' techniques is beyond the scope of this work.

Rehn's (2001) 'Electronic Potlatch' presents a detailed study of individuals who make it their goal to defeat copy protection mechanisms from computer software and to freely distribute the afore-protected software. Whilst Rehn's 'Warezonian' (p.32) is an entirely distinct culture to the Open

³⁰ Individuals with rare, unique and frankly frightening skills!

Source Software movement that is the subject of this work, the links he draws to ancient and tribal gift cultures of the types described by, for example, Mauss (1966) and by Lévi-Strauss (1966) greatly inform this study. A further consideration of Rehn's work is made from a methodological perspective in Chapter 6.

To return to the aim of this chapter, we now examine the practice of sharing, or 'opening' the source codes, designs, blueprints and recipes that describe how to make a range of things.

5.8. Sharing Source Code

In an approach that will seem antithetical to capitalist ideals, producers may publish the details of the means by which they make their products. These details may take the form of the engineering diagrams needed to produce industrial machine tools (see: Makerbot, 2009; Multimachine, 2006), the content of a book of religious prayers (see: Open Siddur Project, 2016), electronic circuit diagrams for an electronic device prototyping system (see: Arduino, 2016) or detailed instructions for a skateboard or a wind surfing kite (von Hippel 2005, 1988). To release or 'open' these source details is to make them open source. In the case of computer software, the source code is made publicly available, making it open source software.

The central premise of open source software is that the human-readable source code documents that would be secret in a commercial context are published, open and available for all to read and use. In the 1970s, this meant that individuals would share handwritten and later printed, punched or audio tape recorded, details of their work. In the 1980s, program source code would be printed in computer magazines and painstakingly typed into a computer line by line.³¹ In contemporary times this usually means that the source code is published on a web site somewhere on the public Internet, available to all who are interested.

In every case, access to the source code for a program means that a suitably informed person can read and understand the inner workings of the program and, if seen fit, modify the program to suit specific needs.

The computers built by the members of the Homebrew Computer Club were very simple machines that were entirely occupied by the running of a single program. The programs that were being authored and shared by members of the club were, befitting the computers they were designed to operate with, simple tools with a single specific purpose. In contemporary terms, the early computers and their programs were very unsophisticated. As technological development has proceeded, the capacity and complexity of computer systems has grown markedly.

31 In the early 1980s, upon receipt of the latest issue of a computer magazine, it was this author's practice to ride his bicycle to a friend's home to type the programs into a computer. It proved far more efficient to have one person read the programs aloud and another to enter them to the computer than it was to work alone!

Computers now have the capacity to run multiple programs for multiple purposes. A return to the food metaphor will help to explain.

5.9. Multi-Purpose Computers and Software

To this point the food metaphor has been used to present a single item – a drink or an item of food – and the recipe that describes how to produce it. This can now be expanded to think of an entire meal; a meal which consists perhaps of a main component, – perhaps the Kentucky Fried Chicken – a beverage, – perhaps the Coca Cola – a number of side dishes, and a dessert. Each individual component to the meal is made according to its own recipe. Each of those recipes might be owned and known by the same person or company; equally they might not.

The software that runs on a contemporary computer may be thought of in the same terms. Typically a computer will store and run many hundreds or even thousands of individual programs at once. The collection of programs is called an 'operating system'. A computer operating system may be considered as the equivalent of an entire meal in the food metaphor.

Just as a restaurateur might offer a meal of his own making, using vegetables produced by specialist farmers, seafood from a professional fisherman and wine made by a skilled vintner, with each component produced according to its own respective recipe, a contemporary computer operating system will be made up of many individual components, usually from many different sources.

The Linux computer operating system, introduced in this chapter and further discussed in Chapter 8 is such a collection of many individual components. One key component is the set of computer programs produced by the GNU Software Project. The GNU Software Project and the series of events that led to its creation are an important part of the history and culture of computing.

5.10. The GNU Software Project

One stream of history has it that the open source software movement was borne of a frustration. A computer programmer working in the Artificial Intelligence Lab at the Massachusetts Institute of Technology in Cambridge, Massachusetts had a problem with a printer. Laser printers, a very new technology at the time, were prone to becoming jammed with excess paper. When the printer jammed, of course, no work could be printed. Richard Stallman, the programmer in question, decided to modify the software that operated the printer so that when a paper jam occurred, everyone waiting for work to be printed would be notified and someone could attend promptly to the blockage. When the Xerox Company – the makers of the particular printer – refused to give him a copy of the source code for the printer software so that he could address the problem, Stallman was incensed. (Williams 2002)

Stallman formed the belief that intellectual property laws, as computer software producers applied them, had a strongly suppressive effect on innovation (Williams 2002). His anger at the initial printer problem soon extended to a concern for all of the computer programs that he used in his work and he set about creating a solution. In particular, Stallman was troubled by the requirement that he agree in writing not to share computer programs such as those that controlled the malfunctioning printer and resolved never to make a such a commitment (Stallman in Moore 2003).

Soon realising that the only way he could have a computer system that satisfied his own expectations of openness was to make one himself, Stallman began a project to write source code for his own computer operating system. Knowing that computer operating systems are comprised of a vast number of small and simple programs, he set about duplicating the functionality of an existing operating system by re-authoring each individual program one by one. By way of a message broadcast to an early public forum on the Internet, he invited others to participate, taking the position in his proposal that computer software ought to be 'free', unencumbered by legal intellectual property constraints, and coined the title 'Free Software'. The collection of computer programs authored by Stallman and those who work with him is titled the 'GNU Operating System'. Stallman intended the word 'free' to indicate the lack of encumbrances rather than the price of the software, though he did not initially make this clear.

The label 'GNU' is a "*recursive acronym*" (Stallman 1985) for 'GNU's Not Unix', designed to indicate that the GNU programs emulate those belonging to a commercial operating system called 'Unix', but are not derived from Unix.

Eventually Stallman's work proceeded to the point where he and his collaborators had produced all of the individual components required for a computer operating system, except for one. The final component, a program called the 'kernel', functions as an active intermediary between all of the other programs and the actual physical computer – the computer 'hardware'.

To again apply and extend the food metaphor, consider the role of the waiter in a restaurant. The meal is assembled in the kitchen according to an order delivered from the table by the waiter, and the waiter delivers the meal to the table. All interactions between the table and the kitchen pass through the waiter. In the same way, a special program called the operating system kernel mediates all interactions between computer programs and the physical computer hardware.

The kernel is the most complex and difficult to produce part of an operating system and, for that reason, its production was left until last. By the time that Stallman's GNU Project had completed all of the other programs and had begun work on a kernel program, another programmer,

working independently, had written a kernel that would work with the GNU programs. That kernel was named 'Linux'³² for its principle author, Linus Torvalds.

5.11. The Linux Kernel

Torvalds wanted to use his personal computer at home in a similar way to the computers he had become used to at the University of Helsinki, Finland. There were commercially computer operating systems available that would have suited his needs, but they were far too expensive for private use and so Torvalds set out to write an operating system himself. Where Stallman began by writing the individual support programs first, Torvalds began by working on the operating system kernel. The Linux kernel was styled on a commercial version of the Unix operating system produced by the Sun Microsystems Company. (Torvalds & Diamond 2002)

Notably, Torvalds began his work on Linux in a very similar way to the approach Stallman took: he broadcast a short message indicating his intent to work on the then unnamed Linux, gave a brief description of his goals for the project, and invited others to join him. The name 'Linux' was later coined by another member of the group that worked on the program (Torvalds & Diamond 2002).

In the course of writing the Linux kernel, Torvalds relied heavily on certain programs that the GNU Project had already completed. In particular, the 'GNU C Compiler' – a program that carries out the process of compilation described above – was central to his work (Linksvayer 1993). The interactivity between, and reliance upon other programs and projects is very common, to the point of universality, to open source software production.

Once the Linux kernel had been written, it became possible to combine that kernel with the programs that Stallman's GNU Software Project had written to make a working operating system.

5.12. A Linux Operating System

At the time when the programming work being done by both groups approached the point where it was practically useful, external observers began to look for ways to assemble an entire, functional, computer operating system by combining the work of the GNU Project with that of the Linux project. Given that this possibility was an inherent goal for both projects, once it became technically possible to do so, building a complete computer operating system also became quite practically achievable. Individuals and groups would take the Linux kernel, combine it with the programs produced by the GNU Project, create some programs to link them

32 According to the principle author of the operating system, Linux should be pronounced to sound like 'Lyn-uks' (Torvalds in Moore, 2003).

together and to make it possible to (relatively) easily install them on a computer, write documentation to guide others in the use of the programs, and release the result as a complete operating system. The very first publicly available operating system in this form, called 'MCC Interim Linux' was released by the University of Manchester's Manchester Computing Centre in February 1992 and made available for download via the public Internet (Hayward 2012).

The release of MCC Interim Linux and the mere possibility that operating systems could be created in this way quickly led to the creation of many more Linux and GNU-based operating systems.

5.13. A Great Many Linux Operating Systems

A set of computer programs assembled to comprise a computer operating system based on the GNU Project and the Linux kernel has become known as a 'distribution' or 'distro'. Once it became technically possible to assemble an operating system, individuals and groups began assembling more complex versions that included additional programs to make the operating system more suited to a specific interest or purpose. A vast array of Linux distributions has been produced. As at June 2017, the DistroWatch web site records the number of known Linux distributions that meet criteria for being properly established, functional and active at 265 (Bodnar 2017) though this number is likely to be a conservative estimate.

Linux distributions are constructed on the same core components, and feature a widely differing array of accompanying programs. To re-invoke the food metaphor, consider these different meals: that an American fast food meal comprising Kentucky Fried Chicken, Coca Cola and deep-fried potato chips; an Anglo-European home-cooked meal comprising grilled beef steak, steamed vegetables and glass of red wine, and a South-Asian meal of lamb stewed in a heavily spiced curry served on a bed of steamed basmati rice and accompanied by naan bread and a glass of rose-flavoured lassi. All are meals and all constituted of a portion of meat, a portion of carbohydrate and liquid refreshment, yet all are vastly different in their individual characteristics and presentation. In the same way that a meal can be constructed in entirely different ways according to the preferences, needs and culture of the cook who creates it and the diner who consumes, individual Linux distributions will vary dramatically according to the specific needs and interests of those who assemble it and those who use it.

By way of example, 'Debian Linux' is a well-known, general-purpose operating system organized with a philosophy for openness and community focus (see www.debian.org). 'Ubuntu Linux' (see: www.ubuntu.org) is in turn heavily derived from Debian, but designed to be functionally comprehensive with a strong focus on ease-of-use for non-technical people. In turn, a derivation of Ubuntu named 'Edubuntu' (see: www.edubuntu.org) maintains the ease-of-use goal and includes an array of programs designed for educational use. A multitude of other distributions exist, some designed for specific use cases such as biological sciences (see:

www.environmentalomics.org/bio-linux/), computer forensics (see: www.kali.org) and applied mathematics and physics research (see: www.scientificlinux.org). Others are designed for recording and watching television broadcasts (see: www.mythtv.org), music and entertainment (see: www.ubuntustudio.org), and some are designed to make old, low-powered computers useful again (see: www.damnsmalllinux.org). Still other variants of Linux are intended to be embedded into tiny computer-based devices such as telephone handsets, television set-top boxes and music players.

A particular Linux distribution is of a category that aims to make a very highly adaptable operating system intended to appeal to programmers and operators who were trained on a particular class of operating systems designed by the Computer Science department at the University of California is named 'Gentoo Linux'. The organization that produces Gentoo Linux, or simply 'Gentoo', is the empirical site for this study, chosen for this author's familiarity, involvement and interest in that particular Linux distribution. Further discussion of the reasons for choosing to study Gentoo, and a defence of the claim that it is an organization, will be made in Chapter 8.

Despite strong legal restrictions – to be discussed below – that require open software to remain open, Stallman insisted from the beginning that it should be possible to make money by working with open software (Stallman in Moore 2003). Companies such as Red Hat Linux and SUSE Linux have released versions of Linux for which paid commercial services are available. The Ubuntu distribution mentioned above is heavily commercially sponsored and funds itself, in part, by offering versions of Ubuntu designed for corporate and enterprise use and corresponding paid commercial services.

The requirement for openness and the real possibility of commercial activity premised on an open source system are two apparently conflicting positions that present significant legal and practical challenges for individuals and organizations that involve themselves with open software. Until now, this chapter has concerned itself with practicalities, particular events and practices that lead to the creation of individual programs and entire operating systems. Issues of naming, licensing and intellectual property are equally important to computer software, and so the next section of this chapter shall, by way of what is in effect a parallel thread, discuss these issues.

5.14. Of Speech and Beer: The GNU General Public License

At the time that Stallman experienced his frustrations with 'closed' computer programs he recognized that his central problem was not one of technology but of law. It was that computer software vendors required purchasers of their programs to sign legal commitments agreeing not to copy, share or modify the programs that particularly upset him.

Stallman called his programs 'Free Software'; a choice of words chosen to indicate that no one need ask for or pay for permission to use the software. The meaning was often misinterpreted, however, and so Stallman coined an idiom to explain his meaning.

“When I speak of free software, I'm referring to freedom, not price. So think of free speech, not free beer.” (Stallman 2001)

Stallman went on to make it clear that making money from Free Software was permitted, even encouraged:

“Now, I wouldn't have dedicated so many years of my life to making sure programmers got less money. That's not my goal. I'm a programmer and I don't mind getting money myself. I won't dedicate my whole life to getting it, but I don't mind getting it. And I'm not – and therefore, ethics is the same for everyone. I'm not against some other programmer getting money either. I don't want prices to be low. That's not the issue at all. The issue is freedom. Freedom for everyone who's using software, whether that person be a programmer or not.” (Stallman 2001)

When he produced his own programs under the auspices of the GNU Project, Stallman recognized that he could not simply make his programs and source code freely available; he needed to publish them on legal terms that assured that the freedom he intended would be maintained. He designed a legal copyright license to accompany each program, naming it the 'GNU General Public License', or the 'GPL'.

The function of the GPL is to enforce four specific freedoms. Again, in Stallman's words:

“First, Freedom Zero is the freedom to run the program for any purpose, any way you like. Freedom One is the freedom to help yourself by changing the program to suit your needs. Freedom Two is the freedom to help your neighbor by distributing copies of the program. And Freedom Three is the freedom to help build your community by publishing an improved version so others can get the benefit of your work.” (Stallman 2001)

In addition to the four freedoms, Stallman's GPL imposed restrictions on the way that derivatives programs could be used. In particular, a programmer could take GPL-licensed source code, modify it to meet particular needs and use it for whatever purposes at will. However, if that programmer decided to make the derivative public, then the GPL requires that the source code derivative be released and also licensed under the GPL. This process of imposing the GPL on derivative works has been likened to a biological virus for the way it 'reproduces'. Senior representatives of the Microsoft Corporation have been strongly critical, saying “[t]his viral aspect of the GPL poses a threat to the intellectual property of any organization making use of it” (Mundie 2001) and “Linux is a cancer that attaches itself in an intellectual property sense to everything it touches. That's the way that the license works” (Ballmer in Newbart 2001). While a goal of the GPL is clearly to encourage the spread of open software source code, the claim that it

is viral has been labelled disingenuous. Stallman points out that the GPL attaches to derivative works of software only by deliberate inclusion of GPL-licensed source code in said derivatives “[i]t spreads like a spider plant, not like a virus” (Stallman in Poynder 2006).

An accompanying document to the GPL, the GNU Manifesto – so named in an apparent homage to Marx and Engels’ Communist Manifesto (1967) – is an analogue that makes Stallman’s intent even more explicit: that the possibility of financial gain from Free Software is real and encouraged by him, and that secret proprietary modifications to Free Software will not be permitted (Stallman 1985).

Two years after the 1983 launch of the GNU project and just prior to the 1989 release of the first formalized version of the GPL, Stallman created a legal not-for-profit entity, the Free Software Foundation (FSF), with the stated goal of maintaining and promoting the freedoms which Stallman articulated. As a legal entity, the FSF holds the copyrights to much of the GNU Project’s programs and has the right to enforce those copyrights and to enforce the GPL.

Despite Stallman’s continued affirmation that by ‘Free Software’ he meant computer software imbued with a series of freedoms, the term was continually interpreted as a reference to the price of the software, and this presented continuing problems for those who hoped to make inroads into corporate information technology with so-called Free Software.

5.15. The Problem with Free-dom

The GNU Operating System, and many other programs released as Free Software under the GNU Public License became very successful. The programs were widely adopted, and even integrated into many commercial systems. Many of the computer programs involved in the production of this book are open source software.

Whilst Stallman strived to make it clear that by ‘free’ he meant ‘freedom’, pointing out at every opportunity that what his GNU Public License granted was the freedom to use, alter, duplicate and disseminate the programs, some contributors to the programs were concerned that the term ‘free’ also had negative connotations, particularly for corporate users of the software (Moore 2003). They considered that Free Software was being viewed as free of charge and so of potentially poor quality, delivered with limited accountability and without technical support (ibid).

In addition to the problems with the use of the term ‘free’, the perception – accurate or otherwise – that the GPL was viral and the corresponding reality that it is, in effect, self-spreading, presented its own problems. Commercial organizations, both those who would use Free Software and those who would contribute source code, feared the implications of the GPL and did not participate.

Recognising that these issues would hold Free Software back from a broad adoption by commercial organizations, a group of programmers formed the 'Open Source Initiative' to provide an approach that would be more commercially palatable.

5.16. Open Source Initiative

The premise of the Open Source Initiative (OSI) is to treat software freedom as a practical matter rather than an ideological matter. Whilst the goals for the FSF and the OSI are essentially the same – they both aim to make computer software and its source code freely available by way of a set of freedoms that permit and encourage sharing and re-use – there are philosophical differences in the way the two groups achieve their goals.

Where the FSF achieves its aims by way of the afore-discussed four freedoms that are formally articulated in a document called the Free Software Definition (FSD), the OSI publishes an Open Source Definition that states ten requirements to which software licenses must attend if they are to be labelled 'Open Source'. The Open Source Definition adds requirements that an Open Source license not discriminate against persons, groups or pursuits – for example, an Open Source license cannot restrict the program from being used in a business, or for a particular purpose – and that software licensed as Open Source cannot impose on other software that is distributed with it, and cannot limit the use of the software to specific types of technology.

Perhaps the most important difference between the GPL and Open Source licenses is that the self-spreading nature of GPL licensed software is permitted by the Open Source Definition but is not required. Where the GPL requires that any derivative of a GPL licensed program must also be licensed under the GPL and that the entirety of a program which incorporates GPL source code be GPL licensed, a license which fits the Open Source Definition must allow this approach but does not require it. Licenses may permit the closing – a return to secret status – of source code or may permit combinations of open and closed source code to be published together without requiring the open licence to spread to the whole program and remain in compliance with the Open Source Definition. To apply the food metaphor, it might be considered that the FSD would require that every component of a meal be made by way of open, non-secret recipes whereas the OSD would permit that, or permit a meal to be comprised of some components with non-secret composition and some components made by way of secret recipes. In situations where a commercial organization may wish to incorporate OSS source code into a product without revealing details of the rest of the program, the OSD would permit this where the FSD would not. While this approach conflicts philosophically with the FSF's ideals, it may make the difference between corporate adoption of OSS or not.

The term 'Open Source' is a formally registered trademark owned by the OSI. A computer program that claims to be Open Source must be released under one of the licenses formally approved by the OSI.

5.17. Contrasting ‘Free’ and ‘Open’

By now it will be clear that there is a clear distinction to be made between Free Software and OSS. The definition of Open Source Software incorporates Free Software, though the reverse is not also true. The differences are in many cases largely philosophical and it should be noted that Stallman (2007) himself does not approve of the 'Open Source' label. In this work the reader may assume, unless specifically noted, that Free Software and Open Source Software are sufficiently similar as to be denoted interchangeably. In this work, the term 'Open Source Software' (OSS) will be used hereafter to encompass both types of computer software.

5.18. The People Who Produce Open Source Software

Finally, we must consider the authors of all of this work, the people who produce open source. The question of what motivates individuals to collaborate so effectively, almost always as volunteers (Breach 2008a), and to produce the enormous volumes of OSS that exist today has been addressed by a range of studies already (see: Bonaccorsi & Rossi 2006; Lakhani & Wolf 2005; Hars & Ou 2002) and so, beyond a brief orienting explanation here, is beyond the scope of this work. The principle focus is on the people and how they organize.

5.19. Scratching a Personal Itch – The Authors of Open Source Software

“You need to have a project that many programmers feel is interesting”
(Torvalds in Hayward 2012, p.17)

Much is known about the individuals who author OSS. We know that they are highly skilled (Raymond 2001) and volunteers (Breach 2008a), people who are in most cases formally trained computer programmers and information technology (IT) workers, academics and tertiary IT students (Lakhani & Wolf 2005). We also know that they are often professionally employed as computer programmers or in IT related disciplines (ibid).

The reader will have observed that in the discussions of the work of Stallman and of Torvalds that they both set out from the same point: to resolve a personal need, something central to OSS, which is the subject of further discussion at a later point in this work. In short,

“Every good work of software starts by scratching a developer's personal itch” (Raymond 2001, p.25)

In innovation theory, von Hippel (2005) identifies a class of individuals, called 'lead users' who experience personal needs that pre-indicate the needs of a range of others in the wider community. Lead users, according to von Hippel, are valuable to producers of new products because they serve as early indicators of future demand. Many of the individuals, such as

Stallman and Torvalds, who initiate and work on open source projects are lead users (Breach & Jenkins 2007). By contributing to OSS, they assist many others with similar needs.

The usual process for the initiation of a new OSS project is that a single individual will set about writing a computer program to address a particular personal need. At an early stage, typically a point at which the program is barely functional, they will release a copy of the program along with an announcement of intent and an invitation to would-be contributors. Many programs never become popular but in a situation where a program is announced that matches the needs of other programmers they will collaborate in what is known as a 'project'.

5.20. Projects – Organizing Open Source Software

OSS projects are, in effect, a virtual incarnation of what Putnam (2000) called 'communities of practice' in his work on social capital in the neighbourhood communities of American cities. Individuals group together by virtue of their common skills, interests, and needs with each attending to the particular part of the project that is interesting to them (Raymond 2001).

The size of OSS projects in terms of numbers of participants varies markedly. Many have only a few active participants and attract little attention. Some projects reach large numbers. The Linux Kernel project has some 3000 current contributors to its source code, with 10,885 people having made an input at some point in the life of the project (Open Hub 2013) as at March 2013. The Mozilla Firefox World Wide Web browser project has 315 current contributors and 2179 overall. Gentoo Linux, the empirical focus of this study, claims 385 current active contributors of source code and 1756 overall. The Linux Counter project estimates that at the end of 2016 there were some 88.5 million end-uses of Linux in the world (Löhner 2016)

Ghosh's (2006) European Union funded study finding that a redevelopment of the central 'kernel' component of Linux alone would cost 882 million euro (some 1300 million Australian dollars) if undertaken on a commercial basis in 2006, makes it clear that OSS involves a great many people and makes a substantial economic contribution.

OSS projects are interesting from an organization design perspective because, contrary to conventional hierarchical approaches to computer software design and organization structure generally, OSS projects have little or no formal organization and no hierarchy beyond a very small number of group-appointed leaders (Raymond 2001). Despite this, they are able to efficiently produce computer programs that are often of far higher quality than their commercial equivalents (ibid).

5.21. Tux the Penguin

When Clegg, Linstead and Sewell wrote their playful 'polemic' on the experience of writing organization theory at the end of the earth, the presence "*after us*" of only penguins was a

metaphor for Australia's geographically isolated location. With Linux, the penguin plays a very different metaphorical role.

Despite having been bitten by a fairy penguin whilst on a visit to a zoo in Canberra, Australia, Linus Torvalds is said to have had something of a "*fixation for flightless, fat waterfowl*" (Ayers in Delio, 2001). After some debate, the penguin was chosen as the mascot for Linux. Torvalds defended the decision by saying

"Some people have told me they don't think a fat penguin really embodies the grace of Linux, which just tells me they have never seen an angry penguin charging at them in excess of 100 mph. They'd be a lot more careful about what they say if they had."
(Torvalds 1996)

A penguin suggested by Alan Cox and drawn by Larry Ewing in 1996 became known as 'Tux', both as a recognition of the similarities of appearance with the men's formal dinner suit, tuxedo, and to mean (T)orvalds (U)ni(X) (Hughes 1996).

The astute reader possessed of good general knowledge will by now recognize the importance of penguins in a discussion of a computer operating system named 'Gentoo'! The Gentoo Linux Project, a large open source software project and the empirical focus of this study, is introduced in Chapter 8 and examined in detail in Chapters 9, 10 and 11.

5.22. An Open Ending

The chapter has presented an account of some key events in the early stages of development of the personal computer and of the concurrent development of the software programs that run on those computers. In order to assist readers who may not be deeply technically literate, a metaphor for computer programs has been presented in the form of food, employing the concepts of secret and shared recipes, individual items of food, and whole meals comprised of multiple items of food.

I want to make it clear that, as I said at the beginning of this Chapter, this is but one narrative in a polyphony of stories and experiences. As part of a commitment to ethics and veracity, outlined in Chapter 6, I passed this book to a number of technical reviewers for their feedback. One had this to say:

“Now for the criticism. Open Source as a concept is not new. It's been there from the beginning. In fact, the first systems came not only with all the source, but schematics for the hardware too. The access to source went away as computing became commoditised in the 60s and 70s. Coining the term Open Source and pushing it as an agenda is more recent, but this was driven by a desire to return to the good old early days, where the users of the system had full control over them. Interestingly, there is an Open Hardware movement as well, which has similar goals and is again an attempt at returning back to the early day concepts of users having better control and understanding of the system that they use. Old ideas, but only "formally labelled" recently. Commonly ESR gets the credit there, although I would not be at all surprised if it came from elsewhere and he just managed to draw attention to it.” (Urbanec 2017)

This critique is insightful, and one with which I entirely concur.

At the time that personal computers were in their technical infancy and much of the work was done by hobbyists and small companies, it was usual for individuals to openly share the techniques they use to build their computers and the programs that ran on those computers. As some began to see the possibility of commercialization, moves were made that sought to limit the free sharing of computer programs. Individual reactions to move to limit openness and sharing led to movements – some on ideological grounds and some on practical grounds – towards the creation and release of computer programs on terms that guaranteed continuing freedom.

Computer software is, in most cases, published on copyright terms – licenses – that grant rights to the present person making use of the software and controls how the software might subsequently be employed. Commercial closed-source software licenses will grant a limited non-transferable licence to use the program and treat the program's source code as a commercial secret that may be likened to the secret recipes for 'food' items such as Kentucky Fried Chicken and Coca Cola. Open Source Software (OSS) licenses on the other hand will tend to grant rights to use and freely distribute the programs and will require that the source code be made available to anyone who wishes to avail of it. The source code for OSS may be likened to an openly shared recipe for a particular foodstuff.

Computer operating systems are collections of a large number of individual programs that, in concert, provide all of the discreet program functions required to make full use of a computer. A computer operating system assembled on terms consistent with the Free Software Definition (FSD) can be likened to a meal comprised entirely of food components for which the recipes are non-secret. A computer operating system assembled on terms approved by the Open Source Definition (OSD) might well comprise a mixture of closed source and open source components; like a meal of Kentucky Fried Chicken and Coca Cola with salad and fried potato side dishes.

In the FSF and the OSI we see two groups of people with very similar goals but quite different motivations. The FSF offers a strong ideological foundation with – at least honorific – links to Marxist ideals and a commitment to the position that not only should computer source code be free (as in freedom) but also to the notion that incorporation of free source code in a particular computer program should render that whole computer program free. The FSF position is that freedom should be self-spreading – viral in virtuous rather than pejorative terms.

The OSI agrees that computer source code should be free – open in their terms – but presents a view of freedom as a matter more practical than ideological. Recognising that the term 'free' raises issues of quality and accountability and that the self-spreading nature of the GNU General Public License can be unpalatable to some computer software developers, the OSI acknowledges that commercial organizations may be reticent to adopt or otherwise become involved with OSS and offers the possibility for these issues to be resolved by promulgating licenses with terms that require openness and freedom but also limit the self-spreading 'viral' nature that the Microsoft Corporation warned against.

The point that open source computer programs begin from a personal need to resolve a pressing, or interesting, problem is an important one. Stallman sought to resolve a frustration borne of a simple printer problem that he was not permitted to fix; Torvalds wanted a computer system similar to the one he used at university that he could work with at home. At 'lead users' their needs were pre-indicative of the needs of a great many other people, and large numbers of individuals joined with Stallman and Torvalds to work on the software programs they had begun.

Whilst one person initiates many open source projects, the larger projects invariably require the work of many more people. These people, out of necessity – or perhaps habit, a point to be considered further in subsequent chapters – will organize and how they do so will form a central premise for this research. As will become evident as this work progresses, we see large groups of people maintain some level of accord with the FSF ideologies and claim to organize on principles of openness, equality and freedom and, at the same time we there is a clear – if shallow – hierarchy of appointments and functioning.

Where this chapter has presented a broad illustration of the whole OSS movement, it remains to develop a more detailed understanding of one specific OSS project and the empirical object of this research, the Gentoo project.

Because Chapter 8 not only introduces Gentoo but also commences an examination of empirical materials relating to Gentoo, I will first discuss methodology and method in Chapters 6 and 7, respectively. There is no harm, however, in skipping forward to reach Chapter 8 first, if the reader sees fit.

Gentoo Linux, the core product of the Gentoo project, is a computer operating system assembled from the Linux kernel, the collection of programs produced by the GNU Project, and a very large

number of other programs produced by other OSS projects. Programmer members of the Gentoo project also write very large amounts of program source code that links all of the component programs together and provides mechanisms for installation, customization and maintenance. Comprised of several hundred members who actively contribute program source code, and a larger, practically inestimable, number of others who promote Gentoo, document the system, write instruction manuals, maintain web sites, attend meetings, provide technical support, propose and debate improvements and actively use the system, Gentoo is not the largest Linux distribution, but is a sufficiently large organization to warrant scholarly examination.

From this point onwards, Gentoo becomes the empirical focus of this research. In Chapter 8 an account of the formation and early history of the Gentoo is presented along with a discussion of the mechanisms that they use to organize and communicate. Chapters 9 and 10 consider practices of organization and resistance in Gentoo.

6. Doing Organization Research

“There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.”

“There is another theory, which states that this has already happened.”

(Adams 1980, p.3–4)

6.1. Separate Beginnings

I have chosen to distinguish methodology and method in this work so as to provide a clear distinction between the theoretical justifications for the approaches used herein and the specific things that I have done to assemble and analyse the empirical data. This is in part in response to the ethical concerns raised by Wray-Bliss (2003b) regarding the relatively cursory approach that, he says, many organization researchers take in justifying their methods, but also simply because I like to keep things tidy!

Subsequent to addressing Wray-Bliss’ concerns, this chapter considers, at length, the practice of ethnography with a review of the approach from the times when the practice of spending a year in the field with the *“piratical head hunters of ... Borneo”* (Evans 1922, p.title page) was the means by which sociology scholars ‘earned their stripes’ so to speak and forward to the present day wherein anthropological work tends to be much more focused and technology has enabled some nice new possibilities for research. Each of these approaches has their tricks and traps and, if we are to stand on the shoulders of the giants who took them, we must learn from their experiences.

That this study is conducted entirely on the public Internet gives rise to a concern for the disconnectedness of this research. Given that ethnographic research relies heavily on unspoken communications, there is the risk that the data, or interpretations thereof, may lack dimension and depth. Sections on disconnectedness and reflexivity in this Chapter attend to those potential problems and a means to avoid them.

A consideration of the ethical and dominative consequences of writing research about people is made, again partly in response to concerns raised by Wray-Bliss in his works, and the role of reflexivity on the part of the researcher and approaches to representation that, insofar as is possible, lead to the fair and veracious presentation of results.

In response to Willmott's (2012) personal advice to me to execute this study in a way that is fun and interesting to me, I introduce an algorithmic approach³³ widely used in other fields but barely applied in organization research for the automated evaluation and selection of large tracts of textual found (Silverman 2005) data.

Finally in this Chapter I introduce in yet another somewhat experimental turn, I invoke Flyvbjerg's (2012) theory of Aristotelian phronesis, albeit in a mode inverted from that which Flyvbjerg intended, as a methodology designed to go beyond what he calls episteme – scientific – and techne – technical knowledge to apply prudence and wisdom to evaluation of power relations.

As I have said, method will be considered in the next chapter and separate to methodology. Thus, let us begin with Wray-Bliss' ethical concern.

6.2. A Broad Ethical Concern

Edward Wray-Bliss (2003b) bemoans what he says is a tendency of organization researchers to self-authorize their works with little more than passing allusions to methodology in studies that are notably uncritical of their approaches to the research they present. Whilst Wray-Bliss' concerns are framed in a critique of Critical Management Studies (CMS) and with Marxist themes of oppression and emancipation, his concerns are, I argue, able to be extended to organization research generally and perhaps to any research that involves the interpretation and representation of what research subjects say and do.

I shall expand on Wray-Bliss' ethical thesis as I proceed, save to say now that this chapter aims to incorporate the advice he gives by setting a premise on which this work is constructed and data is interpreted herein. Rather than a matter-of-fact declaration of a methodological approach, I offer a more detailed discussion of the means by which I have arrived at the decisions I have taken, of the people I have spoken with, the works I have read, and the ways in which each one influences this finished work. At times this chapter may seem more like an extended 'Acknowledgements' page, though I think the influences I mention are important. I invoke Wray-Bliss' Foucauldian-ethical concern to "*permanently problematize, not authorize, or normalize our understandings, behaviours and representations*" (2002, p.6), and so each methodological concern is critiqued, not simply delivered. The first of those concerns is the long story of how this work came about.

6.3. Choose Your Own Adventure

Tradition dictates that a discussion of methodologies will be placed after a consideration of the literature and a posing of a research problematic, prior to a presentation of methods, data and

³³ I have never claimed to not be a boring person, or a geek!

analysis. In one sense, however, this chapter may be better read before those things, because it offers context that affects this entire work. In another sense, I have chosen to order the chapters in this book such that a reader who wants the *full* story is presented with each new second of theory, critique, method, empirical element so that each builds immediately on the preceding chapter and prepares the reader for the next. As you may have seen by now, I provide suggested approaches to reading this book in the section titled “*How to Read This Book*” in Chapter 1.

Now, having granted you permission to choose your adventure, I shall show how I chose mine!

6.4. Choosing My Own Adventure

David Silverman offers an alternative to a dry instrumental presentation of research techniques in the form of a “*natural history*” (2000, p.237) of the research at hand that serves to allow, first, a holistic presentation of the research experience with personal context, trials, errors and false starts in addition to successes and outcomes and, second, the perhaps far greater benefit that, with proper execution, one may well manage to avoid boring one's readers! Silverman's 'natural history' approach is a good fit for this study, in part because my own personal context and goals for the study are a central factor, but also because the methodological decisions that I have made are well served by a recounting of context and experience.

This study began several years before its formal commencement. I have quite deliberately re-invoked and built upon my prior works. Those contribute to the present work in as much as they provide a first scholarly foray into the broad empirical context introduced in Chapter 5 and refined in Chapter 8. The prior works, listed in the section titled “*Publications that Inform this Work*” in Chapter 1 offer techniques for selection of participants, valuable prior contact with participants whom I have now known for some time and who consented to repeated contact and the generation of interview data with which to 'kick start' this new study. Details of participants and the ways in which I came to meet them and to talk to them and to learn what they have to say are presented in the next chapter, “*Studying Gentoo*” - the title of which betrays the empirical site before it is formally introduced in Chapter 8, “*Organizing Gentoo*”, in part because the run of chapter titles has a nice melody to it – on method. What are more important here in this chapter are the experiences and motivations that have led me to return to this empirical context again and that have driven the methodological decisions I have taken.³⁴

A strong affinity for tradition borne of a long-standing interest in politics and of time spent reading criminal and constitutional law – fields for which I have long held great enthusiasm – is

34 Noting that a reader who has just seen Chapter 3 will have some questions about my capacity to explicate my ‘motivations’! Fear not, I promise to speak honestly about my motives... or at least about what I want you to believe are my motives!

an important influence. When Edward Wray-Bliss informed me – though, epistemologically, I suppose this is something we all always knew – that the traditional rite of passage for a scholar was to immerse oneself with “*the natives of Borneo*” (personal conversation) and to conduct an extended anthropological study amongst them, my interest was immediately piqued. Given also the oft-received advice that research such as this is as much about proving one's capacity to integrate into a community of researchers as it is to make an original contribution, I consider that one must understand and operate within established tradition. Whilst the experiences of contemporary researchers are rarely so perilous as of those who were inserted with primitive jungle tribes, the practice of immersion within a group or an organization and the production of an ethnographic, if not more broadly anthropological, account remains a central part of organization research. Aiming as it does to keep with tradition and to produce an account of activity within a particular group, this study is at its core ethnographic.

6.5. Ethnography

Ethnography has its roots in the cultural anthropological approach that is particularly interested, unlike other branches of the anthropological tradition, in matters of culture and symbolism (Prasad 2005). Ethnography, the practice of producing a written account of a cultural anthropological research (Lavenda & Schultz 2006), was often deployed as research formally sponsored by government or business. The goal of such research was to develop a comprehensive understanding of an apparently primitive culture with a view to facilitating engagement with or dominance over a people or their land in the course of furthering, for example, the reach of the British Empire or the press of the rail-road into the American frontier (Lavenda & Schultz 2006). It is in this context that Evans (1922), by way of something of a classic ethnographic account, presented an exhaustive treatment of all aspects – from environment, race and housing to religion, agriculture, music, domestic affairs, relationships, food, artefacts and a great deal more – of the lives of the “*piratical head hunters of [British] North Borneo*” (p.9).

The all encompassing nature of 'classic' ethnographies such as the one produced by Evans is less useful in a contemporary sense, however, because the need to present an exhaustive account limits the extent to which any one particular factor or theory might be engaged. As ethnographic works have become what might be described as less commercially motivated and more purely academic, they can be seen to have turned to more focused accounts that often address a single specific issue or theory. In his seminal *The Savage Mind*, Lévi-Strauss (1966) turned from the practice of presenting an encompassing account of a single culture to an invocation of a number of different ethnographic accounts – some his own and some authored by others – to present a generalizing argument for a specific theoretical concept. Whilst Lévi-Strauss' structuralism thesis is not of particular interest here, his use of ethnography to construct theory is wholly relevant.

A danger for ethnographers lies in the possibility that the accounts given by subjects under study may not be completely authentic. We must take steps to ensure veracity of the accounts that we, in turn, produce.

6.6. Veracity of Accounts

Researchers must take great care to verify the accounts they produce. The highly influential (Eriksen & Nielsen 2001) cultural anthropologist Mead (1961)³⁵ presented a detailed account of native women's transition to adulthood in a traditional community on the Samoan island of Taū in the Polynesian South Pacific. Mead's experience presents a particular caution, highly relevant here, in that posthumously her work was subjected to a scathing critique by Freeman (1983, 1999) who argued that Mead's subjects fabricated their representations to her for their own amusement and that she failed to properly assess their veracity (Scheper-Hughes 1987). Notwithstanding that Freeman and his critique of her work were subsequently discredited (Shankman 2009), the concern remains an important one whether it applies to Mead or not. The important point is that the fact of a subject making a statement to an interviewer does not automatically render that statement 'true'. Subjects provide accounts and accounts always have to be interpreted. Even at the early stages of this study and in the interviews I carried out in the antecedent studies, it was already apparent that interview subjects were keenly aware that what they were doing was of great interest to the world and they often appeared to be trying to interpret my questions in terms of what I might want to hear. Some went so far as to verbalize contemplation of my motives and to speculate as to what my findings might be; one stated explicitly what my findings *should* be! Whilst, as will become apparent in the empirical chapters to follow, the likelihood that malicious diversions will occur is slight, there exists a very strong common sense within the culture I study here of myth, meme, legend and playful banter so there is a real possibility that participants may seek to mislead by way of a good humoured practical joke. To address this risk I draw upon participants in multiple roles, and on three distinct types and five distinct sources of data, I present data from multiple perspectives and I invite individuals involved in the community to review my work. Specific details of the methods I use are discussed in Chapter 7.

I turn now to a focus closer to our own theoretical home, ethnographic research in organizations.

35 Note that in the preceding chapter I referred to the social behaviourist George Herbert Mead for his conception of 'self' in his book *"Mind, Self and Society"*. Here, I refer to the cultural anthropologist Margaret Mead and her ethnographic *"Coming of Age in Samoa"*.

6.7. Ethnographies of Organizations

In empirical terms, organization research has traditionally taken an “*industrial sociology*” (O’Doherty & Willmott 2001; Thompson 1990) approach that locates studies in an industrial workplace such as a building site (see: Clegg 1975) or on a factory floor (see: Collinson 1992; Burawoy 1979). Studies have tended to take a broadly ethnographic approach with the researcher placed in the site under research for an extended period of time, some as non-participant observer (see: Clegg 1975; Gordon 2003; Kunda 2006) and others where the researcher took on the role of a participant employee of the organization under study (see: Ng, 2014; Wray-Bliss, 1998; Kondo, 1990).

Stewart Clegg’s (1975) ethnographic account of work on a construction site informs this study theoretically in terms of treatment of power relations in organization, and methodologically for its presentation of data in allowing it to “*speak for itself*” (Clegg 2008). This study differs from Clegg’s in that where he published his data from primary sources that he had collected in the field, most of the data examined herein is public and so I shall give directions to the sources of much of the data rather than the data itself where that approach is appropriate.

Ray Gordon’s (2003) research into the way power is constituted in the NSW Police force after a destabilising corruption enquiry provides insight into the process by which the ethnographer gains access to subjects and progressively expands that access as trust builds between the researcher and his subjects; a key challenge for Gordon, given that his subjects had recently endured covert investigations that led to terminations of employment and in many cases criminal charges. Gordon takes a methodical deconstructive – after Derrida (1976) – approach and seeks to unearth historical conventions of and antecedents for power and at the same time to expose the plurality of knowledges within his policing organization by way of a Foucauldian-genealogical analysis of his empirical materials. Gordon (2003) adopts a ‘pragmatist’ approach designed to integrate multiple perspectives and narratives – after Boje (1995) – and present a true picture of how things ‘are’ rather than a prescriptive ideal of how they ‘should be’. In that way, Gordon’s approach is fundamentally qualitative; at the same time he adopts a quantitative approach to assure accuracy and representativeness of observations by using qualitative data analysis software – QSR nVivo – to add a quantitative aspect by coding for and drawing out dominant patterns and common themes. I adopt what is essentially the same process here by using the same software to identify trends and themes, then additional computerized techniques to select and to guide me to further examples of relevant raw data so as to achieve a recursive and refining process for selection. While Gordon (2003) was present in meetings, accompanied police officers in vehicles to attend ‘jobs’ and was embedded with the organization for a considerable period of time, his role was essentially that of an outsider. In contrast, many ethnographers are insiders to the organizations they study.

Wray-Bliss (1998), Kondo (1990), and Ng (2014), all offer ethnographic accounts of organization life from the perspective of insiders with varying degrees of embeddedness; their contributions are considered in the next section on self-ethnographic enquiry. Similarly to their accounts I will be reporting from a field in which I to have been embedded. I shall draw on a number of exemplary ethnographic organizational studies, including the aforementioned, in what follows in order to build a frame for the methodology used herein.

I shall begin with Kunda (2006), who presents a rich study of an actively manufactured corporate culture in an engineering design firm, made by way of an extended period of regular observation coupled with interviews, ad-hoc questioning, observation of documents and artefacts and attending meetings. (Kunda 2006) presents a striking exemplar of an imposed culture and the ways in which members of the organization resist that imposition. Kunda's observation of a forcefully imposed corporate culture presents a striking contrast to the heavily maintained culture that is apparent in the organization that I will introduce as the empirical focus of this study in that in Kunda's organization the culture is imposed by management, and resisted by workers, whereas members of the organization we observe in this study appear to choose to adopt their equally strong culture, and maintain it of their own volition.

A particular class of ethnographic studies that have, as one might expect, greatly informed this work, are those that have been conducted with groups, communities, organizations on the Internet.

6.8. Ethnography and the Internet

Alf Rehn's (2001) 'Electronic Potlatch', a work from a genre of ethnographies "*that often read more like novels than scientific texts*" (Lavenda & Schultz 2006, p.11–2), has been a central influence on this research. Rehn invokes Mauss' (1966) study of gifting in 'archaic societies' to argue that the community of individuals who acquire, de-restrict and illegally publish commercial computer programs on the Internet operates a contemporary 'gift economy' strikingly similar to those which Mauss observed in his work studying tribal cultures in Polynesia, Melanesia, South Asia and the North-West Americas. Whilst the essentially illegal nature of the work that Rehn's (2001) subjects do is quite different to that which the participants to this study do; here we will see people doing work that is strongly resistant to contemporary capitalist norms but is entirely legal. Even so, the central nature of gifting is common to both groups and so Rehn's analysis offers useful insights into the power relations between individuals in the OSS community. Methodologically, Rehn informs this proposed study by his approach to the anthropological pursuit. Rehn collected and examined documents, interviewed individual participants and participated in the community as a member. Like the organization that will become the focus of this study, the community Rehn (2001) examined is very young – "*Someone who has been a part of it for ten years can rightly claim that 'he's seen it all'*" (p.23) – and so an

anthropologically rare opportunity to assemble an account of a community from its very inception is available here to me as it was to Rehn.

A particular challenge for this study exists in the sense that because the OSS organization that this study examines operates outside the mainstream profit-oriented business world and does so with apparent great success, it is inherently interesting. As Rehn puts it,

“[w]hat they do all day is weird, exotic and yes, even interesting to the average person. The question is then how to present them as anything besides a sociological freak show?” (p.25).

He goes on to answer his own question:

“it would perhaps be wise to study them as something... normal. Just a different kind of normal” (p.25)

It is this approach that is adopted in this study. It would be easy to present this OSS organization as a 'freak show' that is culturally and economically entertaining. I argue that a greater gain is to be made by presenting them as 'normal' and examining the ways in which their work can inform organization theory. My own involvement in, and familiarity with the organization may in this respect serve as an advantage. I can represent it as normal because it is normal to me; Rehn's *“different kind of normal”* is easy enough to achieve. I further consider the implications of my 'insider' status, if I may call it that, in the next section on self-ethnography.

Whether or not I may claim to be an insider is a matter that ought to be considered. I have not attained 'dev' status within the Gentoo community ('dev', a contraction of 'developer', refers to an individual who has been granted the right to upload electronic contributions such as software and documentation updates) but I have been an active participant for many years. Rehn seeks to qualify his own involvement amongst his group of software crackers:

“Having studied the Warezonians does not make me one of them, a general assertion that is important to keep in mind when reading any anthropological or similar text. I shall claim, though, that I’ve learned to understand the working of the scene at least to the extent that I can try to put some of it into perspective.” (2001, p.45)

I would claim that my involvement in the organization we study here is similar to that which Rehn achieved in his community. In terms of Gold's (1958) typology, my role has been somewhere between *“participant observer”* (p.219) in that I have non-research reason for accessing the setting, and *“observer participant”* in that my role as a researcher was disclosed whenever my interactive activities were research related.

Where Rehn (2001) examines the motivations of those who illegally distribute electronic 'goods' on the Internet, Beekhuyzen (2010) considers the opposite side, those who illegally acquire those same goods. There are equivalent parties in OSS, both those who give and those who receive; in

OSS, both parties – the people who author the software and the people who use the software – have important roles to play. Just as this study aims to do, Beekhuyzen's work offers an insight into organizations that present challenges for more mainstream businesses by examining an online file sharing community that engages in unauthorized exchange of commercially produced digital music. The way in which Beekhuyzen (2010) chooses to represent her analysis informs this study; I return to consider her approach later in this section.

A work that is of particular relevance to the empirical context of this study is Hine's (2000) *Virtual Ethnography*. Hine justifies her own work, and this study, in observing of Internet-oriented studies to date that “*far more effort has been expended on predicting the revolutionary futures of the Internet than has been put into finding out in detail how it is being used and the ways in which it is being incorporated into people's daily lives*” (2000, p.2). In effect, Hine (2000) takes an approach similar to Rehn's (2001) in that she looks beyond the unusual and seeks to study her communities as 'normal'.

Hine is concerned that ethnographic research sited in Internet-based chat-rooms and forums is somewhat selective by virtue of the fact that the researcher is not fully immersed in the culture that he or she studies. She wonders whether a researcher needs to be present – 'logged on' – twenty-four hours per day or whether visits at regular intervals are sufficient to claim that a study is ethnographic (Hine 2000). Hine defends her work by arguing that she has taken a selective approach that allows attention to be focused on specific factors without being overwhelmed by all that occurs in the empirical setting. I argue that Hine has perhaps missed a point here in that her defensive position is unnecessary. Participation and work online is different. Many of the individuals that I have interviewed are obviously engaged in other activities concomitant with their participation in our interview; some go so far as to make this explicit with, by way of example, one participant regularly excusing himself from our interview for short periods of time whilst he attended to the domestic needs of his young children. Immersion, therefore, has quite a different meaning here. A researcher who visits daily and perhaps eats, answers the telephone, writes or searches the Internet whilst he is 'in' the community is participating, and is doing so in precisely the same manner as the members of the community being studied.

For the reasons that I have given in the preceding paragraph, I think that Hine is right to argue for an explicit focus on particular elements of a community or a culture rather than a classically anthropological attempt to study 'everything', but I also argue, as I have said, that her defensive stance is unnecessary. In making selective use of an Internet-based empirical venue, she is not only engaging as the members engage, but also conducting her research as contemporary ethnographers do.

Hine's (2000) work presents an additional solution to the problems that Mead (1961) faced regarding the possibility that participants may falsify interview data for their amusement. Noting that the ethnographer has a “*sustained and involved presence*” Hine says, “*it seems unlikely that*

informants could keep up a false or fabricated identity” (2000, p.22). The mention of identity is additionally interesting, particularly in the light that only a few of the participants to OSS communities. Most, instead, use a moniker that seems to have some significance to the individual such as a childhood nickname, the name of a character from popular culture, a contraction of their real-life name or some form of witty play on words. Whilst this practice may seem to give cause for alarm in the mind of a researcher who needs to have some understanding of specific individuals and the roles they play in a community, it is not of concern. Rheingold (1994) resolves this question in his seminal anthropological treatise on digital communities. In the pre-Internet time in which his work is set, he had already recognized that individuals adopt names for themselves that do not betray their real-life identities but that they do otherwise treat as real names and continue to use those same names in multiple digital contexts indefinitely (Rheingold 1994). This observation is important to this study because, for reasons I will outline in a discussion on ethical issues a next section, I have deliberately sought to not identify participants by their real-life identities. That they use persistent, if non-real, names allows continued interaction and observation even without knowing specifically who they are.

With regard to the ethnographic studies I have presented here that take place ‘on’ the Internet or ‘within’ Internet communities, there are two important points that are common to them all. The first is the manner in which the Internet is conceived and used. David Silverman (2004), citing Markham (2004), observes that the Internet can be conceptualized as a communications medium that opens up new possibilities for access to participants and sites for research, as a communications network that collapses distance so that the possibilities for extending reach to participants becomes instantly and cheaply global, and as a context for social construction wherein participants will construct meaning, identity, community and, as I will show here, organizations. A particular benefit for the social perspectives is that they are constructed discursively, and so interpretive opportunities for researchers are vast. Markham (2004) herself adds the point that the Internet has a chrono-malleable character; that is to say that communications, being often textual and discursive as they are, are time-flexible. While some of the communications I examine in this study are live textual conversations that are instantaneous, many communications take place asynchronously with individuals participating when they are able. Even the instantaneous communications, used by the participants to this study for group meetings, are recorded and may well be archived permanently. Amongst the sources of data available to this study are some twelve years of transcripts of monthly board meetings, and even broader collections of mailing lists, forum postings and chat-room logs. The possibilities for long-term and encompassing studies, as Rehn (2001) notes, are great. All of the studies I mention here (Rehn 2001; Hine 2000; Beekhuyzen 2010; Rheingold 1994) have benefited from these conceptions of the Internet by conducting ethnographic research that has taken advantage of the communications, global reach, possibilities for social construction and the time-flexibility that the Internet offers.

The second point that is common to all of these ‘Internet’ studies, acknowledged in some sense but only explicitly discussed by Beekhuyzen (2010) is that of the perspective of the researcher. Citing an older edition of Silverman’s “*Qualitative Research*” (1997), Beekhuyzen invokes the linguistic theorist Pike’s (1967)³⁶ notions of “*emic*” and “*etic*” perspectives, subsequently adapted into cultural anthropology by Harris (1964) to denote the ‘insider’s viewpoint’ or ‘member’s viewpoint’ that a cultural ethnographer seeks to adopt (*emic*) or the ‘observer oriented’ or ‘outsider’s account’ that an anthropologist would take (*etic*), noting that the outsiders perspective necessarily imposes an observer’s frame of reference to the analysis. Each of the aforementioned studies (Rehn 2001; Hine 2000; Beekhuyzen 2010; Rheingold 1994) adopt the insider’s ‘*emic*’ approach in their work, though only Beekhuyzen explicitly adopts it, saying:

“The emic perspective adopted in this dissertation encourages researchers to work within the conceptual framework of those studied (de Laine, 1997:24) by providing an ‘insiders account’, a native’s point of view (Silverman, 1993). Those engaging in music downloading and file sharing provide the emic perspective to which ethnographers apply analysis (Harris, 1979).” (p.75)

Given my “*participant observer*” role (Gold 1958), the ‘*emic*’ perspective also applies here. Whilst the insider view reduces or removes the need to impose an interpretive framework, it also comes with additional responsibility in that the researcher must adopt a critical and reflexive approach in advancing their understandings. This responsibility may be additionally served by offering interpretations whilst leaving the possibility for the reader to make their own interpretations by giving the reader “*the opportunity to register the intellectual baggage that [the] authors bring to their writing*” (Silverman 2015, p.ebook; see also: Clegg 1975), and by verifying understandings by triangulating from multiple additional perspectives.

6.9. Corroborating Accounts

A trend towards an increased use of interview methodologies, particularly in research that has a more direct interest in the individual subject than the organization at large (see: Fleming 2007; Wray-Bliss 1998) is evident. Many researchers seek to improve the veracity of interview results by triangulation, supplementing the texts collected from a primary method by some combination of secondary texts produced by way of observation, interviews and evaluation of other texts such as meeting minutes, company policies, press releases and such (Fontana & Frey 2005; Denzin & Lincoln 2005). Triangulation has the effect of simultaneously displaying multiple and often competing representations of the same situation and grants the researcher an opportunity to grasp a more thorough view of the organizational situation under study (Denzin & Lincoln 2005). When the resulting texts are appropriately represented, the reader also enjoys an opportunity to

³⁶ This citation is of Pike’s second edition, hence the date post Harris’ adoption.

view multiple perspectives and to make their own assessment of the situation and of the researcher's interpretation (ibid). In this study, I use interviews with individual participants as the primary source of data and I support these participant accounts with additional sources that include minutes of council meetings and from community conversations.

The overarching goal for research that is ethnographic is to produce an account that reflects the way that the subjects of the research themselves view their situation (Alvesson & Deetz 2000). In this case my position as researcher is paralleled by my position as participant and so there is a strongly self-ethnographic facet to this work.

6.10. Self-Ethnography

Research conducted from the perspective of a researcher who cannot claim complete independence from the site of their study or pure 'observer' status is not at all unusual, but it does present additional challenges to the researcher who seeks to claim veracity and generalisability for their work. At the same time, a researcher with involvement in the organization they study gains access to perspectives that are simply not available to a person who is a complete outsider. Carefully managed, this lack of an arms-length separation from the empirical venue actually presents possibilities for a far more engaged and informative research than might otherwise be possible.

Wray-Bliss' (1998) account addresses the inherently ethical nature of work and research and offers a view drawn from the perspective of a researcher who engages as a participant member of the group under study. Similarly, Kondo (1990) worked as an employee in the factory that she studied and her work serves to inform this study, where work as a member of the group will also be a factor. Ng (2014) examined the experiences of mid-level administrative staff during restructuring processes at Australian universities and did so as an insider, a member of the group that she studied. Each of these studies is, to a varying degree, methodologically self-ethnographic in nature.

Whilst the direct involvement of a researcher within the site of a study presents challenges in terms of independence of accounts and potential for bias such challenges can be mitigated with appropriate care. Engagement as a participant “*can provide first-hand accounts of taboo topics such as sexual harassment and bullying, motherhood at work, various moral dilemmas and highly-charged emotional situations in the workplace*” (Boyle & Parry 2007, p.189) that might not be available to a researcher who is an outsider. As I have noted in the preceding section, an aim – and a challenge – is to present this organizationally unusual empirical site as normal; my status as a participant with status that is, to some small degree of 'insider', cognisant of and comfortable with the organization as I am, will help me in making this representation.

Matts Alvesson notes that “*a self-ethnography is a study and a text in which the researcher-author describes a cultural setting to which s/he has a 'natural access', is an active participant, more or less on equal terms with other participants*” (2003b, p.174). The benefits of self-ethnography are, for Alvesson, clear:

“Self-ethnography may facilitate the production of rich empirical accounts. Given that one is not deciding a priori – thereby constraining the options – that a particular time and space area is to be researched, but is modestly engaged in scanning one’s lived reality for research options for some time there is a good chance that one sooner or later runs into events making a good account possible, providing a feeling for what goes on and facilitating productive interpretations” (2003b, p.189)

In this way, a self-ethnographic approach helps to address a key concern for this research: how to identify interesting and relevant texts from what is an enormous – greater than, as I have said, 5.7 million individual pieces – tranche of recorded, lived, organization history. Where searching through so much data by conventional manual means presents an onerous, if not impossible, challenge, by Alvesson's interpretation the fact of living the community experience will lead a researcher to in effect stumble across valuable accounts and experiences. By combining this practical embeddedness with specialized computer software discussed in the next section and the subject selection techniques described in the next chapter on method, this study draws effectively from the organization's vast documented history to present and verify the observations made herein.

Additionally, self-ethnographic technique offers the possibility of resolving concerns of independence and bias by, in effect, forcing the researcher to be reflexive about their own work and research. By reflexively examining one's own practice, the researcher challenges their own assumptions as they work (Alvesson 2003b). At points in the analysis chapters to follow I will demonstrate situations where my own assumptions, and the published research, about OSS are challenged and contradicted. By experiences such as these, pre-conceived ideas are challenged and corrected and so my own understandings, and the veracity of this work, are improved.

6.11. Veracity of Interview Data

Gaining the trust of interviewees is an important precursor to achieving the production of interview texts that are as accurate as possible (Fontana & Frey 2005). Whilst those conducting more structured interviews will feel the need to distance themselves from the participants to maintain a defensible level of detachment, a “*more honest, morally sound, reliable, 'realistic' picture*” (p.73) can be achieved by engaging in a real conversation and building personal interaction, transitioning 'respondents' to 'participants' (Alvesson & Deetz 2000). The assertion that experienced qualitative researchers might somehow better recognize when interview subjects are fabricating their responses (Holstein & Gubrium 1997, in Fontana & Frey 2005)

seems somewhat presumptuous, though there are certainly steps one might take to improve the accuracy of interview texts. One Brazilian ethnographer 'accidentally' left his notebook where he knew his subjects, members of a travelling dance troupe, would find it knowing that they would read the notes he had made about them before returning the notebook to him and observed a tangible increase in the level of comfort that the subjects had with the researcher once they better understood the nature of his activities (Saraiva 2008). The police officers that Gordon (2003) observed and interviewed had then recently been the subject of a high profile judicial inquiry and considered that he was likely a government operative sent to spy on them; an extended period of friendly interaction, a persistent non-participant presence and sensitively conducted interviews eventually realized the ethnographic texts required to complete the study. My experience, in the course of the Breach (2008b) study, was that the having ability to speak with participants about their OSS work at a technically informed level, acknowledgement of and adherence to cultural norms, reference to inside humour, popular memes and (genuine) use of phrases such as "*it's OK, I'm a geek, not an academic*" all had the notable effect of improving the apparent comfort of interviewees and the apparent candour with which they spoke. Among the interviews conducted for this study, I answered questions about my background, experience and my goals for this research. Several participants sought out and read my prior publications on OSS and engaged with those works conversationally during the course of our interviews.

There is a subsequent danger, of course, that a reader of these words may doubt the genuineness of my participation and that to claim to have 'used' the approaches described herein may create the impression of manipulative insincerity. This could not be further from the truth! My points here about the way in which I have been able to interact with participants are designed to illustrate how a genuinely interested, genuinely involved member of a community will be able to interact with other members on a level not accessible to outsiders and will, as a result, be able to produce a fairer, more accurate and more honest account than an outsider might. My interest in and enthusiasm for OSS is genuine; I use Gentoo Linux and OSS for both private and business purposes every single day. In this particular 'chicken and egg' situation, my practical interest in OSS and in the community the focus of this study occurred a long time before my research interest emerged.

My ability to speak with OSS participants in technical terms and on 'their level' has been very useful. In terms of proposing participation and conducting interviews, all of the individuals but one that I approached agreed to participate with little or no hesitation, and all of the interviews continued with mutual comfort for far longer than anticipated. Fontana and Frey (2005) highlight the importance of making a decision on how to present oneself to interviewees and the affect presentation will have on outcomes; my continuing experience in this and prior studies is that

presenting myself, genuinely, as a career 'geek'³⁷ working on a university-linked research study met with almost universal acceptance and support from the individuals I approached for interviews.

The concern with an excessive level of engagement and comfort with the situation under study is that the building of rapport with respondents may have the effect of causing the researcher to become a spokesperson for the project under study, “*losing his or her distance and objectivity*” (Fontana & Frey 2005, p.708) in the process. It might here be argued “*this has already happened*” (Adams 1980, p.3). This is an acknowledged risk for this study, managed by disclosure of this as a kind of the “*intellectual baggage*” that Silverman (2015) notes and mitigated by the reflexive techniques discussed in the previous section on self-ethnography. I argue that, on balance, the benefits of 'insider' status outweigh the potential risks to this study.

Having established my position as an embedded researcher and having addressed the challenges and concerns that such a position brings, I shall now turn to the nature of the communication I make with individual subjects and the community at large. I am studying a community that does not exist in any physical sense, one that conducts all of its activities electronically. This means, of course, that all of the data I work with – interview transcripts, meeting minutes and other texts – are produced electronically. Given that qualitative research is often as concerned with what is not said – body language, facial expressions, tones of voice, periods of silence and such – the absence of all of these non-verbal cues presents additional challenges.

6.12. The Disconnectedness of On Line Research

A common criticism of what Markham (2005, p.808) describes as “*disembodied research environments*” is that non-verbal cues are sacrificed. Certainly factors such as body language, facial expression and speech patterns are not conveyed in electronically mediated exchanges. It is my experience, consistent with Rheingold's (1994) position, that experienced participants develop mechanisms for re-infusing their exchanges with emotional cues and non-verbal signals. Participants naturally take care to ensure that their meaning is properly conveyed by the choices of language that they make, and they will embellish their text with punctuation and symbology designed to further represent tone and intent.

37 Culturally, the term 'geek' to describe individuals with an active personal interest in technology is not a pejorative when used among individuals who identify as members of that group. This is a parallel for the way in which the term 'nigger' is used in a friendly way by a sub-group of African Americans to refer to other members of the same group but taken to be deeply offensive when invoked by non-members and the basis of the “N-Word Privilege” trope (TV Tropes 2015).

Fontana and Frey (2005) caution that the practice of interviewing brings the prospect of the subjects consciousness being altered as they speak to and interact with an interviewer. A parallel to the psychiatric medical practice of psychotherapy where the goal is to alter the patient's thinking seems obvious, as is a linkage to the concept of identity as a negotiated construct (see: Collinson 2003). Markham is troubled by the observation that in the electronic context, *“identity is produced and consumed in a form abstracted from actual presence”* (2005, p.808) and wonders whether an account produced in the absence of physical presence is a sufficiently authentic one, noting in particular the possibility for an interviewee to construct and present a fictional representation. This is a matter of particular interest to a study that is concerned with individual subjects and the identities they construct but the direction that Markham articulates is itself troubling because it defers to a position that considers the Internet and the communications it mediates to be something unusual and somehow unlike, or different to, 'real life'. I argue that this betrays more of the critics' experience – or lack thereof – with the medium than it does of the nature of the communications therein. Even Markham, a researcher who offers a more coherent understanding and accurate representation of online life than I have seen in any prior scholarly work, admits that after three years *“I suspect I will never be convinced that I am truly an insider”* (1998, p.23). The concern is naturally one that must be treated in the process of interpreting empirical texts, but I do not consider that it presents any grave threat to the authenticity of this research. The position taken here is one of acknowledgement of the interviewee's comfort and skill with the electronic medium and, out of respect for the interviewee, a belief that in a sufficiently comfortable situation, the interviewee will authentically represent their world as they see it. Markham considers that an individual's

“desire to present and be perceived as a confluence of texts without body might best be read by researchers as a request for us to acknowledge text as ample and sufficient evidence of being and to study it as such” (2005, p.808)

This is the position that I take in this study.

If there were something approaching the status of a silver bullet insofar as resolving the plethora of concerns, including those raised herein, that plague interpretive forms of research it might well be reflexivity on the part of the researcher. I shall turn now to consider the concerns raised by Wray-Bliss to which I alluded earlier in this chapter, to address those concerns through a discussion of reflexivity in research.

6.13. Reflexivity in Interpretive Research

As I have noted earlier in this chapter, Wray-Bliss (2003b) observes a propensity for management researchers to dispense with their obligations regarding methodology, method and ethics by way of a relatively short, self-authorizing and matter-of-fact discussion of the context and method of 'data' collection with little or no consideration of the authenticity of the accounts

produced and rarely any mention of ethical factors. A more detailed consideration and acknowledgement of the researcher's role in effecting research outcomes is called for, with an overarching focus on reflexivity on the part of the researcher (Wray-Bliss 2003b). This prescription is an oft repeated one: Fontana and Frey (2005, p.713) consider that “[m]any studies that use unstructured interviews are not reflexive enough about the interpreting process” but note a positive trend towards reports of difficulties and unusual situations experienced by researchers in the process of collecting empirical texts. These ‘confessions’ have the positive effect of alerting readers to the difficulties associated with field work and the challenges associated with interpreting the resultant texts (Fontana & Frey 2005).³⁸ Alvesson notes that “*writings on interviews tend to be normatively and technically oriented and weak on theory and reflexivity*” (2003a, p.30). The consistent theme is that researchers do not question their own understandings nor the texts they produce nearly enough. Silverman (2007) cautions researchers to ensure that the interpretations they make are true and verifiable representations of participants’ actual intent and not arbitrarily constructed interpretations that suit the researchers’ own goals.

Alvesson offers a useful tool for improving the self-questioning of researchers and their works in the form of a practice he terms “*reflexive pragmatism*” (Alvesson 2003a, p.25). Interview research, for Alvesson, has a range of complexities. Factors relevant to this proposed research include that interviewees have a propensity to attempt to make sense of what the research might be about by ‘reading between the lines’ of the questions they are asked and may subsequently construct their answers according to the outcomes they perceive to be appropriate, such that interview situations present an opportunity for the interviewee to construct an identity rather than reveal one; that interviewees may invoke ‘cultural scripts’ in answering questions and so present somewhat scripted answers that are not necessarily authentic. They may engage in ‘moral storytelling’ by answering questions in a way that portrays ‘appropriate’ rather than accurate moral positions. My own experience of interviewing within the OSS movement indicates that each of these factors are a potential concern for this proposed study. While Alvesson offers techniques to mitigate each affect at the time the interview is carried out he also proposes a view of the interview text as a necessarily flawed instrument and suggests that the time to resolve the problems that the interview embodies is at the time of interpretation, not during the interview process itself (2003a).

Alvesson offers a series of eight metaphors, each describing a particular challenge that the interviewee faces in the course of an interview such as the social difficulty of the complex interaction with a stranger (interviewer), a perceived need to cognitively comprehend the broader un-revealed purpose of the of the interview, maintenance of one’s self esteem during the interview, and the challenge of representing complex phenomena in spoken terms. Interview

38 Note also David Silverman’s encouragement to ensure that the reader is aware of the researcher’s “*intellectual baggage*”.

texts are multiply re-interpreted in terms of each of the different metaphors. Each interpretation stands to throw additional light on the nature of the interview texts and facilitates the production of a more accurate interpretation on the part of the researcher. Not all of the metaphors offered by Alvesson are relevant to this electronically mediated research, and some are mitigated by my status as a participant. Even so, the reflexive approach is pragmatic in the sense that it acknowledges that there are a series of threats to the authenticity of interview texts that are essentially inevitable, and focuses on recognizing and accounting for their affects rather than making arguably ineffective attempts to negate them. Alvesson puts it that this practice has the effect of 'externalizing' reflexivity such that the researcher's reflexivity is made explicit in the presentation of the analysis rather than using an inward-focused reflexivity (2003a). The goal is not only to present a veracious account of the organization under research, but also to ensure that each individual participant is properly represented.

6.14. Representing People

Representing people changes their lives (Wray-Bliss 2003a citing Lincoln 1993) and so it ought to if Parker's (1999) overarching goal of making the world just a little bit better by his research is to be realized. Rhodes (2001b) sees writing organization as an exercise of power on the part of the researcher. The ethical responsibility that comes with the power to effect such change and to impose on subjects like this is such that the need for reflexivity in interpretive research is but a part. In simple terms, “[t]he most important ethical imperative is to tell the truth” (Johnston 2001, p.116), though a postmodern-inspired perspective that grants voice to multiple subject positions and multiple truths (Lyotard 1992) begs the question: “*which truth?*”. An acknowledgement of the inherently superior position that a researcher takes over their subjects by way of their ability to select, interpret and represent what interviewees tell them at will (Wray-Bliss 2002) will, if appropriately transferred into the writing of research outputs, help to produce a better 'truth' (Fontana & Frey 2005). Arguments to the effect that researchers are poor people too, subordinate to the whims and jeers of shop-floor workers (Collinson 2002), are neither accurate nor helpful in this regard. There is no reason to doubt that Collinson (2002) may have been taunted, distracted or delayed by his industrial worker subjects, but in rushing to highlight his practical experience of collecting empirical texts, he disregards the power he holds over his subjects once he returns to his office and his keyboard and sets about representing their experiences in his own words. Writing styles that privilege the researcher over the subject are problematic; the simple practice of writing in the third person has the effect of adding a 'voice of authority' to the author's account with the risk of privileging the author's account over that of the research subject (Wray-Bliss & Bell 2009). An adoption of writing styles that acknowledge the researcher's position vis a vis the subject and a reflexive discussion of ethics, methodology and method that extends beyond mere adherence to the academic conventions of the particular field will, as I have noted, enable the reader to make a truer assessment of the research

and its findings (*ibid*). It would seem that if there are multiple truths, then multiple truths ought to be told.

In addition to an assurance that truth is privileged, the minimization of harm to the subjects of research are a focus for codes of practice and ethics committees (Wray-Bliss & Bell 2009) and, one hopes, for researchers. This author's own inclination is to ensure complete anonymity for interview participants insofar as is possible on the moral premises that individual privacy is to be privileged and that there is no particular need to identify them. It is important to note however that anonymity is a very difficult, perhaps impossible (Markham 2005), thing to achieve in context of the Internet and particular in OSS. It is widely understood, and accepted, that Internet chat-rooms are public and that the discussions therein are routinely recorded by participants. Many OSS projects record and re-publish the conversations that take place in chat-rooms for future reference and, in fact, some of these very recordings serve as sources of data for this research. Technical discussions are often useful for others to reference later, and transcripts of formal meetings are kept as a form of minutes to record what was said and agreed upon in the meetings. A formal ethics application might invoke the defence that participants in these conversations 'have no expectation of privacy' but even so, the practice of re-presenting particular parts of conversations must be carefully considered for the effects it might have on the participants. A post-conversation anonymising of such conversations will be an ineffective means of assuring anonymity because a curious reader may simply search the public Internet to locate the original transcripts from which quotations are drawn. A more appropriate treatment of chat-room texts might be to paraphrase and accumulate parts of conversations so as to better protect the identity of participants. These issues are primarily of concern where multiple-participant chat-room type situations are used as a source of empirical text.

Texts produced by way of electronically mediated private interviews are not public and so measures for protection of those texts are in line with the usual approaches a researcher would take to secure and protect a usual interview transcript. It ought also be noted that not all participants desire anonymity: in the course of interviewing for the Breach (2008b) study, one participant declined an offer of a private one-on-one conversation and insisted that his interview be conducted in a public chat-room. That interview was carried out in the view of others, some of whom participated to a small degree.

Interviews form, as I have said, a principle source of data for this study. My own enthusiasm for the work and other factors that I have raised, such as the small but present possibility that participants may, deliberately or inadvertently, subvert collection and interpretation of data, mean that the interviews themselves cannot safely be used to build theoretical claims without additional supporting data. The supporting data which I employ consists of a range of electronic sources including minutes of on line meetings, mailing list archives and discussion forum archives. In terms of the number of individual texts, these secondary sources are vast. To examine them thoroughly by conventional qualitative methods would be an onerous, perhaps

even impossible, task for a lone researcher. I turn now to a technique founded in statistical analysis with an assuredly qualitative orientation to resolve the problem of the quantity of source data, one which offers the additional benefit of making this research additionally interesting and fun! That technique is 'Bayesian analysis'.

6.15. Bayesian Analytics

I am fond of observing that the one clear thing that I have learned about quantitative research is that I do not enjoy quantitative research. Vast amounts of data statistically analysed are far less interesting to me than a relatively small number of rich textual accounts of contexts, environments, perspectives and personal experiences examined for the value they offer both individually and collectively. Hugh Willmott was kind enough to offer me guidance and at the conclusion of one of our meetings he gave a piece of important advice: *“You must go now and find a way to make your research fun and interesting. If you cannot do that, you will struggle to complete it!”* (2012). I am certainly enthusiastic about the study of organization and about OSS, but I struggle with the prospect of a tedious analysis of tens of thousands of pieces of data, searching through what are predominately deeply technical discussions for occasional snippets that grant insight into organization and culture. If I can find a way to achieve that analysis that is fun, interesting and methodologically rigorous, then I will have followed Professor Willmott's advice.

I have long been aware of a technique for processing vast amounts of textual data called 'Bayesian analysis'. In computing terms, it is popularly used as a method for processing electronic mail to isolate unwanted and unsolicited messages containing advertising material, solicitations and confidence tricks from streams that also contain wanted and important messages. 'Spam filtering', as it is known, is a challenging task because those who author the unwanted messages work very hard at writing the messages in ways that will, they hope, trick automated filtering systems into accepting the 'spam'. The authors do this by constructing messages that change constantly – from message to message – in terms of their content and structure, and seek to emulate the conversational structure of legitimate messages as closely as possible whilst avoiding use of key words and other easy-to-spot identifiers for malfeasance. Bayesian analysis' capacity for identifying subtle differences in a collection of texts makes it an effective tool for filtering spam.

I have set three criteria for adopting Bayesian techniques in this study. That the process be 'fun' is subjectively satisfied by my assertion that I have enjoyed the work. I now argue that, secondly, Bayesian analytics are interesting here because they have barely been used at all in organization research (Kruschke, Aguinis & Joo 2012) and that, thirdly, their wide acceptance in other fields serves as evidence of their rigour.

Kruschke et al (2012) observe a near complete absence of Bayesian techniques from organization research. Of the greater than ten-thousand articles published from 2001 until 2010 and assessed by Kruschke, only 42 used a Bayesian method. Kruschke asserts that “*the time has come for the organizational sciences to consider the use of Bayesian techniques*” (p. 724). The Bayesian approach is a mechanism of reasoning equivalent (ibid) to that offered by Doyle's fictional Sherlock Holmes in that “*when you have eliminated the impossible, whatever remains, HOWEVER IMPROBABLE, must be the truth*” (1890, p.93, emphasis in original). Using prior evidence, Bayes' theorem reallocates the credibility of events as data arrives. This capacity for progressive incorporation of prior knowledge is important because it provides consistency with the epistemological position that continued conduct of new empirical research advances theory to the extent that new evidence extends existing understandings (Schmidt 2008). Kruschke et al (2012) offer a justification of the application of Bayes theorem to qualitative organization research by demonstrating it alongside multiple linear regression. Because my goal here is to use Bayesian method to select texts for further qualitative analysis, a deep deconstruction of the approach taken by Kruschke et al is beyond the scope of this work, though a consideration of basic principles is still appropriate.

Bayes' Theorem was conveyed after his death to the Royal Society by his colleague Price who offered Bayes' work as a response to a call by De Moivre (1967) for a mechanism to determine the probability of an event occurring, or not occurring (Price used the word 'failed'), by prior knowledge of when the event had occurred, or failed, in the past and of other contributing factors. Bayes and Price (1763) demonstrated their solution by way of a detailed algebraic analysis. Contemporary applications of Bayes' work represent his theorem by way of a relatively simple formula:

$$p(\theta|D) = p(D|\theta) p(\theta) / p(D)$$

where θ is a collection of parameters in the prior known data and D is the new observed data. The result $p(\theta|D)$ represents the credibility of each combination of parameter in the data and thus may be used to determine the probability of any given combination of parameters. The resulting distribution of credibilities is, in effect, a complete distribution of probabilities of every possibility given the new data and with regard to the prior data (adapted from Kruschke, Aguinis, and Joo, 2012). In something approaching plain(er) English, the formula can be represented:

$$\text{new distribution} = \frac{\text{prior} \times \text{likelihood}}{\text{evidence}}$$

In practical terms, we can predict the likelihood of a particular event occurring in a collection of new data on the basis of what we already know about the likelihood of the event having occurred before. The Bayesian approach also provides the possibility for progressively improving its accuracy by providing a larger representative sample of the parameters used in the prediction. It is a mathematical equivalent for direct inductive reasoning progressively improved as new

information becomes available. There remain concerns about the selection of prior data and impact on the veracity of results, and so the means by which exemplars are chosen must still be defended. I shall return to this point shortly.

Whilst some background understanding of how Bayes' work operates is necessary, its practical application to this research is in my view more interesting. Bayes' Theorem is very widely applied in the hard sciences for quantitative purposes (Zyphur & Oswald 2015); I propose here to adapt Bayes' work to facilitate qualitative outcomes. To do this, I must turn, briefly, to a development of Bayes' work in the computer science literature.

6.16. Naive Bayesian Classification

Often implemented programmatically as a form of machine learning, a naive Bayes classifier is a mechanism for classifying events or objects on the basis of the various features of each object whilst remaining strongly naive to the possibility of interactions between those features. An oft-cited example is that of a piece of fruit. Knowing that an apple is red in colour, is spherical, and is about eight centimetres in diameter, we can write a program to determine the credibility of claims that subsequently offered pieces of fruit are apples by the degree to which they have similar features to those known. A new piece of fruit that is red, spherical and seven centimetres in diameter is more likely to be an apple than others that are red, spherical and two centimetres in diameter ³⁹ or green, somewhat elongated and ten centimetres in diameter.⁴⁰ Note that with this small level of detail – size, diameter, shape, colour – the process is still subject to errors,⁴¹ but reliability can be improved by further training with additional samples and parameters.

A most common commercial application for Naive Bayes Classification is for detecting and blocking unsolicited bulk email ('junk mail' or 'spam'). Take, for example, a practising medical urologist or plastic surgeon who will, in the normal course of their work, expect to receive professional news, scholarly articles and solicitations from medical vendors by electronic mail. Once trained with examples of 'wanted' and 'unwanted' email, a Naive Bayes system would be alerted by a reference to 'penis enlargement' in a legitimate communication but not triggered by the otherwise grammatically correct and formally written message. Another solicitation from an illegitimate vendor of fake drugs may use the same key words, but also feature misspellings and grammatical inconsistencies designed to subvert simple word-matching spam filtering systems. A Naive Bayes classifier would recognize the additional 'bad' features of the illegitimate message as being consistent (but not necessarily identical) with the features of 'bad' messages previously seen and process it as an unwanted message.

39 A cherry, a strawberry or a very small tomato, perhaps.

40 Perhaps a pear, a small melon.

41 Larger tomatoes may be mistaken for apples, for example.

The technique has an implicit ability to consider which particular features are more or less relevant to classification. Where the consulting urologist or plastic surgeon routinely receives electronic mail with references to genital enhancement, a Naive Bayes' classifier would learn to ignore such references and concentrate on other features. In a situation where most presented pieces of fruit are spherical, the classifier will 'learn' to pay less regard to shape as an indicator of type. The reader will by now have begun to imagine examples that cannot be accurately classified by the features I have specified here. It is important to note that the outcome of classification is a measure of credibility, a probability that the item is an apple or a poorly constructed but well intentioned email message, rather than a definitive 'yes' or 'no', 'good' or 'bad' answer. Additionally, the accuracy of the algorithm may be improved with additional examples of what constitutes an apple or a genuine professional enquiry and by adding awareness of additional features.

Naive Bayes is conceptually simple and efficient in terms of the workload it presents for computers, and a commonly used technique for classification of textual documents (Manning, Raghavan & Schütze 2008). Its ability to 'learn' from a selection of prior examples and its naiveté for the co-occurrence of features in texts mean that the Naive Bayes approach can identify similar texts effectively despite the likelihood that no two documents will ever be exactly the same. By comparison, tools that seek to simply match identical strings of words in sentences or paragraphs between multiple documents, such as those common in so-called 'plagiarism detection' software, are virtually worthless in terms of their ability to genuinely identify similar texts. The effect of grading individual texts by way of a 'credibility' score, and the possibility for improving the quality of results by providing more known-good examples make Bayes' classification a useful tool here. Additionally, various implementations of Bayesian techniques make it possible not only to select documents that are 'good' or 'bad' but from multiple categories. Because the central premise of Bayesian classification is a reliance on priors – pre-categorized examples of documents of interest – it is possible to provide the algorithm with examples of a range of categories and to have it rate a new document's relevance to each category. In this way I am able to classify documents for the categories identified in the research questions and qualified by the first-pass analysis of the interview data so as to reduce the numbers of documents that require direct human assessment from the hundreds of thousands to mere hundreds.

6.17. Problems with Naive Bayes' Classification

Naive Bayes' classification is easy to implement in a program and performs efficiently specifically because of its naiveté for relationships between features. While the technique has earned the “*dubious distinction of placing last or near last in text classification papers*” (Rennie et al. 2003, p.1) it remains popular because of its speed and simplicity. While Naive Bayes' is known to perform well where there are no dependencies between features, it is shown to be

remarkably effective in situations where object features are dependent and sample sizes are small (Domingos & Pazzani 1997). In the previous section, the reader will have begun to notice implicit flaws in the naive classification by wholly independent factors. Apples will almost always be spherical, and spam email will almost always use grammatically evasive constructions and be sent from falsified email addresses and an effective classification technique may well benefit from recognizing these relationships. Approaches to improve the effectiveness of classification include automated assessment of statistically significant dependencies between features, and several implementations of naive Bayes' do incorporate such capabilities (Rennie et al. 2003). In any case, the performance of naive Bayes when compared to enhanced versions is so computationally cost-effective that efforts to improve its performance may well be unwarranted (Friedman, Geiger & Goldszmidt 1997).

In this work I address the weaknesses of the Naive Bayes' approach to classification of documents predominately by granting it the respect it deserves, but no more. If this work were a deep quantitative analysis of a vast array of documents, then the weaknesses would be of greater concern than they are here. The practical use to which I put Naive Bayes is secondary; rather than rely on it to support first order statistical claims about features of conversations on line, I make use of it as a mechanism to efficiently search through vast numbers of documents to select particular documents that will subsequently be subjected to the methodological and analytical conditions which I have already discussed in this chapter. The credibility of Bayes' within the scientific community and its appropriateness for organization research (Kruschke, Aguinis & Joo 2012), combined with its responsiveness to proper technical understanding and supervision (Friedman, Geiger & Goldszmidt 1997) make the technique more than appropriate for the use to which I apply it in this study.

Having addressed the means by which I will identify which documents from a field of many hundreds of thousands of documents warrant further analysis, what remains to be considered in this chapter is the particular process of interpretation of those documents. I have discussed in broad terms approaches to ethnography, auto-ethnography and verification by way of reflexivity. In addition to these methodologies, a more specific approach to textual interpretation is required. Because this work is centrally about power and resistance in an organizational context, an Aristotelian phronetic approach is suitable.

6.18. Aristotelian Phronesis

This study takes, as I have said, a theoretical problematic and attempts to resolve, or at least inform, that problematic with an examination of a somewhat unique and unusual – at least for the field of organization studies – empirical case. This approach already offends, in part, the letter of the phronetic methodology offered by Flyvbjerg in that it seeks to problematize theory and resolve with practice, yet for reasons that I will present herewith, the application of Aristotelian

phronetics is so appropriate that a determined attempt at applying the methodology to this study is warranted.

Flyvbjerg offers phronetic social science as a resolution to a paradigmatic debate between physical and social scientists he called 'Science Wars' (2001). A means by which social science can stand on its own validity without vainly attempting "*to emulate the natural sciences*" (Flyvbjerg 2012, p.34) offers an escape from the 'wars' by re-interpreting the Aristotelian concept of phronesis and applying it to contemporary research. Aristotle acknowledges concepts of analytical, epistemic, scientific knowledge – episteme – and technical know-how – techne – and presents phronesis as something that goes beyond those into a practical application of prudence and wisdom (Flyvbjerg 2001). Aristotle puts it that to be prudent is to have reached a higher level of personal development. A young person can be expected to have technical and scientific knowledge but will not have prudence. "*Prudence includes a knowledge of particular facts, and this is derived from experience, which a young man does not possess; for experience is the fruit of years*" (Aristotle 1934, p.1142a). Flyvbjerg (2001) argues that prudence, or phronesis, is commonly applied in social practice and that attempts to study society only in terms of episteme and techne are inadequate.

Flyvbjerg's implicit rejection of scientific and technical analyses in preference of something more prudent and practical is an appropriate methodological position from which to reject the positivist approaches taken by Donaldson (1988, 1987) et al. By attempting to explain social situations only in positivist terms, we exclude considerations of context and judgement and devalue individual experiences and narratives. The central problem with attempts to make merely scientific analyses of organizational situations is perhaps best explained by Clegg (1996b) in his (perhaps slightly facetious) critique of Donaldson's SARFIT (1987) model: they are "*systematically distorted*" (Clegg 1996a, p.204) by a perspective ignorant of conflict and politics and in doing so neglect what are arguably the most real and most interesting parts of organizations. Flyvbjerg's real social science recovers that which is excluded by positivist approaches by engaging with context and power relations.

Flyvbjerg's real social science extends the Aristotelian ethic of phronesis by invoking a concern for power, something which Aristotle himself did not apply. To draw in power is to address the particular needs of political social science research (Flyvbjerg 2012) and continues Flyvbjerg's long-standing interest in power in public policy (see: Flyvbjerg, 1998). An additional benefit, argue Schram et al (2013), is to recombine rationalist perspectives on power with more practically oriented analyses at the point "*where particular circumstance and context meet general rules of governance*" (p. 22). The result is an approach to organization research that permits examinations of power as it applies in particular circumstances.

Phronetic social science places power at the core of analysis (Flyvbjerg 2001). In order to achieve this, having already established the study as a work centrally concerned with resistance,

I will re-invoke the theoretical link made between power and resistance made previously, in Chapter 3. The link is achieved by reading resistant acts as exercises of power in Clegg's (1989) episodic circuit, exercises that are manifest as inevitable agentic responses to attempts at control over relations of production or over relations of meaning. In addition, the conjunction of power and resistance is further informed by the Foucauldian perspective that "*there are no relations of power without resistances*" (1980, p.142) and by reading resistant acts as re-oriented exercises of power in and of themselves.

Phronetic social science is born, centrally, of a recognition that the natural sciences are very good at generating fixed, generalisable and context-less theories about observable phenomena, while the social sciences are very good at generating detailed knowledge of specifically contextualized and subjective social relations, with each, perhaps, not so good at the work of the other. Phronetic research seeks to make best use of the capabilities of social science to develop practical knowledge applicable to particular contexts and circumstances (Schram 2012).

It is the opportunity to develop practical, phronetic, prudent knowledge that is of interest: by observing the ways in which individuals organize in a particular context one may contribute to informing and improving management and organization practise more broadly. Such an interest derives from a personal imperative to keep a practically relevant focus, informed by experience of a life at work.⁴²

Phronetic research also offers the prospect of positive outcomes. In this sense, it adopts a similar course to that which critical management theorists claim to take – to problematize practice in the hope of making things better – though it does so in what seems to be at least a happier way! "*Social inquiry*" argues Schram "*is better when it is linked to questions of the good life, that is, to questions of what we ought to do*" (2012, p.18). Phronetic research also stands to resolve, or at least permit, several of the concerns already raised. By withdrawing a need to provide context-less and generalisable outcomes, the researcher is in effect excused from any obligation to maintain a detached 'scientific' position and is instead free to engage more deeply with the subjects under study. The abandonment of traditional ideas of objectivity and truth permits and even necessitates deeper involvement on the part of the researcher seeking to produce a contextualized, pluralized account rather than a singular truth. These positions, offered by Schram (2012), mesh well with my status as a participant in OSS, engaging and further addressing the concerns already raised.

42 Working, as I have, on farms, in automotive workshops, in steel fabrication facilities, in food production, in mining and in electronics manufacturing – dirty jobs – brings a practical approach to thinking about work. The knowledge gained in a scholarly setting can, I hope, be taken back to those sorts of workplaces and be regarded by my peers there as relevant and useful. If I can convince those people that there is some value in "*that fancy booklearnin*", then I will consider this a success!

There remains one concern with the decision to adopt a phronetic approach and that is how the methodology is invoked. Where Flyvbjerg proposes that practice be problematized, then assessed – possibly resolved – by further assessing practice in other contexts, I have set out on a very different route. My problematic is embedded in the literature, in theories of organization, power and resistance. I raise, in Chapter 2, concerns about the way that the organization literature purports to be moving towards new forms of organization without actually offering notably new forms at all, and in Chapter 3 I raise the concern that despite substantial progress, resistance is still a pathologized practice. In Chapter 4 I argue that organizations are changing, though not in the places we have been looking, and that resistance ought to be seen as a positive act which I propose to seek out within the OSS movement in the hope of learning ways in which we might work as better managers in the main stream. In taking this approach I problematize theory and seek answers in a particular context of practice. Though this is not what Flyvbjerg has said one ought to do, he repeatedly maintains that his methodology is negotiable and that his prescriptions are guidance, not rule (2001; Flyvbjerg, Landman & Schram 2012). Given the many compatibilities of the phronetic method with this study, This is a methodological experiment that is well warranted.

Centrally, the phronetic approach involves asking four questions:

1. Where are we going?
 2. Is this development desirable?
 3. What, if anything, should we do about it?
 4. Who gains and who loses, and by which mechanisms of power?
- (Flyvbjerg 2012)

The first question is addressed by the discussions in Chapters 2, 3 and 4 and, as I have said, the answers are developed theoretically. Research Question 2 offers an opportunity for an implicit problematization of the answers to research question one and scope for the arguments, made in Chapter 4, about how resolutions might be sought. Research question three opens an opportunity to respond by way of discoveries made in the data analysis, Chapters 9, 10 and the latter part of 11, with respect to the possibility that findings here may be generalized to OSS more broadly and to organizations generally.

6.19. Researching Gentoo

Having considered ethics, ethnography, disconnected online research and a series of methodological approaches to analysis of data, what we must next do is turn the actual methods that have been used in carrying out this study.

7. Researching Gentoo

“In no case do you get one answer which is universally accepted because it is true: in each case you get a number of totally incompatible answers, one of which is finally adopted as the result of a physical struggle. History is written by the winners.” (Orwell 1944)

7.1. Methods for Researching Gentoo

Where the previous chapter presented and assessed a series of methodological theories and their applications so as to assemble a set of techniques appropriate for this study, this chapter is designed to explicate the specific processes by which decisions were made, and data was collected, analysed, verified and presented.

The reader will have observed that this Chapter discusses the process by which I have studied Gentoo before explaining exactly what ‘Gentoo’ is. I have, as previously explained, taken the decision to present methodology and method first because the chapter that introduces Gentoo properly makes use of empirical sources to do so.

For the purpose of understanding this Chapter it is enough to understand that Gentoo is a contraction of ‘Gentoo Linux project’, a particular Linux distribution – and the organization that produces it – that is consistent with those described in the latter parts of Chapter on OSS.

7.2. Deciding What to Study

“Fifteen hundred years ago everybody knew the Earth was the center of the universe. Five hundred years ago, everybody knew the Earth was flat, and fifteen minutes ago, you knew that humans were alone on this planet. Imagine what you’ll know... tomorrow.” (‘Agent Kay’ in Sonnenfeld 1997)

In fact, decisions about *what* to study were easy: freshly qualified in management and inspired as I was by coursework lessons delivered by Ray Gordon, Tyrone Pitsis and Stewart Clegg, there was little question that this work would be about organization theory and power in organizations. A life-long experience of working with computers, technology, Open Source Software (OSS) and the Internet set a clear empirical site for me. Those decisions were not difficult at all. What was more troublesome, for a time, was the question of exactly how to combine organization, power and OSS in a way that might make a useful contribution to knowledge. Reading helped.

The tradition of including a bibliography seems to have fallen to the contemporary practice of only including a reference list, but I think that key influences and influencers deserve to be mentioned, so I shall name some names here.

While I had made prior inroads with smaller studies in community management (Breach 2008a, 2007), operations management (Jenkins & Breach 2006, 2005, 2004a, 2004b) and innovation management (Breach & Jenkins 2007), efforts that were successful and useful, it was not until I began to read works by Rhodes (2002, 2001a) and Boje (2001), organizational developments of Bakhtin's (1984) work on the carnivalesque inversions of medieval carnival, and Wray-Bliss' (2003b, 2002) ethical analyses of various 'Manchester School' works on Critical Management Studies (CMS) that resistance as an other to power became a useful and suitable direction for me. Cohen and Taylor's (1992) *"Escape Attempts"* and Fleming and Sewell's (2002) *Looking for the The Good Soldier Švejk* provided striking insights into the ways that cognitive resistance manifests itself, and a series of valuable, and insightful works by Fleming and Spicer (2008, 2004, 2003, 2002) including, notably, *Contesting the Corporation* (2007), brought those acts of resistance to cognitive-dominative and subjectifying exercises of power into the organization context. Many of these works were of a narrative style that I learned that I enjoyed some years prior having read Czarniawska's (1995) permission-giving *Narration or Science* (of which my private notes written circa 2008 say "*Brilliant! A key reference! Re-read!*") and Hatch et al's *Is Ethnography Jazz?* (Humphreys, Brown & Hatch 2003) beautiful characterizations of exactly how I wanted to write. Add Boje's (1995) *Tamara Land* (more for the permission it grants than the style in which it is written, though many of his other works are quite good fun!) and Rhodes' dances with *The Simpsons* (2001a) and *South Park* (2002), to Jermier's (1985) *When the Sleeper Wakes* (and everything else in Frost and Stablein's⁴³ (1992) brilliant collection) and the stage was well and truly set.

Prior to my discovery of resistance theory and early in my scholarly career, various chance meetings and opportunities to speak with George Ritzer (See: Ritzer 2000), Eric von Hippell, Edward Wray-Bliss and Hugh Willmott, gave valuable insights and direction. Emailed conversations with Antonio Strati (See: 1999, 1992) and Mats Alvesson, both of whom were most generous with their time and their advice, were equally helpful. With the collective advice of these giants and the immense benefit of a solid grounding in power founded on Ray Gordon's teachings in organization theory, strengthened by Stewart Clegg and Ray Gordon's 21006 *Managing Power* course, and solidified by a felt imperative to 'read everything about power that I could get my hands on' thereafter, the above-mentioned collection of then new-to-me works on CMS and resistance in organizations served to round out what was already an incredibly fortuitous set of educational opportunities. By the time I had the good fortune to attend Stewart Clegg's demanding but absolutely invaluable 21909 *Theorising Organizations and Management*

43 I had known of Professor Frost's passing in 2004, but I only learned whilst I was making final edits to this chapter that Professor Stablein too had died in 2015. Learned, gentlemen and scholars, both, the world is a better place for the scholarly contributions they each made. Vale, both.

and 21910 *Doing Exemplary Research* ⁴⁴ courses, and the *additional* benefit of being invited to attend David Silverman's three-day *Doing Qualitative Research* series of seminars, I think that I could ask of nothing more! Enjoying as I have what amounts to a truly 'blessed' journey through the field of management and organizations, there will have been something seriously wrong with me if I was unable to make something of the cards I had been dealt!

I read voraciously in those fields so as to build understanding and direction. It was by Stewart Clegg's kind provision of a pre-publication version of his and Courpasson's (Courpasson & Clegg 2012) theorising on polyarchic bureaucracy and the calls for future research that they made therein that really 'brought everything home' and gave me a clear direction for this research. Their proposals not only set out a clear direction for me to follow with powerful shoulders on which to stand but also presented an opportunity to re-invoke and build upon my own prior works.

7.3. The Utility of Prior Works

Having recently submitted the 'free beer' (Breach 2007) paper for publication as 'volunteer workers' (Breach 2008a) and in the midst of designing the 'lead users' (Breach & Jenkins 2007) conference paper that was, in its first incarnation, a coursework research paper,⁴⁵ I was already aware that this present work was a future goal and so I sought to carry out those research projects in ways that could inform or otherwise assist this one.

The methodology for the 'lead users' study was very simple: designed to improve upon Eric von Hippel's (2017, 2005, 1988) 'lead user method' it called for an interviewer (me) to replicate his approach by simply approaching participants in an Internet-based community of practice (Wenger 2000) and asking them to nominate other members whom they considered to be reliable sources of information and advice. von Hippel's methodology sought to engage participants in conversation before asking them to nominate peers as an apparent passing aside so as not to affect the nomination by asking the question directly. The need to engage participants in conversation that was, for the purpose of that study, meaningless still presented an opportunity for me to explore possible directions for future research.

7.4. Selecting and Interviewing Participants

In designing and executing the 'lead users' (Breach & Jenkins 2007) study, I used a set of open-ended interview questions designed to appear plausible in what I described to interviewees as a 'study of open source software' and asked a range of general questions relating to the types of

44 Named in an apparent honorific for Frost and Stablein's superb *Doing Exemplary Research* (1992).

45 Dr. Roger Jenkins supervised that work.

OSS work that individuals did, their qualifications and interests – their itches if you like – and other related facets, then allowed them to direct the conversation as they saw fit. As the conclusion of each interview I asked whether the interviewee was open to being contacted again in the future to assist with a further study. Several gave their consent.

Interviews for this study were conducted before I had settled on the precise direction for this work and so they were also exploratory in nature. Interviewee selection was not random, however; rather I began by approaching those individuals who had consented to further approaches and then, by way of an application of von Hippel's (2005) 'lead user method' and also by approaching individuals opportunistically I progressively resolved my questioning and my focus on Gentoo. As a result of this approach, some interview participants were not Gentoo members and their input proved useful in generalizing the findings about Gentoo. As I said in the preceding Chapter, this study makes no claim of being demonstrably random in its sample. In short, I chose people who I could see would have interesting things to offer.

A small number of individuals were selected by their responses to a forum post that I made in June 2010 titled "*I'd like to chat to you about the OSS work you do please*".

Interviews were conducted, as the preceding methodology chapter pre-indicates, entirely online. Almost all were by way of a one-on-one conversation in a private chat room or with directed 'instant' messages. In one notable instance the interviewee insisted on conducting our discussion in a public chat room established for the purpose and, over the course of the interview, various other individuals joined and watched and some even participated. Several interviews built, as I have said, on discussions conducted in the context of previous research. Several of the longer interviews for this study occurred in multiple sessions, sometimes with periods of days, or even weeks between each meeting. All interviews were conducted electronically and none were conducted face-to-face. Whilst I deliberately did not seek demographic information, I know from those who offered details unprompted that many interviewees were physically located in the United States, some in the United Kingdom, many elsewhere in Europe and relatively few were in Australia. Each interaction began with a brief – typically 5-10 minute – conversation in which a broad clarification of expectations was made and a time set for the interview proper to take place. We would then meet as agreed and have our conversation.

While an initial design for this research proposed to study two organizations, it became quickly apparent that the desired outcomes could be achieved more efficiently and more thoroughly by focusing on only one organization alone. Once the decision to focus only on Gentoo was made, subsequent interviews were with Gentoo members.

A total of twenty-one interviews with individuals involved in Gentoo and the broader OSS movement were conducted with twelve being Gentoo members in some sense and the balance being involved in other OSS projects. Five of the individuals that I interviewed in respect of this

study were from the group who I had also interviewed for the preceding study and whom had consented to future contact.

All interviewees were provided with a written explanation of the project and completed a consent form electronically. Both the written explanation and the consent form, along with advice provided to participants relating to ethics, anonymity, security of personal information (of which I deliberately collected very little) and of interview transcripts was reviewed and approved by the University of Technology Sydney Human Research Ethics Committee (HREC).

Interviews were, as I have said, conducted electronically and automatically recorded as they proceeded. This process obviated the need for subsequent efforts to transcribe and transcripts are, of course, direct and faithful representations of the original conversations. Interview transcripts have been collected, made anonymous, stored and analysed in accordance with undertakings made to and instructions given by the HREC.

7.5. Found Data – Meeting Minutes

A centrally important source of data for this study has been the minutes of meetings of the Gentoo Council, an important governing body at the hierarchical head of the organization that will be further explicated in Chapter 8 and subsequent chapters. The open and geographically distributed natures of OSS and this organization in particular means that all formal meetings are conducted on line in chat rooms and, whilst most chat room conversations, even casual ones, are likely to be recorded by someone, these formal meetings are explicitly and deliberately recorded and kept by the organization as a formal and permanent record. They are “*the files*” (Weber 1978, p.957) of the organization. Naturally the transcripts of these meetings, like those of the interviews that I have just described, are verbatim transcripts of all that was said in each meeting.

Transcripts of every Gentoo Council meeting from Council’s inception in September 2009 to the present day are stored and made publicly available on the Internet at https://wiki.gentoo.org/wiki/Project:Council/Meeting_logs . It is this repository that is my source for the meeting transcripts that I have analysed, cited and quoted herein.

7.6. Found Data – Chat Rooms

An important secondary source of data for this study has been recorded transcripts of chat room activities. The Gentoo organization conducts all of its activities on the public Internet and an important means of group communication for members is by way of live conversations in Internet chat rooms.

Whilst it is arguably not culturally acceptable to covertly record chat room conversations with a view to republication – it is for this reason that I do not quote public chat room conversations herein – all participants are aware that recording of transcripts is easily possible for any

participant to do and that transcripts of public chat rooms are often officially republished in OSS communities, such that there is no expectation of privacy on the part of participants in this context.

Chat rooms used by Gentoo and most other OSS projects employ the ‘Internet Relay Chat’ (IRC) protocol. A network of IRC servers operated by an organization –freenode – that provides services hosts chat rooms for almost all OSS projects for the OSS community. Using the user name ‘geoffb’ – registered with freenode so that I have exclusive use of the name – I conducted all of the interviews and chat room sessions that provide data for this study via freenode IRC servers. The nature of IRC is that individuals can interrogate each other’s on line presence to obtain a small amount of additional information. I set that additional information to read

“www.geoffbreach.com Geek, researcher at UTS.edu.au”

when I was present, and

“geoffb is away, this is his irc proxy (bip) speaking. geoffb is in timezone UTC+1000 (Sydney, Australia) and usually online from around 10am to 10pm local time. please feel free to get in touch via MsgServ ⁴⁶ or email to geoff@breach.com.au. thanks!”

when I was not.

I have used a program called an ‘IRC proxy’ that proxies – acts as an electronic intermediary – for all of my activities on IRC with the goals of, first, automatically collecting and keeping transcripts of all of my conversations and, second, maintaining a presence on my behalf when I am not there so as to continue to collect transcripts in my absence. The IRC proxy software that I have used is ‘bip’, the product of a small OSS project that is hosted on line at <http://projects.duckcorp.org/projects/bip> . Transcripts collected prior to my use of bip – for example during the preceding study – were recorded by whichever program I used to participate on IRC at the time.

The bip IRC proxy, running on a Gentoo Linux server operated by me at my home, has maintained an IRC connection and collected transcripts from the #gentoo technical support chatroom and various other OSS chat rooms with only rare technical interruptions since July 2013.

7.7. Found Data – Forums and Mailing Lists

Consistent with almost all OSS projects, Gentoo also uses mailing lists – a kind of email messaging system that distributes individual messages called ‘posts’ to all participants – for

⁴⁶ A mechanism provided by freenode that allows participants to leave ‘offline messages’ for each other.

quasi-private and low-volume communications, and world wide web-based internet ‘forums’ - a kind of linear and permanent mailing list that takes the form of web pages – for community communication functions. In a sense, a wide range of communication options is provided for different purposes and members choose to participate in whatever arena best suits their present need. Many members participate in multiple or even all arenas.

Like meeting transcripts, Gentoo officially keeps and publishes mailing list and forum posts publicly. Presently, historically complete archives of Gentoo mailing lists are published at <https://www.gentoo.org/get-involved/mailling-lists/> and all Gentoo forum posts are kept on the active forum site at <https://forums.gentoo.org/> .

I collected all published mailing list and forum archives for analysis. Most data that I have used came from the two sources named in the preceding paragraph. Some older mailing list data had been previously collected from a different web site, though the actual content remains the same.

7.8. Found Data – Other Miscellaneous Sources

In addition to the relatively substantial and structured sets of data I have described in the preceding sections, a final important source of additional data takes the form of miscellaneous documents created by members and posted in different places on the Internet according to context. Examples of these include a collection of policy documents – the GLEPs that are akin to legislation and described in Chapter 8 and subsequent chapters ⁴⁷ – and a range of formal documents that include pre-GLEP constitutional documents, and less formal documents such as the official and unofficial memoirs and manifestos – blog posts, web pages and such – of which I present examples in Chapter 8 and examine in detail throughout Chapter 10.

7.9. Managing Data

Naturally the data collected from the range of sources I have just described occurred in a range of different forms and formats. The reader will observe as they proceed through the data analyses in Chapters 8, 9, 10 and 11 that even data from the same types of source – notably interview transcripts – exhibits subtle differences in formatting and presentation.

Because, as I have said, the amount of data collected was vast – some 5.7 million individual mailing list and forum posts and a great many more individual lines of chat room transcripts – and additionally because the data was so sparse in terms of its relevance to this study, the only practical option for a portion of the data analysis work was to do it programmatically.

⁴⁷ See the section titled “*Gentoo Linux Enhancement Proposals*” in Chapter 8.

To that end it was necessary to process the data and translate it into forms that were suitable for storage and analysis whilst ensuring at every stage that the integrity and also the provenance of each piece of data was maintained.

With a view to facilitating automated analysis, I chose to store the data in computerized databases, first using the Postgres OSS SQL ⁴⁸ database server software and later – as the technology had suitably matured, using the MongoDB OSS NoSQL ⁴⁹ database server software. The move to the NoSQL approach was so much more flexible and useful that I have often since said that I “*will never voluntarily write another line of SQL code again in my life*”! The NoSQL document-based approach, adopted by MongoDB and a number of other proprietary and OSS database management systems,⁵⁰ has proven to be a very serviceable tool for analysis of very large amounts of textual data.

I wrote a number of small software programs to collect, parse, transform and import the various tracts of found data that I had collected into separate computer databases pertinent to each class of data so that I had a single large database for forum posts, another for mailing list posts and another for chat room transcripts. In most cases I wrote these programs in the Perl programming language and in some cases in the JavaScript programming language. Small tasks were written and run on desktop computers; all of the larger processing tasks were written for and run on computers configured as servers and running Gentoo Linux.

7.10. Analysis – First Pass

Guided as I had been by David Silverman’s tutelage and his vast catalogue of works on qualitative research, there was never any question that a first step would be a thorough and detailed textual analysis of the primary sources of data. Those sources, specifically, were first, the transcripts of the interviews I had conducted in respect of this study, second, also those which I had collected in the prior ‘lead users’ (Breach & Jenkins 2007) and third the collection of transcripts of monthly Gentoo Council meetings from 2005 to late 2016 (noting that I did not

48 Structured Query Language, a standardized language for querying – searching, processing and analysing – highly structured data that has been stored in an SQL capable database called a ‘relational database management system’ or RDBMS.

49 NoSQL is a newer approach to database management systems that stores data using techniques that are vastly more adaptable and flexible than the RDBMS approach and that uses a querying approach that is, as the name suggests, not SQL.

50 See, for example, the Apache Cassandra DBMS that is said to be significantly faster than many others, and also other well-known ‘document-based’ DBMS ‘MongoDB’ and ‘Apache CouchDB’.

attend meetings for eleven years, rather I had access to eleven years of accumulated ‘found’ data in the form of transcripts of meeting at which, for the most part, I was not present).

In all, approximately one hundred and thirty primary documents, each representing either a formal chaired Council meeting of typically between 90 and 120 minutes in length, or a one-on-one interview between myself and a participant that ran for between two and five hours. Some interviews, as I have said, were constituted of more than one meeting.

In a few cases, individual participants who were represented in the transcripts of Council meetings had also been kind enough to permit me to interview them privately, so I had the additional benefit of a number of opportunities to cross reference representations made by certain individuals in multiple contexts, in meetings and in interviews and in some cases also in other secondary data.

Applying principles and techniques set out by Bazeley in her *Qualitative Data Analysis: Practical Strategies* (2013) and *Qualitative Data Analysis with nVivo* and (Bazeley & Jackson 2013), I began by separating the raw documents into groups according to their type and applying a ‘clean up’ kind of approach to formatting the documents consistently.

This application of consistent formatting is appropriate because the various means by which all of the documents were recorded and subsequently presented have applied their own various approaches to formatting subsequent to the original creation of the document. The presentation of conversations – both meetings and interviews – is affected by the choice of software that each participant and observer makes and so each document will have artefacts of presentation that were not in the original texts as made by the participants. The nature of the process by which the original interview and meeting transcripts are created, conveyed and collected is such that there is no expectation on the part of participants that anything other than what is known as ‘plain text’ will be transmitted. Any formatting that participants may have sought to include in their original writing can not be reliably inferred in the resulting transcripts in any case. For these reasons, a normalizing ‘clean up’ of document presentation is appropriate.

I imported each of the primary documents into nVivo software in separate categories according to ‘case type’ (Bazeley 2013) and set about conducting a serial analysis and re-analysis of those documents. First, per Bazeley and Jackson (2013), I made a series of relatively informal pre-reading passes – I pre-read all of the interview transcripts and a selection of the meeting transcripts – so as to identify broad themes occurring within the documents. I kept written notes and made diagrams setting out an initial broad structure for subsequent passes. I used these pre-readings and resultant notes to construct an initial structured coding system by way of a set of themed nodes and sub-nodes in the nVivo software.

7.11. Building a Working Themology

The pre-reading and first-pass analysis of the interview and meeting transcripts were used, as I have said, to draw out a broad set of notions, concepts and issues treated in those documents and to translate those into a broad structure with which to proceed.

Noting that, of course, I entered this process with a predominance of training in organization theory, so like the man with a hammer whose whole world is a nail, it is inevitable that the things that would stand out to me would be notions of work and organization and accompaniment fields. That is perfectly all right, though, so long as my methods assure that what I see is real, then finding what I set out to look for must be a good thing!

With this ‘hammer’ in my hand, the data quickly presented itself for alignment with four key categories. I drew out indications of the *Interview* – and subsequently the context and nature of other sources – itself, presentation of notions relating to the *Motivations* of participants, indications of the *Roles* that individuals played in what I considered at this point was a notional organization and, a rather large category of notions and indications relating to *Organization*.

7.11.1. Talking about... Interview

The nature of the interview, as I have said, was a matter of methodological interest in its own right. In conducting interviews electronically via the public Internet, certain characteristics emerged that were different from those one might expect to see in a more ‘conventional’ face-to-face interview.

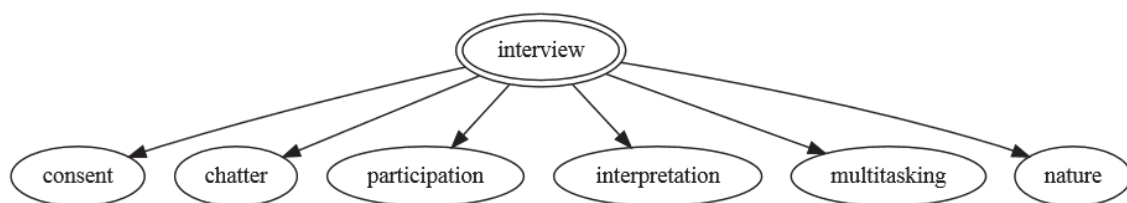


Illustration 1: Principle themes of the Interview itself

All interviews, naturally, broached the topic of *consent*. In many cases, individual participants took the part of the discussion relating to consent to avail themselves of the opportunity (by my invitation) to pose questions of their own about the nature of the research and its goals, and so attempts by interviewees to form their own *interpretation* of the research were regular and overt.

Notably, a substantial portion of most interviews took the form of ‘meaningless’ chatter. When I say meaningless, I mean that it might seem subjectively meaningless in relation to the purpose of the study. A sociologist knows, of course, that chatter, humour and an exchange of

understandings, shared ‘in’ jokes and such is an important part of building a relationship between individuals and that it may ‘grease the wheels’ for subsequent discussion.

The broad *nature* of the interview categorized features such as schedule, timing of responses vis-a-vis questions, the way in which sub-threads of conversation would emerge such that the single conversation may exhibit multiple simultaneous threads of topic and conversation and other similar features. The context of *participation* proved to be varied and interesting in that some people participated whilst explicitly performing some other task such as working, attending a meeting, watching television or in one notable case, minding children. As such, *multitasking* was a persistent feature of these interviews and, if anything, directed and single-focused participation in interviews was quite unusual.

7.11.2. Talking about... Motivation

Noting that, as I have previously observed, the motivations of participants in OSS is a focus for a great deal of the literature on OSS, it would be remiss of me not to consider those factors here. As the reader will have seen already, and will further observe in subsequent chapters, I do attend to the notion of motivation in this book, but I do so in a more deeply sociological way, after Mills’ (1940) and Ng’ (2014) approaches rather than the generic ‘why do they work for free?’ nature of much of the existing literature.

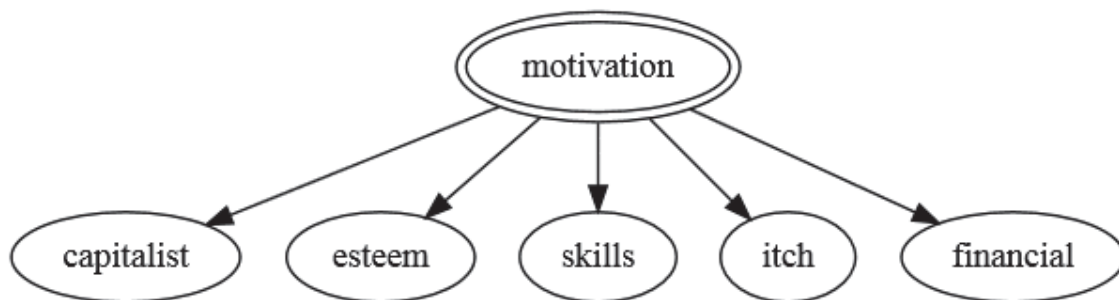


Illustration 2: Principle themes relating to motivation

In the initial interviews, I did explicitly ask participants about their reasons for participating in OSS. Their answers were virtually always consistent with what have become ‘standard’ findings of the ‘motivations’ research in OSS. This led me to consider whether these were true motives at all, since the standard scripts are widely shared and understood and it quickly became apparent that individuals were operating from Millsian (1940) ‘vocabularies of motive’ rather than necessarily being aware of or voicing their true influences.

Perhaps contrary to the prominent Marxian and philanthropic narratives, many individuals quite openly conceded that they were working with OSS for direct and indirect financial and capitalist

reasons. Some worked with OSS as a primary source of income, others worked with OSS as a way to build skills and reputation so as to facilitate earning of an income. The notion of the personal *itch* and the building of esteem in the service of others became key themes for this research.

7.11.3. Talking about... Role

Exactly what people *do* in the course of their work in OSS is very interesting in its own right. The role of *user*, people who makes no tangible contribution to the OSS project apart from making use of the produced software for their own purposes play a remarkably important role in OSS.

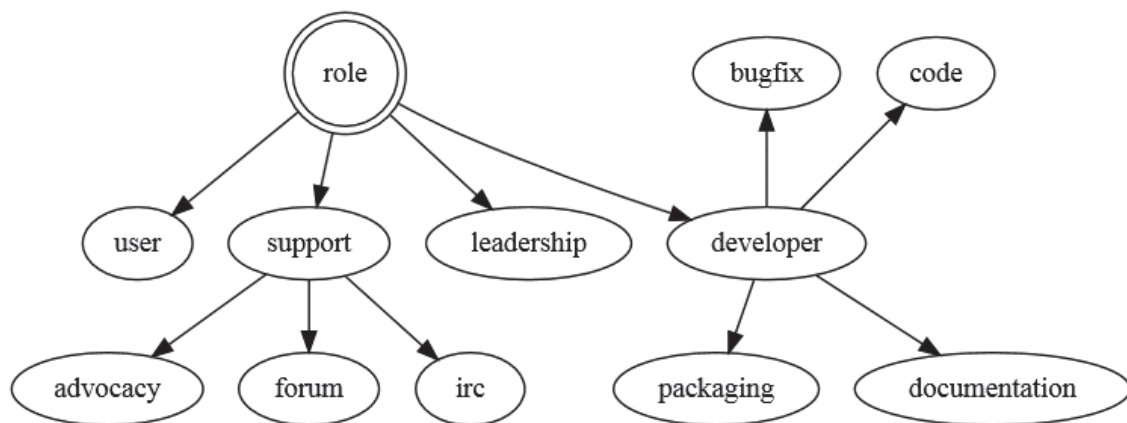


Illustration 3: Principle themes relating to individuals' role in the organization

The role of *developer* is interesting for a number of reasons. First, whilst it is the most visible and ostensibly a most important role, the *user* is privileged before the developer, at least in stated objectives. Developers do more than simply write software code, too. Many interviewees told me that they started in OSS by fixing bugs – repairing broken software code – rather than writing new software code ‘from scratch’. The *bugfix* role is an important way of proving one’s ability and building reputation. While *documentation* can be regarded as a less interesting task, a small band of individuals make a valuable contribution by writing instruction manuals, web pages and other documents to assist users of the software. Those who work at testing the software and packaging it for distribution also play critical roles.

7.11.4. Talking about... Organization

Given that the ‘hammer’ I carried whilst carrying out this research was of organization theory, it is inevitable that the most prominent – to me – features of the organization would be these. The

valuable opportunity to observe a somewhat mature organization from its inception gives a solid historical grounding and a clear history of the way in which the organization structure formed and transformed to what it is today. The roles of individuals as I have discussed in the preceding section, and how they and their leadership manage identity – their own and others’ – has become an important factor.

The nature of change, particularly as it arises from conflict and the empowerment – in ways and contexts that are different to more ‘conventional’ organizations – of those who create and respond to conflict has developed into one of the most important themes of this work. References to community and comparison between this organization and commercial organizations were common, though I think this again was more evidence of a vocabulary of motive (Mills 1940) at play and less valuable as a theme in its own right.

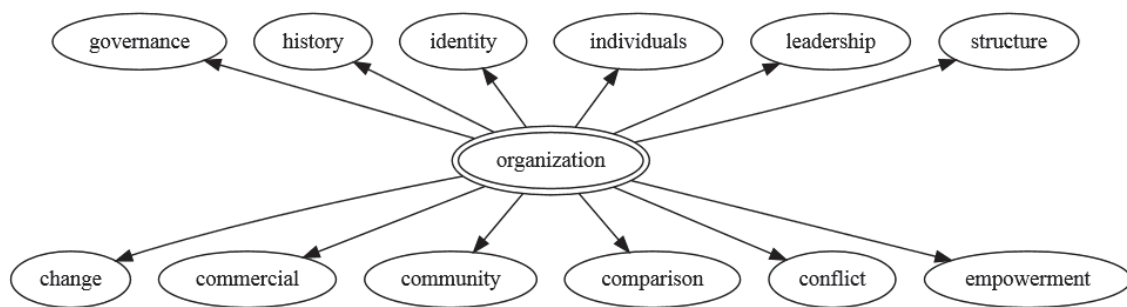


Illustration 4: Principle themes relating to organization

7.12. Further Analysis – A Second Pass

With a broad structure established I began a methodical coding of each of the documents. In some cases new themes would arise and I would add additional nodes to the structure, then re-assess already coded documents to ascertain whether any new nodes might apply. I read and coded the present set of interviews first, then all of the meeting transcripts second, and the interviews from the prior studies third. Treating present interviews as the principle source, I re-assessed and re-coded them in a final pass.

As I proceeded through these processes of reading, assessing and coding, I also kept written notes of key points made by participants, details of events that I would later cross-reference to other sources, pointers to particular sections of transcripts that I considered would be useful exemplars for the writing-up stages, notes of my own thoughts and interpretations in respect of the ethnographic and interpretive processes, and other pertinent details as they arose. These notes

would subsequently serve as a point of reference throughout the rest of the analysis and writing-up phases.

The themes drawn out and developed during this first analysis phase form the basis for subsequent analysis phases and, of course, a basis for the structuring of the analyses presented in subsequent chapters herein.

7.13. Evolving the Working Themology

Whilst the broad themes established during the ‘First Pass’ presented in sections 7.10 titled “Analysis – First Pass” and 7.11 titled “Building a Working Themology” above, formed a basis for subsequent analysis, those themes naturally evolved as a worked my way progressively deeper into the data and as my understandings of the data grew. The original four broad themes for analysis expanded into separate sets of themes for analysis and for interpretation before again contracting to the final smaller set as it is resolved in the results presented in Chapters 9, 10 and 11.

Most notably, an interpretive thematic category emerged to classify the nature of the *Language* that people used in their various communications and, naturally, the thematic category relating to *Organization* expanded even more.

7.13.1. Interpreting Language

I made note in Chapter 6 of the heavy reliance of ethnographic research on unspoken communications and the concomitant risk that, in research such as this where there are no face-to-face interactions, be it between interviewer and interviewee or even between organization members, as I said, “the data, or interpretations thereof, may lack dimension and depth”. In a context where we set out to understand the motivations of individuals and to distinguish variations between expressed motivations and enacted motivations, close attention to the words that they use is, arguably, even more important than ever.

For that reason, a thematic understanding of the ways in which the participants speak is of great importance. At the conclusion of the second-pass examinations of the interview meeting, chat-room transcripts and other data, one of two major evolutions in the working themology was of a far more nuanced examination of the ways in which people spoke.

Whilst language used by participants, particularly in forum posts but also in meetings and chat-rooms, was often conflictual, regular injections of humour – particularly by way of references to shared understandings and in-jokes – is equally common. Humour may be a means by which the absent visual cues I have discussed are replaced by other mechanisms designed to ensure that

tone and intent are properly conveyed when cues present in face-to-face communications are

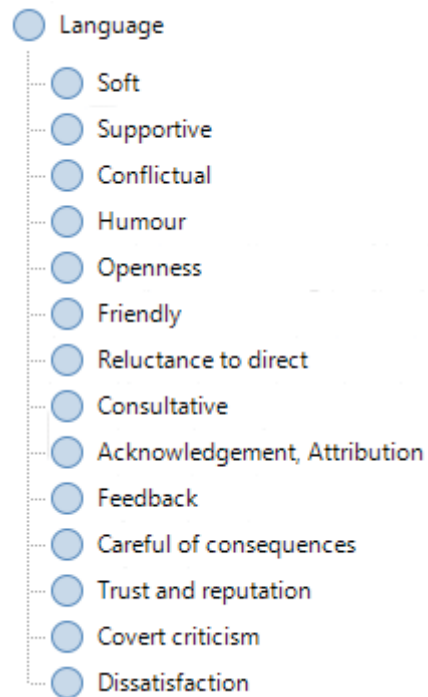


Illustration 5: Principle themes relating to use of language in communications where face-to-face cues are absent

absent.

In addition to insertion of compensating cues such as regular overt use of humour, other themes also become clear. Stated organization goals of openness and consultation are represented in communications; these people do in fact ‘practice what they preach’. Managers are, consistent with stated ideals, careful to maintain trust, take care to credit authors of works where appropriate and take great care in making decisions. A marked reluctance to give directions without broad support is regularly visible. All of these examples are drawn out in further detail in the data analysis chapters that follow.

7.13.2. Reading Organization

There are a great many ways to ‘read’ organization, and a step outside any pre-established paradigmatic approach to interpretation will likely enable unique new insight (Rhodes 2001b, 2000b). Noting again the heavy reliance that this work places on written words in the absence of

other communicative cues, the evaluations of the textual data expanded to provide a deep and nuanced array of sub-themes to the principle theme of organization.

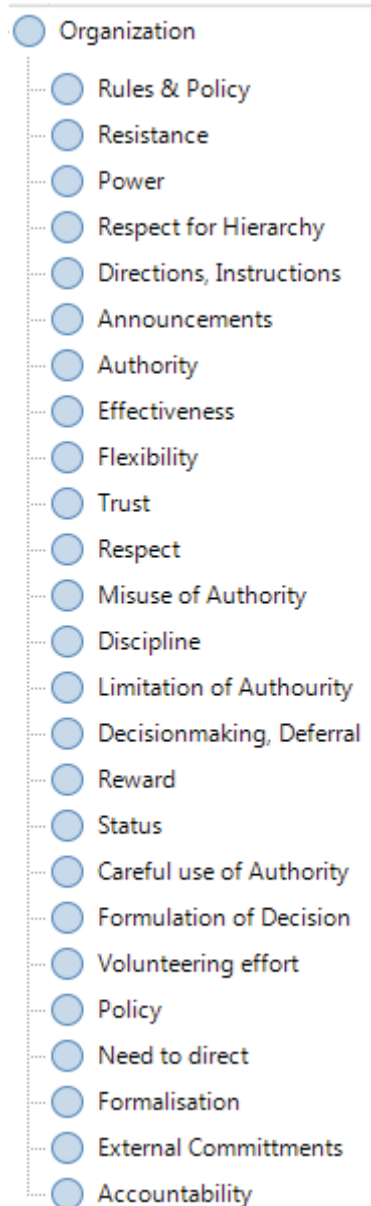


Illustration 6: Principle themes relating to organization

The reader will immediately recognize an array of themes that are consistent with Weber's (1978) enumeration of organizational features that, in concert, constitute bureaucracy. Identifying these features in the Gentoo organization forms the basis for my claim that Gentoo is in fact a bureaucratic organization.

Concomitant with those classically or conventionally bureaucratic features, an additional array of features emerged that are unique to Gentoo, or at least more strongly present in Gentoo than one might expect in a more conventional organization. Identifying these features in the Gentoo organization provides a foundation for the analysis leading to my claim that Gentoo is an organization particularly suitable as a site in which to examine the role of genuinely positively productive resistance in organization.

One important type of note that I recorded was a collection of examples of segments of text that well represented conversational references to the nodes and themes that I had coded. These conversational references would serve as the basis for an initial training of the software I would write to execute second-pass analysis of the larger tracts of secondary data.

7.14. Analysis – Writing Code to Analyse Data

A second pass of data analysis designed to identify documents within the larger tracts of forum and mailing list posts and public chat room conversations that would provide supporting and potentially disqualifying evidence as a mechanism of triangulation. These collections of documents were, as I have said, extremely large and so any undertaking to examine them manually would have been such a considerable task as to be absurd. I introduced in the latter sections of the preceding Chapter an intention to use computerized textual analysis to examine data, a decision that I had taken after Professor Hugh Willmott encouraged me to find ways to make this work fun. It is here in respect of the large secondary tracts of data that I applied these processes.

I wrote, with a degree of trial and error, computer programs to apply the Bayesian Analysis method to the data I had collected and prepared. I say 'trial and error' because in some initial attempts, the techniques simply did not work.

Because I had loaded the data into a MongoDB database and because that software has a capacity to be programmed for data analysis using a subset of the JavaScript language, I wrote much of the data analysis code in JavaScript. Additionally, because Perl is a programming language with which I have far greater experience and thus familiarity, I wrote some code in Perl. The nature of the languages and in particular the mechanisms by which they are interfaced to the MongoDB database meant that code written in JavaScript was significantly faster, and so once I had developed effective techniques using a small subset of the data collections for speed of development, I coded them in JavaScript for execution on the entire databases.

I experimented with other techniques in addition to Bayesian Analysis. One approach that I took was to use ‘tokenizing’ methods – tokenizing is the process of splitting documents into sections, typically individual words – to break documents down for word and phrase count, and word and phrase frequency analyses. These approaches were largely unsuccessful in that they failed to reveal trends that were sufficiently significant to warrant further analyses. I abandoned these alternative approaches.

One reason, I think, for the failure of count and frequency analyses that have proven useful to other researchers in other contexts is that of the sheer sparseness of the data that I had collected. Given as it were a vast collection of communications and conversations about matters relating to the production of a computer operating system, the texts were, as one might expect, absolutely and almost entirely comprised of communications about purely technical matters. Efforts to identify data that was interesting to this study by these techniques were fruitless.

It is important to note that, consistent with good programming practice and usual OSS practice, I wrote none of the software described herein in its entirety. In a practice consistent with the assembling of programs written by third parties that I have described in Chapter 5, I wrote all of the programs I describe herein by using libraries – a kind of sub-program that provides useful and generalizable functionality – authored by other people and adapting their functions to suit my needs. In carrying out the abandoned textual analyses I describe in the preceding paragraphs, I used ‘tokenizer’ libraries such as the nodejs ⁵¹ ‘NaturalNode/natural’ ⁵² library that is itself a product of a small OSS project that provides a very nicely comprehensive set of pre-made functions for a range of established textual analysis techniques that are, even more nicely, supported by and explicitly linked to relevant scholarly works in computer science and natural language processing fields.

Bayesian Analysis, as I have said in the preceding Chapter, is a remarkably simple technique in both algorithmic and programmatic terms that, despite its nature as a somewhat ‘blunt instrument’, performs so quickly that it is on balance surprisingly useful. Again, as I have just explained, I did not write the code for Bayesian Analysis myself, rather I used libraries written by others and published as OSS to provide key functionality, and adapted their functions to my specific circumstance. In fact, the ‘NaturalNode/natural’ library that I described in the preceding paragraph provided not only tokenizing functionality but also a range of other natural language processing tools including a logistic regression classifier and the Naive Bayesian classifier function that I used in this work.

51 nodejs or ‘Node.js’ is OSS software, a ‘JavaScript runtime’ tool designed to execute JavaScript programs on computers and servers. JavaScript was originally a language designed to run only within web browsers; nodejs extends the functionality to other contexts.

52 See <https://github.com/NaturalNode/natural>

The usual process for classifying documents using Naive Bayesian Analysis is to ‘train’ the software by providing it with a collection of examples of the types of documents one hopes to discover and, for best results, a second collection of examples of the types of documents that one *does not* want to find. In context of searching for unwanted electronic mail, these two collections are commonly referred to as ‘spam’ – unwanted – and ‘ham’ – wanted. The nature of the Naive Bayesian technique is that it is actually possible to provide multiple – more than simply ‘wanted’ and ‘unwanted’ – sets of examples to train the classifier. In fact, notions of ‘wanted’ and ‘unwanted’ are constructions of which the classifier function has no conception; its role is to simply group documents into classes and how each class is subsequently treated is a separate matter.

Because the collections of secondary data that I used were so large, processing times that would extend to periods of hours and even days were inevitable. I created small subsets of data to work with in developing and tuning the approaches I used before ‘turning loose’ my code on the full collections. I wrote web-based categorization tools that allowed a rudimentary ‘graphical’ approach to selecting sample data for training using the Meteor JS ⁵³ framework.⁵⁴

7.15. Data Analysis – Second Pass

By way of an iterative process of training the classifier software with the initial samples of data I had collected in the first pass of analysis, evaluating the results, training with additional samples and tuning parameters, and re-running classification passes, the second pass analysis was able to select documents from the vast collections of otherwise largely uninteresting (to this study) data with a degree of reliability. Because the purpose of the selection process was as much about developing an interesting and fun technique as it was about providing secondary data to support efforts at triangulation, I made no attempt to use statistical techniques to quantify the success, or otherwise, of the classification techniques.

In practice, the approach had varied levels of success dependent on the nature of the data it was directed to analyse. In particular, it was almost completely ineffective when directed to analyse chat room transcripts. My assessment is that the very short lengths of each ‘document’ presented for analysis did not present enough per-document data on which to base any sound classification. By ‘document’ in context of chat room conversations I mean the very short – typically no more than ten or twenty words long – sentences that individuals type out and send in a live conversation with many participants. Given that the underlying foundation of the Naive Bayesian technique is to split documents into individual words, count those words, then make algorithmic

⁵³ See <https://www.meteor.com/>

⁵⁴ A framework is a kind of collection of libraries that provides an entire mechanism, typically aligned with an established computer programming methodology, for building complex computer programs.

comparisons between presented documents and trained documents, the technique, at least as I implemented it, was ineffective. It appeared that small documents simply did not provide enough ‘bulk’ for effective training and classification.

The process was considerably more effective when directed to analyse larger documents such as mailing list and forum posts that were typically one hundred or more words in length. When trained, tuned and refined the classifier was able to select documents that presented useful support for the verification and triangulation process and was able to identify documents that were consistent with training samples.

7.16. Analysis – Verification and Triangulation

With hindsight, it might be said that the elaborate processing, training and classifying of the vast collections of secondary data was unnecessary. Whilst, as I have said, the process was effective for larger documents, it has not made a substantive contribution to this work. In practice, the value of the interview transcripts and the meeting transcripts was such that they were of the most value for this work. The combination of my own long experience of working with computers, the OSS movement and Gentoo combined with my progressive building of knowledge of the data in accordance with the injunction to “*handle your own rat*” (Frost & Stablein 1992, p.75) meant that by the time I had neared the end of the data analyses processes, I had learned ‘where to look’ for verifying and supporting (and disqualifying) data by using basic search tools as quickly, if not more so, than the classification processes. With the benefit of hindsight I think that, while the process was interesting and fun, it would be more suitable in situations where high quality primary data was not available.

As I have said, I had the benefit of being able to interview some individuals whom I was also able to observe ‘in action’ as members of Council and almost all interviewees were observable in some second context such as in mailing list or forum posts or in chat room transcripts. As such, I was able to verify interview data – in which participants knew they were being ‘watched’ – with other contexts in which they participated ‘normally’. In this way I benefited from a key advantage that Mead (1961) did not have, I could observe my subjects in contexts where they were unlikely to seek to mislead me. Certainly in historical cases where supporting data pre-dated interview data, this would always be the case.

The fourth source of data, the ‘other miscellaneous sources’ that I have described, proved to be invaluable as sources of information with which to verify and triangulate. They allowed such approaches as comparisons between documented rules and policy and actual practice, and between expressed motives, actual practice and subsequent explanations. Many of these documents are cited and quoted in the analysis Chapters.

A final method of verification, adopted in partial response to the ethical concerns raised by Wray-Bliss' (2003b) and to effect commitments that I made in applying for ethics approval, was to seek feedback from participants.

7.17. Taking Feedback

One longer-term means of verification that I employed was, as I have said, to re-engage with participants with whom I had engaged during my previous works. That approach allowed for longitudinal verification and comparisons with that small number of long-term participants.

Wray-Bliss' (2003b) broad ethical concern was, in short, a concern that as researchers we execute a kind of power over our subjects when we study them by virtue of our status as the 'white coat' wearing researchers⁵⁵ standing over them as we question and observe, but additionally once we have collected our data we effectively 'walk away' and do with that data what we will, without ever returning to test our findings against those who were kind enough to let us watch.

To attend to these concerns I took a series of additional steps. First, by arrangement I returned to certain interviewees on occasions subsequent to the formal interviews to ask additional questions, to qualify and test my interpretations, and so on. Second, I provided near-complete copies of this document to two members of the Gentoo organization and three other members of the broader OSS movement with instructions to "read as much or as little as you see fit" – knowing that much of the theoretical work would be uninteresting and possibly unintelligible to them – and to "let me know what you think I have right, wrong or have missed".

Noting, of course, that practitioner feedback to a scholarly work may not, with respect always, be valid or useful in the analytical context, I have incorporated herein the feedback I have received as it was considered appropriate and helpful.

7.18. Representing Organization

When Clegg presented his *Power, Rule, and Domination* (1975) thesis, he presented his interpretations of his data and, so as to allow his readers the opportunity to make their own evaluations, included substantial portions of his empirical data – predominately transcripts of tape-recorded meetings and interviews – in the text and in appendices to his work. This is what Silverman referred to as giving the reader a chance to evaluate the "*intellectual baggage*" (2015, p.ebook) that we bring as authors to our writing.

⁵⁵ The 'Hawthorne Effect' (Landsberger 1957) is, of course, relevant here.

It is not necessary in this book to include empirical data in an appendix because much of the data to which I refer is published in its original forms on the public Internet. To achieve the same goal that Clegg (1975) and Silverman (2015) advocate, I include footnotes with links to the original sources in each case where the sources I quote were sourced online. In cases where I have edited a quote for brevity, I make a note to that effect in the same footnote. Where my quotes are taken from interview transcripts or other private sources, I have sought to include portions of the transcripts that are sufficiently large as to give them context. By these measures, I anticipate that readers of this work will have sufficient information to assess my interpretations and to draw their own conclusions as they see fit.

7.19. Writing Organizations

This book was composed in its entirety using the LibreOffice Writer word processor.⁵⁶ Scholarly sources were collected, sorted, annotated and stored using the Zotero research tool.⁵⁷ Zotero operates as a ‘plugin’ to the Firefox web browser⁵⁸ and it is also available in a ‘stand alone’ version. In-text citations are inserted and the reference list generated automatically using the *Word Processor Plugin for Zotero for LibreOffice*.⁵⁹ Annotations and highlights made on PDF documents are imported to the Zotero library using the ZotFile plugin.⁶⁰ The final PDF version of this document for print and distribution is generated directly by LibreOffice Writer. All of these software tools are available for Microsoft Windows, Linux and Apple Macintosh computer systems.

7.20. From Means to Ways

Where the preceding chapter set out, assessed and selected appropriate methodologies for this study, this chapter has described the means and processes by which those methodologies have been applied practically to produce this work.

In the hope of providing a more comprehensive background to this work than a list of ‘references’ could provide alone, and to acknowledge those to whom credit is due, I set out a bibliographic record of the influences and influencers that led to this point. By an astonishing

56 LibreOffice is an OSS equivalent for the Microsoft Office suite, see: <http://www.libreoffice.org/>

57 Zotero is an OSS tool that vastly exceeds the capabilities of the proprietary EndNote and Mendeley reference manager tools. Note that Mendeley is distributed free of charge but it is *not* Free Software or OSS. See: <http://www.zotero.org>

58 See: <http://www.mozilla.org/firefox>

59 See: https://www.zotero.org/support/word_processor_plugin_installation

60 ZotFile is OSS. See <http://zotfile.com/>

array of good fortunes and great kindnesses I have enjoyed an introduction to organization theory greater and more comprehensive than I could possibly have anticipated; I have a great responsibility now to do them all justice!

By a combination of good fortune and careful planning I have been able to invoke my prior works in terms of initiating data and access to participants. Primary empirical data in the form of conducted interview transcripts and found (Silverman 2005) meeting transcripts provides the foundation for the analyses made herein, and they are supported and able to be verified by way of additional found data in the form of chat room transcripts, mailing list and forum posts and other Internet sources.

Qualitative analysis conducted principally in accordance with Bazeley's (2013; Bazeley & Jackson 2013) advice and nVivo software is the basis on which core themes are established and developed. Computerised analysis using Naive Bayesian Analysis to select supporting material from vast collections of found data provided an additional basis for triangulation, albeit one of relatively little value in this instance. Insofar as has been practical and possible, work to carry out this research and to compose this book has been executed using OSS.

With this explanation of how this research was developed and carried out, we turn now to the empirical site for this research, the Gentoo Linux Project.

8. Only Penguins – Organizing Gentoo

“After us, there’s only penguins”

(Anonymous Tasmanian bush philosopher, in Clegg et al., 2000)

8.1. Two Objectives

This chapter serves two distinct purposes. First, it follows on from the introduction in Chapter 6 of Open Source Software (OSS) as a field and a practice to present the Gentoo Linux Project (Gentoo) as the specific empirical focus of this study. Second, because the process of presenting Gentoo in itself serves to address the first research question and does so in part by way of examining the empirical data, it serves as a transition paragraph that meets two purposes. For that reason, I have taken the decision to locate this paragraph after the methodologies and methods presented in Chapters 7 and 8 respectively, though as I have said previously, it may suit the reader to appraise this chapter before the preceding two.

The examination, presented in Chapter 2, of the development and the apparent rise of the bureaucratic form arrived at the conclusion that whilst new approaches to organizing have emerged, particularly in light of the development of new technologies that permit those new approaches, we have not managed to establish that the bureaucratic form itself is at all in decline, and much less that it has disappeared or otherwise been supplanted. To the contrary, the discussion of Courpasson and Clegg's (2012) in Chapter 3 demonstrates that bureaucracy is alive and well; it is evolving, certainly, but not dying. In that light, this chapter seeks to address the first research question, constructed in Chapter 4, which is as follows:

1. How does the Gentoo Linux Project organize, and to what extent have resistant acts from within the Gentoo Linux Project contributed to the form of organization that has been adopted?

We know that elements of bureaucracy will present, or not, independently of the underlying economic premise on which an organization establishes or of the society within which it exists. In discussing Labour Process Theory and its role in resistance theory in Chapter 3, certain Marxian elements are introduced that might be seen as having better fit within a noncapitalist economic setting. As this analysis proceeds it will become clear that certain aspects of the Gentoo Linux project (Gentoo) are more in keeping with Marx's goals for socialist and communist organization than they are capitalist. The economic premise is largely disregarded herein, therefore, and we search for elements of bureaucracy – or lack thereof – regardless.

With these points in mind, the approach we take to addressing the first research question presented in Chapter 4 will not be to ask *“Is the Gentoo Linux project a bureaucracy, or not?”* but rather *“To what extent does the form which the Gentoo Linux project has adopted correspond*

with the formal definitions of bureaucracy that we have considered?”. To achieve that goal, this chapter presents a linear history of Gentoo from its inception to the present day highlighting along the way particular artefacts and events that frame the principle interests of this research, these being organization and resistance. In approaching this research question it should be evident that the key source of data for some parts of this examination is simply the public record, if only because Gentoo is so open, operating with much of its internal mechanisms and processes visible and public. Many historical events are essentially uncontested and in some cases explicitly agreed upon by participants, and those events are reported herein as the public record shows. Thus, at one level, this is a story of a relatively unremarkable organization that began with a very small number of members and very little formal sense of organization. As one might expect, as it grew it adopted increasingly complex organizational structures and processes, something that is in most respects unremarkable if only because, analytically, we should expect organizations to increase in complexity as they grow in size and to respond to that complexity with bureaucratic measures (Pugh, Hickson & Hinings 1969). The challenges faced by growing organizations are well understood and not a particular point of interest for this study except insofar as the perhaps inevitable conflicts that are concomitant with growth explicitly effected the organization as it exists today.

It is important to point out that it is not intended to present a comprehensive linear history of the organization; what is of interest is how resistant acts from within have shaped the organization's history as it has been recounted to me by participants and as I have observed in the documents and published conversations that are available. In much the same way that I acknowledge at the beginning of Chapter 5 that my account of the inception of the Open Source Software (OSS) movement will be seen as myth by some, I expect that my account here will again vary from that which others have seen. I adopt the approach taken by Clegg (1975) by making materials available or, where appropriate, providing the reader with directions to where the materials may be found so that the reader has the opportunity to view the materials and independently assess my interpretations.

As I have said at the beginning of this work, this is a study of organization, not of technology, of people, not of computers. It is inevitable, however, that some discussion of technology must creep in from time to time. Gentoo, as I will show, is an organization that makes heavy use of the very technology that it produces and much of what people do day-to-day occurs within technological systems and constructs. There is within Gentoo evidence of the embedding of rules within technical systems that Heydebrand (1989) observes. Gentoo does adopt some particular terms that are, if not unique to Gentoo, at least unique to the OSS movement and so, to assist the reader, I will begin with a broad overview of the organization, an account designed to introduce the reader to the structure and terminology of Gentoo. Not all of the factors I will introduce are directly relevant to an organization focused examination, and some of the structural factors develop and change over the life of the organization, so the reader is asked to take this part of the

discussion as introductory, with the promise that everything will be more thoroughly developed as the chapter proceeds.

Gentoo is remarkable for the form it has assumed as it has grown, as well as for the causal mechanisms and processes that have effected the organization as it exists today. The organization began with a single participant leader and a small number of members on equal footing with each other in a flat structure that could barely be described as a hierarchy at all. Over time, as the size of the organization has grown, so too has its degree of complexity. Gentoo has become a large organization with many elements that are consistent with Weber's (1950) specification for bureaucracy and with some elements that are not. Structurally this chapter begins in ultima res with a detailed description of the organization, as it has evolved to exist today, so as to attend to the first part of the research question “*How does the Gentoo Linux Project organize*”. Once that is completed, I ‘flash back’ to the inception of the organization, detail relevant pre-history then narrate key events that led the organization to adopt the form as described, identifying relevant resistant acts along the way.

8.2. The Gentoo Organization Summarised

In presenting the Gentoo organization and the process of development from inception to present day, I will present detailed examinations of a number of inter-linked and mutually dependent parts of the organization. To assist the reader, I begin by offering an introductory description of the organization as a whole. The principle organizational features of Gentoo are the Gentoo Foundation, the Gentoo Social Contract, the Gentoo Council, projects, Portage, herds, ebuilds, developers, bugs, users and the community. Some of these items are people or groups thereof, others structural, and some are products.

The Gentoo Foundation is a formal legal entity that is a registered organization in the United States. The function of the Foundation is predominately to isolate functions that are necessary but not central, to the organization from the day-to-day running of the organization:

“The Gentoo Foundation decouples necessary bureaucracy from development, providing faster and higher quality results as the developer can now focus his attention completely at the community and his responsibilities (being software, documentation, infrastructure or others).” (Vermeulen & Shields 2005)

The Gentoo Foundation charter describes the 'bureaucracy' as functions relating to financial care-taking, oversight and maintenance of legal issues relating to intellectual property and assuring adherence to the Gentoo Social Contract, a document which sets out goals for the organization and appropriate conduct for its members.

“This social contract is intended to clearly describe the overall development policies and standards of the Gentoo project development team” (Gentoo 2002)

Whilst the Gentoo Foundation is in effect the legal core of the organization, noted here for completeness, the activities that are of most interest to this research – resistance and its ensuing effects – occur for the most part in other parts of the organization. For that reason, the Gentoo Foundation will be barely mentioned again. The Gentoo Council, its members and its influencers are of far greater importance to this research.

The Gentoo Council is an elected representative body that has authority to make decisions on issues that affect the whole of the organization, on policy and on appeals from certain leadership decisions.

“The elected Gentoo Council decides on global issues and policies that affect multiple projects in Gentoo. It also serves as an appeal court for disciplinary decisions. The Council members are elected for a year and must hold monthly public meetings.” (Gentoo 2010)

The term packages refers to software packages, individual items of software that, when combined with hundreds of others, makes up the Gentoo system. Packages are akin to the individual food items in the meal metaphor. Each individual version of each individual package is represented by a document called an *ebuild*, a specification for an individual computer program. An ebuild describes the nature of a computer program, where the source code for that program may be retrieved from, methods for confirming authenticity of source code, the process by which that source code may be compiled, what other programs – dependencies – are pre-required for the program's proper operation and how it should be integrated into a Gentoo system. To again apply the food metaphor, an ebuild is a recipe, instructions for making a package. Collections of functionally related ebuilds are grouped into *herds* – a label given to groupings of computer programs that are in some way related – for practical purposes.

Projects, one of the most important constructs in Gentoo, are groupings of people, in some respects akin to a department in a bureaucratic organization, in that they assemble on a permanent or temporary basis to attend to particular explicit projects. Some projects have a responsibility large enough that delegation of some functions to sub projects occurs. The structure of a sub project is typically similar to that of a project. Some of these projects and sub-projects relate to producing particular sub-sets of the computer software that makes up Gentoo Linux, others are administratively, infrastructurally or communicatively related to the projects. Projects that form to manage particular software-related functions – the majority of Gentoo projects – will typically have ownership of one or more herds and in this way the operational structure of the organization is often mirrored by the instrumental structure of the collection of software it produces. The complete collection of ebuilds in their respective herds, constitutes a library of detailed instructions on how to build every possible component of a Gentoo Linux system and is called Portage. Portage is effectively the core product of the Gentoo project and the focus of much of the work that takes place. The Gentoo Council, described above, is itself a

project. Projects have members – individuals who contribute effort – and one or more *leads* – individuals who have leadership and decision making functions. In some cases, projects have no appointed lead. Internally, each project is largely autonomous.

Gentoo developers are individuals who have been awarded *commit* rights to Portage and to documentation files that make up the Gentoo Linux computer operating system. To have commit rights means that one may directly apply updates, changes and new additions to the master collection of computer software and documentation without being subject to a case-by-case approval process. Developers are akin to employed staff members in a conventional organization in that they have met certain selection criteria and have been formally inducted into the organization.

In computer programming terminology, a *bug* is an apparent and often unexplained flaw in a computer program that causes it to behave in a manner other than expected. Gentoo adopts this principle of nomenclature but also extends the term to refer to all issues that require some sort of attention. A centralized bug tracking system notes all issues, assigns responsibilities and records progress and issue status. The bug tracking system is a key example of the embedding of rules into processes that I alluded to in the introduction to this chapter. Gentoo members regularly refer to *bugzilla*, a computer program used by all members to record and track bugs.

Finally, *users* are the people who, with or without formal membership of Gentoo, make use of the Gentoo Linux system. Collectively referred to as the Gentoo Community, users are explicitly identified in various documents as being of core importance to Gentoo. The importance placed on the user by Gentoo is notable, for the term, or rather the people, that the term describes, are met with some ambivalence in the broader information technology (IT) industry.

With Gentoo broadly summarized, further detail on key functions is appropriate. I begin with the feature from which most formal rulemaking emanates, the Gentoo Council.

8.3. The Gentoo Council

One of the most interesting of the Gentoo projects is the Gentoo Council. Comprised of, at present and since inception, seven elected members, the Council has two key responsibilities:

“The elected Gentoo Council decides on global issues and policies that affect multiple projects in Gentoo. It also serves as an appeal court for disciplinary decisions.”

(GLEP:39, Goodyear & McCreesh 2006)

Both of these factors are interesting here. In Chapter 9 I examine Gentoo leadership and, by virtue of the fact that many key members of Gentoo leadership are Council members, the way in which individuals are elected to Council. The election process and the way in which Council leads are factors that are of great interest to this study. Naturally, with conflict comes a need for

adjudication and resolution. The way in which Gentoo handles conflict is a central point of interest to this research and Council plays a vital role. Council's involvement in resolving conflict and meting out disciplinary action is examined from a leadership perspective in Chapter 9 and from broader organizational perspective in Chapter 10.

8.4. The Gentoo Developer

In terms understood by the IT industry generally, the term 'developer', a contraction of 'software developer', describes a person whose role, function and often profession is to write computer software. The principle role of many, arguably most, people who are described as developers within Gentoo is also to write computer software, source code or documentation for software. The term 'developer' has an additional meaning within Gentoo however: a developer is an individual with a formalized membership of the organization who, by virtue of that membership, has particular powers. Chief amongst these developer's powers, as I have said in the previous section, are 'commit rights' – the right to commit updates, changes and new additions to the master collection of computer software without being subject to a case-by-case approval process. Practically, this means that when an individual developer is logged on to Gentoo computers with their unique name and password, those computers will allow the individual access to save files containing updates, changes and new additions. Notably, when a person is appointed as a developer they are granted commit rights not only to the particular herds or ebuilds on which they are likely to work, but also to the entirety of Portage and to other important collections of source code, documentation and software.

8.5. Gentoo Projects

We know already that the overarching goal for Gentoo is to produce a Linux operating system. As I showed in Chapter 5, a modern computer operating system is very complex, comprised of a great many discrete computer programs that must be assembled so that they work effectively together. The extent of the work of first assembling Gentoo and then carrying out the continual maintenance required to keep it up-to-date is enormous; so much so that it is arguably impossible to manage without some sense of distribution of responsibilities and of labour. Much as one would expect to see in a large modern bureaucratic organization, discrete functions and goals within Gentoo are distributed to separate groups, each with a described function in the organization.

As I have already described, an organization – if I may call it that at this stage – that assembles to produce an item of Open Source Software (OSS) is universally referred to as a *project*. The “*Gentoo Linux Project*” is one such OSS project. Gentoo uses the same term to describe the discrete internal functional groups such that, by way of examples, the group responsible for authoring and maintaining manuals and web pages is the “*Documentation Project*”, the group

responsible for quality assurance is the “QA Project, the group that maintains the functionality within Gentoo Linux related to scientific research is the “*Scientific Gentoo Project*” and so on. Projects, like many other functions within Gentoo, are formally defined and written into formal internal policy (GLEP:39, Goodyear & McCreesh 2006). Internal projects are small and largely autonomous groups that have complete control and responsibility for their particular function. A project may have as few as a single member, many have five or fewer formal members and the largest at time of writing listed twenty formal members.

Many developers contribute to projects without formal membership, and many contribute – with or without formal membership – to multiple projects. This may be seen as a contrast to more conventional organizations where members of departments are beholden to their denoted department, interact with other departments by way of hierarchically approved routes, and very rarely participate as true members of additional projects or sub-projects that over-determine their departmental identities. Within Gentoo, it is common for individuals to be full members of multiple projects.

Some one hundred and eighty seven individual projects are listed on the Gentoo web site (Gentoo Projects 2017) with functions that are predominately oriented towards the assembling of sub-collections of software that form major parts of the Gentoo Linux system. While most projects operate continuously, others are largely dormant until their functionality is required. The Elections project (Gentoo Elections 2017) serves the function of keeping records of past elections – formal processes for selecting members of Council, the Gentoo Foundation and other bodies, to be explained in some detail in Chapter 9 – and procedures for conducting elections, but is principally active at the time an election is to be conducted. Some projects have functions for which the production of software is not a core activity however; functions such as communications, provision of technical support, and leadership are also executed by projects. The Gentoo Council (Gentoo Council 2017) is itself a project.

A concept of sub-project also exists such that, of the approximately 187 projects, about thirteen to fifteen are top-level projects and the others are subordinate to those. Where some projects are very large and overarching in their responsibility, some large projects also delegate responsibilities to smaller sub-projects. An example of this is the Kernel Project (Gentoo Kernel 2017), the group responsible for maintaining the core of the Linux operating system. The kernel project maintains overarching control but delegates work at relating to the idiosyncrasies of different types of computer central processing units (CPUs or ‘processors’) to different sub projects. In this way, a project within Gentoo is akin to a department in a conventional organization and a structure akin to a bureaucratic hierarchy is achieved.

Central to Gentoo, both organizationally and philosophically, is the ‘user’. The Gentoo Philosophy, which I will discuss in a moment, raises the user as the central focus for Gentoo; meeting the user’s needs and making the user happy is, fundamentally, what Gentoo claims to be

about. Both the term ‘user’ and the role of the user are interesting. Gentoo’s view of the user is different to that held by commercial information technology businesses.

8.6. The “User” in Information Technology Practice

The “user” is, universally within the information technology (IT) industry, the term used to describe the person who ultimately makes use of the computers, the software and the services that the industry produces and provides. Users are akin to customers in many ways, including in that they are a core focus of attention for IT organizations and in the commercial context users or their employers are often the main, or only, source of funding for the activities of IT companies.

There is a key difference between “user” and “customer” in IT, though: the term “user” is often a pejorative. The nature of IT is that it can be a very technically complex activity and those who make use of IT very often do so from positions of relative ignorance of the inner workings of IT systems. Inevitably, the end user's ignorance leads them to do things, completely absent of any wrongdoing or malice, which appear obtuse and frustrating to those who do have deeper technical skills. I have observed often that in commercial contexts this combination of complexity and ignorance gives rise to a paradox in that those who work in technical roles within IT will often enjoy the technical opacity of their work and at the same time maintaining a contempt for the end users who do not share their expertise, all the while drawing a salary that often is ultimately funded by the object of their contempt.

The pejorative aspect of “user” has long been a source of discomfort for me, and I have largely refused to use the term in my own IT work. Both there, and in the next chapter, new perspectives on the “user” are offered that serve to pleasingly resolve this discomfort pleasingly. In a nicely Bakhtinian (1984) inversion, by Gentoo philosophy, the user is king.

8.7. A Self-Defeating Philosophy?

A document titled 'The Philosophy of Gentoo', authored by Daniel Robbins, the founder of Gentoo and published on the organization's web site, sets out core principles for the project. The then 850 word statement – barely long enough to constitute the 'manifesto' that often accompanies significant events in OSS communities – sets out a simple philosophy that places the user at the centre of Gentoo activity:

“Every user has work they need to do. The goal of Gentoo is to design tools and systems that allow a user to do that work as pleasantly and efficiently as possible, as they see fit. Our tools should be a joy to use, and should help the user to appreciate the richness of the Linux and free software community, and the flexibility of free software. This is only possible when the tool is designed to reflect and transmit the will of the user, and leave the possibilities open as to the final form of the raw materials (the source code.)”
(Robbins 2003)

The statement, though brief, is direct. The user is established, in a positive way, as the focus of activity. Rhetorical tools seek to engage the reader by invoking own experience:

“If the tool forces the user to do things a particular way, then the tool is working against, rather than for, the user. We have all experienced situations where tools seem to be imposing their respective wills on us. This is backwards, and contrary to the Gentoo philosophy.” (ibid)

and

“Don't you love it when you find a tool that does exactly what you want to do? Doesn't it feel great? Our mission is to give that sensation to as many people as possible.” (ibid)

While the document clearly seeks to be influential, the degree to which it achieves that goal is less clear. Despite my standing as a long-time user of and participant to Gentoo, I had not read, nor been aware of, that document until I sought it out while conducting this research: it is not a manifesto that is widely read or known.

Robbins' opposition to tools that 'force' users to act or work in certain ways presents an interesting question. We have seen in our discussion of bureaucratic techniques in Chapter 2 that the practice of embedding organizational rules in processes can be an effective approach to asserting control in a somewhat passive sense. This practice can be embedded in computer software systems. By way of example, consider the restaurant waiter who insists on taking your order for drinks before taking your order for a meal because the electronic system they use to record your order will not permit entry of meal requests before drink requests. The question then arises as to whether Robbins' insistence on freedom to work as they wish is a resistance to the practice of embedding rules in processes. Gentoo, as an organization, uses computer software to embed rules in processes in multiple ways. The processes for reporting and monitoring bugs, the processes for committing updates to Gentoo software and the processes for releasing new software versions are all controlled by way of embedded rules. The practice is so usual within Gentoo that the mailing lists and even the Gentoo Council regularly debate mechanisms that, in effect, embed rules. If Robbins and Gentoo's goal is to avoid this, they are thwarted in effect by their own practice.

The practice of embedding rules is not always limiting however. One rulemaking debate within Gentoo centred on a proposal to relax a part of the structure of the computer software with the explicit goal of meeting the Gentoo philosophy of flexibility (GLEP:20, Herbert & Holland 2004). The outcome is a clever paradox: rules and policy, embedded or otherwise, are a necessary fact of organization and that in some cases those rules can be used to enforce a philosophy that constitutionally opposes rules and policy where we see rules being used to resist rules officially.

Notwithstanding that the 'philosophy' document receives little explicit attention and that it may be more accurately be seen as a retrospective statement of what actually happens as opposed to a rhetorical instigator of particular modes of thinking and activity, the centrality of the user to Gentoo is, by way of other evidence that I will progressively introduce, an important principle. The user is, as I have intimated, important in answering the second research question regarding motivations and additionally important to the third research question on the generalizability of this research.

We will return soon to the centrality of the user. I think that, with these preliminaries laid out, it is appropriate to proceed with the core work of this chapter: a pre-history and history of Gentoo. To facilitate that, I must first expand on the broad history of OSS and Linux that I gave in Chapter 5 to show a *particular* genealogy that leads from that early history to present-day Gentoo.

8.8. The Unix Operating System

The account presented in Chapter 5 discusses the development of the personal computer and efforts to create operating systems for personal computers. These events began in the mid 1970s and continue today. Prior to the possibility of an individual owning their own machine, computers were large and expensive and typically owned by universities and corporations. Beginning in 1969, researchers at the American Telephone & Telegraph (AT&T) Company wrote a computer operating system that had the capacity to permit many people to use a single computer concurrently. Their operating system, called 'Unix', was widely adopted both commercially and for research, forming the basis for many commercial and open source operating systems, even the basis for the computers and mobile telephones produced by the Apple Corporation today. Linus Torvalds' efforts to write the Linux kernel, discussed in Chapter 5, were explicitly designed to address his personal need to have an operating system on his home computer that was similar to the Unix systems he used at university.

Good computer programming practice has it that wherever it is possible re-using already-written programs or parts of programs will achieve a maximization of productivity and reliability. A consequence of this is that as new programs are written, clear genealogical lines will be apparent in the construction and operation of individual programs and entire operating systems. Even

when entirely new programs are written, the influences of their predecessors are often clearly visible.

One such example of this influence is the early diversification of computer operating systems. Subsequent to the development of Unix by AT&T – which became known as 'System V Unix' ⁶¹ – the Berkeley Systems Division (BSD) of the University of California, Berkeley developed its own operating system that became known as 'BSD Unix' ⁶². The influence of System V on BSD is clear; the two systems are so similar that a person using one or the other day-to-day may not experience any practical differences. The precise differences between System V and BSD are in the way the systems are programmed and how they operate internally, something significant to people who program or maintain such systems but a topic well beyond the scope of this work. What is important to note is that there was an early diversification of Unix systems into two main types and that each type, with its own capabilities and suitability for particular purposes, was adopted by and further developed by different groups of people. The Linux kernel and operating systems are internally more similar to the System V Unix approach.

One popular open source derivative of BSD Unix, 'FreeBSD', became well known for its capacity for customization. A system, known as 'ports',⁶³ integrated within FreeBSD made it easily possible for the system to be customized according to specific needs. At the same time, the Linux operating system had become extremely popular; much more development and programming effort was directed at Linux than FreeBSD and so it was often the case that a Linux system would be more likely to run a particular program and would be able to take advantage of a broader range of computer hardware such as printers, cameras and other devices.

8.9. Borne of Frustrations: Stampede Linux

In the mid 1990s Daniel Robbins, a computer system administrator at the University of New Mexico in Albuquerque, New Mexico, began experimenting with the Linux operating system on computers that he had available to him at work and at home. After trialling a range of different Linux distributions, he settled upon the 'Stampede Linux' distribution as the one that suited his needs best, and involved himself with the Stampede Linux project as a user and as a contributing computer programmer. (Robbins 2005)

In his own account of the events that led to the creation of Gentoo Linux, Robbins (2005) speaks of his experiences working with the group of OSS developers who were building Stampede Linux and denotes conflict between himself and particular members of that group as a driving

61 Spoken as “*system five*”.

62 Spoken as ‘*B. S. D.*’.

63 The Gentoo system of ebuilds is, by design, functionally equivalent to the FreeBSD ports approach.

factor for his later decision to leave Stampede and to begin work on his own Linux operating system project. Robbins had been working on a program that helped computers, printers and other devices find each other on a computer network, but faced continual opposition from two particular members of the group whom he famously labelled ‘freaks’ (Hillesley 2011). Soon, Robbins (2005) became fatigued by endless debates regarding project direction with other developers whom he came to regard as “*naturally argumentative*”. The language he uses in a self-authored historical account is emotive:

“These two guys belong to a category of developer I like to call “the freak”. But although they made my development work very unpleasant, I also learned a lot from having to deal with them. At this point I’d like to offer you an expose of the freak developers, a sort of comprehensive overview: the qualities that make a freak, the freak’s modus operandi, and how you, the development project leader, can confront and possibly reform the freak without exerting a lot of effort.” (Robbins 2005, para.11)

Notwithstanding that he enjoyed the support of project leaders, Robbins says that he found the debates tiring, and that the endless challenges to his work detracted from his enjoyment of the work.

Robbins stated a central personal expectation that his computer programming work, executed as it was in a volunteer capacity, needed to be enjoyable. Citing what he regarded as irreconcilable problems with the ‘freaks’ and believing that the “*the fact that they weren’t dealt with really indicated that the project had severe managerial problems*” (2005, p.1), Robbins resigned from the Stampede Linux project and commenced work on a new Linux distribution, Enoch Linux.

8.10. Before Gentoo: Enoch Linux

By his own account, Robbins (2005) set particular goals for Enoch Linux. He enjoyed particular features of Stampede that made it particularly fast and wanted to carry that capability in to his new design. He also expressed a concern for the propensity of many Linux distributions of the time to include vast arrays of individual packages for completeness and easy access to functionality; Robbins felt that this approach made a computer system unnecessarily ‘bloated’ and that this made them slower. He designed an approach that installed a very bare minimum of required packages but provided great scope for users to customize the system to their individual requirements by selecting and installing only the specific packages that they need. Working alone at this point, and acknowledging that the work of assembling a fast customisable Linux distribution ‘from scratch’ was complex, Robbins wrote programs to automate much of the process of building and assembling the packages into a functioning computer operating system. The core of Robbins’ automation process was the ‘ebuild’ module, described in the section titled ‘The Gentoo Organization Summarised’ on page 168, above, as the foundation for package management in Gentoo.

8.11. On Package Management

An explanatory note regarding package management is appropriate here. A Linux distribution – the entire ‘meal’ in the food metaphor – is, as I have said, made up of many software packages – akin to individual food items – that are assembled to make the whole. Most distributions contain an initial collection of packages and offer a mechanism for end users to install additional packages – as one might add side dishes and condiments to a meal – to suit their specific needs. Different distributions achieve this by different mechanisms, with package management being a key differentiating factor of Linux distributions.

Almost all distributions provide pre-compiled packages that may be selected and installed by the user; the equivalent in the food metaphor would be for a server to assemble a pre-made hamburger, a pre-cooked package of French fries and a pre-poured drink on to a serving tray. The approach taken by Gentoo is different and unique. The Gentoo package management system, Portage, provides instructions in the form of ebuilds that automate the process of downloading, compiling and installing packages; akin to a server cooking and assembling a hamburger from individual ingredients, cutting and cooking French fries to-order and pouring the drink at the customer’s request.

It is this approach to ‘packaging’ and its extensive customisability that achieves the flexibility and speed that Robbins sought and that makes Gentoo Linux unique.

8.12. Another Personal Itch?

In rejecting Stampede Linux on apparent political grounds, Robbins was left with the personal goal of achieving a computer operating system that had the popularity and reach of Linux and the customisability of FreeBSD. Unwilling to dispense with either benefit, and unable to find a system that met both needs, Robbins set out apparently to ‘scratch’ his own ‘personal itch’. Since Raymond (2001) coined the ‘personal itch’ metaphor it has become a widely accepted explanation for the genesis of each new program and project. One interpretation must be that, unable to get his own way politically, Robbins has taken his metaphorical bat and ball and gone home. Another might be that the conflict was no more than a catalyst for a project that he, or someone else, may have taken on in any case at some future juncture. Whilst it is not necessary to resolve this question here, it is important to note the role of conflict in the genesis and continuance of Gentoo Linux. Similar types of conflict have, as we will see, dogged both Robbins and Gentoo time and time again (Hillesley 2011).

Once Robbins’ had completed enough preliminary work to demonstrate that the project had merit, he decided that Epoch needed a new name.

8.13. Naming Gentoo – Those Penguins Again

On the premise that the customisability of Robbins' approach to building a Linux operating system by importing techniques from FreeBSD that would allow it to be fine-tuned to precisely suit whatever computer on which it would run, this incarnation of Linux had the capacity to be much faster than similar systems assembled in a 'one size fits all' manner that, by virtue of the need to be suitable for all computers, would be larger in size and slower in operation.

Gentoo Linux was not so much born as invoked, the result of a decision to change the name of Enoch Linux to Gentoo Linux. The new name was chosen because the penguin is the universal animal mascot of the Linux operating system, and the Antarctic 'Gentoo Penguin', *Pygoscelis papua*, is said to be the fastest swimming of all penguins (Robbins 2005). By all accounts, Gentoo members are very proud of their mascot:

(12:56:21 PM) riley:	Ever seen a gentoo penguin?
(12:56:47 PM) geoffb:	I've never met one, no!
(12:58:46 PM) riley:	They're cute. (I was fortunate enough to spend two weeks on an Antarctic cruise ... at some sites the penguins would walk up and stand under our camera tripods. Kinda hard to photograph at that point!)
(12:58:58 PM) geoffb:	haha

The founding of Gentoo Linux occurred on 4th October 1999 (Bamford 2011).

8.14. Gentoo Technologies Inc.

By early 2000, Robbins had formalized Gentoo as a domestic (to the United States of America) for-profit corporation registered in the state of New Mexico and which he wholly owned. Copyrights and other Gentoo related intellectual property belonged to Robbins. Appointing himself 'Chief Architect' of Gentoo, Robbins – also known as 'drobbins', his adopted on line identity in the manner described in Chapter 6 and by Rheingold (1994) – occasionally used the title 'Benevolent Dictator for Life', often abbreviated to 'BDFL' in another homage to Linus Torvald's use of that title with respect to his Linux kernel project.

Structurally, Gentoo was divided into multiple departments – projects, though these are somewhat more permanent and functionally more like departments than the transient projects discussed in Chapter 2 – and department heads – leads – were appointed, not elected. Bamford (2011) notes that there was very little democracy within Gentoo at that stage but considers that given the small size and manageability of the whole of the Gentoo Linux project at that time, the approach was appropriate.

In a structural sense, Gentoo was not unlike any ordinary corporate organization, with a leader, senior management, middle managers and 'workers'; the key difference being that almost all of

these people were unpaid volunteers.⁶⁴ At Gentoo, an expectation of democratic engagement appears to come hand-in-hand with volunteerism so that every individual at every level in the organization expects to be informed of and involved in decision-making. In subsequent chapters, I turn to an examination of two particular events in the history of Gentoo that both involve significant conflict between and amongst leaders and programmers; these were the events leading up to Robbins' decision to 'retire' from Gentoo in 2004.

It is important to note at this point that where Clegg and Courpasson's (2012) polyarchic bureaucracy allows resistance to occur insofar as it does not exceed corporate boundaries and does not seek to disrupt the organization's established power structures, in the Gentoo organization the bounds for resistance appear to be far wider, if not unlimited; certainly the limits on resistance that Clegg and Courpasson (2012) identify are exceeded here.

8.15. On Benevolent Dictatorships

Whilst there is undoubtedly an egotistic character to Robbins' self-nomination as 'Benevolent Dictator for Life', the term is both usual and culturally appropriate in the OSS movement; several others have been similarly described. The term 'Benevolent Dictator', more widely applied without the 'for Life' postfix, has important implications for the nature of power in OSS and the way in which people who have power can safely use it. Here, the use of 'benevolent dictator' and the role it describes has additional implications for the generalizability of this research; we will return to consider those in addressing the third research question. In Gentoo, the degree to which Robbins was able to maintain his status as benevolent dictator is central to the discussion in this chapter of the changes that have occurred organizationally within Gentoo.

Structurally and legally, at this early stage, Gentoo was not unlike a small single-owner business. Robbins' personally owned, via the for-profit Gentoo Technologies Inc. legal entity that he established, copyright in the various creative outputs of Gentoo as well as the Internet domain name, web sites, and an on-line store that offered merchandise for sale.

A central problem for a for-profit organization is that it will struggle to secure the efforts of volunteers if those volunteers can see someone, be it a person or an entity, profiting from the work they do for free. The question of whether or not Gentoo was a for-profit business led to a major conflict that fundamentally changed the nature of Gentoo.

64 Strictly speaking all Gentoo members were unpaid at this stage, though a small number of people had a sense of formal ownership of the organization.

8.16. Sleeping with the Enemy

An important premise of organizations that use volunteer labour seems to be that they should not be profitmaking businesses. Volunteers will be loath to commit their efforts at no charge if some other entity is seen to be benefiting, particularly if the benefit is a financial one. At the same time, organizations will almost always need at least some money to operate. As it happens, the distinction between meeting costs and making profit is a very delicate one that in the case of Gentoo led to a major organization restructure.

An interviewee described a very simple organization structure in which a very small number – less than five, often only one or two – people in appointed leadership roles took charge of the day-to-day running of the organization. I enquired as to the nature of the early arrangements:

(11:55:30 AM) geoffb:	I saw that you were on council for a while
(11:55:52 AM) shane: ⁶⁵	I was probably regarded as a leader of the gentoo project for a little while back then
(11:55:59 AM) geoffb:	hmmm, from the beginning...
(11:56:00 AM) shane:	(both pre- and post- council)
(11:56:59 AM) geoffb:	what happened pre-council... how did things work then?
(11:57:57 AM) shane:	I guess the closest analogy was that Daniel was the CEO, and I was the COO
(11:58:27 AM) geoffb:	what did those 'roles' entail?
(11:58:30 AM) shane:	I took care of the day to day logistics, fires, emergencies, and tactics, and Daniel set the strategy overall
(11:58:43 AM) geoffb:	more-or-less autonomously?
(11:58:48 AM) shane:	yes

When I enquired as to the effectiveness of the then approach, my interviewee gave an interesting answer:

(11:59:27 AM) geoffb:	did it work ok?
(12:00:42 PM) shane:	quite well, but we mis-stepped in a couple of ways -- and the reaction to that was to open up the leadership a bit

Some discussion – to which I will return – of the nature of the organization ensued, the described ‘mis-step’ was not immediately addressed until I enquired:

65 Note that, as I have stated previously, the represented names of interviewees are pseudonyms.

(12:09:28 PM) geoffb:	so, just before that, you said "we mis-stepped" a bit.... how so?
(12:11:28 PM) shane:	http://games.slashdot.org/article.pl?sid=03/05/16/1232250&mode=thread&tid=127&tid=186
(12:12:01 PM) shane:	GentooGames -- a company created by Daniel (and I was involved along with Kurt Lieber and a couple of others)

My interviewee's response to the enquiry was to simply give me an URL – an address – for a web page for the well-known technical news reporting web site, 'Slashdot' and its report that:

"Gentoo announced the creation of Gentoo Games, 'a gaming technology company created to deliver innovative Linux-based game technologies to the public'. They also released a GameCD with the full version of America's Army."

(TheSurfer 2003)

Where an announcement such as this in a for-profit corporate context might still come as a surprise – perhaps a pleasant one – for company employees, it caused major problems within Gentoo. The interview continues:

(12:12:19 PM) shane:	the two big (and valid) issues people had with that:
(12:12:37 PM) shane:	1. we'd used the gentoo servers to build and host it (servers which were donated to gentoo)
(12:12:57 PM) shane:	2. it hadn't been shared with the developer community at all (that was more of a timing misstep)

I draw the reader's attention to the tone of the language used by this interviewee and in particular the use of the word 'misstep'. Rather than a more emphatic or emotive term, the apparent errors of judgement made by the early leadership are described merely as missteps. This choice of tone on the part of the interviewer, whilst consistent throughout the interviews I conducted with him, is by no means unique to this one person. I return to this point in the next chapter on leading Gentoo, observing that other leaders speak in similar ways.

Having explained what he considers to be the 'missteps', the interviewee proceeds to add further detail:

(12:13:34 PM) shane:	by "it hadn't been shared" I don't mean the company, but rather knowledge of the company, and the opportunity for people to discuss and/or participate
(12:14:04 PM) shane:	though I think most of us had intended to do just that (i.e. share) if it looked like it might go somewhere after E3 that year

Perhaps we might interpret the initial secrecy as merely designed to save face. If the venture had succeeded it would have been announced; if it failed, it would be quietly forgotten.

(12:15:30 PM) geoffb:	so even though gentoo was formally a 'corporation' with identifiable leadership, it still had the 'tone' of a more collaborative venture?
(12:15:58 PM) shane:	yes, always
(12:16:05 PM) geoffb:	people expected to be consulted/involved?
(12:17:02 PM) shane:	that's a loaded question -- I'd rather say it as the environment was open and collaborative, and so launching this thing relatively quiet led people to doubt motivations
(12:17:20 PM) shane:	and they rightfully felt a bit betrayed by the lack of openness

This acknowledgement exposes an important factor in the nature of Gentoo as an organization. Where as I have said, in a corporate context, an announcement of a formerly secret project may prompt some feelings of surprise and perhaps even a sense of betrayal, the leadership of a conventional for-profit bureaucracy has no obligation to openness and will often be expected to keep secrets. Within Gentoo the secrecy engendered distrust and led to conflict.

Practically, the work of the Gentoo Games company met with success in the form of interest from the United States military and several computer gaming companies.

(12:17:48 PM) geoffb:	what was 'gentoo games' designed to be? you're using the word 'company' a bit...
(12:18:28 PM) shane:	essentially we'd created a liveCD with the America's Army game on it (and also one with Unreal Tournament demo)
(12:18:57 PM) shane:	the advantage of this approach was playing a game without having to install it, and without any knowledge of the underlying operating system (linux, of couse)
(12:19:06 PM) shane:	so you could just boot your computer right into the game
(12:19:39 PM) shane:	and several companies were interested in collaborating (cd companies, computer companies, graphics card makers, and game development companies)
(12:20:13 PM) geoffb:	ok, so from a technical perspective, it's an alternative to installing, bugshooting, playing? you just take the liveCD and go?
(12:20:15 PM) shane:	it was definitely a way to make some money (both for the people involved and for the gentoo project itself)
(12:20:21 PM) shane:	correct

```
(12:20:30 PM) shane:      essentially you turn your computer into a console
(12:20:41 PM) shane:      s/essentially/effectively
(12:20:52 PM) geoffb:     so I'd buy a game, take it home, boot off of it..
                           and go?
(12:21:17 PM) shane:      exactly as you say
(12:21:36 PM) geoffb:     some of the nicest, most innovative solutions are
                           the ones that are completely obvious in hindsight!
(12:22:09 PM) shane:      :)
```

Mere technical success, however, was not sufficient to quell the dissent of organization members who felt they had been betrayed. In the weeks following the announcement of the Gentoo Games venture, individual members began to ask questions. One inquired as to the way in which financial contributions were directed:

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Subject:  [gentoo-dev] donations to what?
Date:     Thu, 26 Jun 2003 03:24:53
[...] 66
Can anyone describe what the gentoo donations go toward? I would assume
servers, bandwidth, etc., but I would feel more comfortable donating if
it were clearly documented where the money goes.

As far as I can tell gentoo is a for-profit company; does that mean my
money could just go straight into Gentoo Inc.'s profit margin? Is there
any way for me to make a donation that I am sure will get back to the
community?
[...]
```

The inquiry received answers indicative of impending change:

```
Subject:  Re: [gentoo-dev] donations to what?
Date:     Thu, 26 Jun 2003 03:50:25
From:     Jon Portnoy <avenj@g.o>
In Reply to:  [gentoo-dev] donations to what?
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⁶⁶ Edited for brevity. Original at

<https://archives.gentoo.org/gentoo-dev/message/af83a439688e6e267d646131c3e51a45>

Gentoo is going to go non-profit soon.

To which others leapt to the defence of the Gentoo leadership with lengthy explanations of the need to proceed with income generating measures:

Subject: Re: [gentoo-dev] donations to what?
Date: Sat, 28 Jun 2003 10:55:47
From: Martin Schlemmer <azarah@g.o>
Re: [gentoo-dev] donations to what?

The last time I checked, it is non-profit.

The big problem however (which nobody really do seem to understand, or want to for that matter), is that because we are small (is this really a fact anymore?), we do not have dedicated long-term financial backup (last time I checked anyhow).

Meaning, as long as I have been on the dev team (going/over 2 years now?), everything that needed doing, was either paid for by Daniel, or donated by one of the other devs. Sure, it have changed somewhat in the last few months, but people like Daniel and Seemant, who pretty much do this full time, had to scratch to get by. Also, some of the other devs that is/was more key figures, that could not do it full time, could only give so much time to Gentoo.

Gentoo Games was thus formed to (if I have all the facts straight) in an attempt to get a more steady stream of funds to start and sponsor key developers for full time development, and then also when they are settled, to help more devs that actively contributing to start working full time (you do want Gentoo to grow, etc right?).

It seems that nobody do realize that Gentoo the distribution, is and will always be non-profit, but that Gentoo Games (or whatever) will be a means to develop technology outside Gentoo Linux to help sponsor devs for full time development. Not to give Daniel or Seemant enough funds to buy a new house and a few Ferrari's.

The only reason for whining about this, and not wanting to understand it, is in my opinion "just another zealot for no business with OS" (Open Source). Do not understand me wrong, trying to back-stab people, etc for own personal riches with OS is wrong. But is it wrong for the people doing the actual work to want to do it without having to worry about how they are going to get through this month with something to eat ?

And just for those that was wondering - no, I have not received a single sent, hardware or any other forms of compensation for my few contributions to Gentoo.

At the same time, Robbins responded with an explanation that seems to indicate a ‘business as usual’ approach:

Subject: Re: [gentoo-dev] donations to what?
Date: Thu, 26 Jun 2003 06:05:52
From: Daniel Robbins <d Robbins@g.o>
In Reply to: [gentoo-dev] donations to what?

Generally, the money goes towards hardware purchases for devs, shipping costs, and show-related expenses, as well as a bunch of miscellaneous stuff.

The donations coming in have picked up in the last couple of months, so we are starting to be able to do more. In particular, redesigning our cafepress.com store and expanding our selection of products helped a bunch.

In this response, Robbins is not secretive about efforts to raise money – the ‘cafepress.com’ store is a commercial site that facilitates the for-profit sale of branded clothing and related paraphernalia – but at the same time he makes no mention of the pending move to not-for-profit status. He had, however, made the not-for-profit proposal and changes to his own role within Gentoo known in other posts to the mailing lists. Only two days prior, in a response to the gentoo-core mailing list that he forwarded to the gentoo-dev list, the not-for-profit move was spoken of as though it were a *fait accompli*:

Date: Tue, 24 Jun 2003 21:14:19 -0600
From: Daniel Robbins <d Robbins@g.o>
Subject: Re: [gentoo-core] *IMPORTANT* top-level management structure!

On Tue, Jun 24, 2003 at 09:15:00PM -0500, Joshua Brindle wrote:

> 1) I notice you are in many of the subprojects as manager,
> will this really solve the problem of all issues going through
you?

Yes, the goal is to move me out of day-to-day management and into
more of a strategic role so I can focus on stuff like starting the
not-for-profit.

> 2) I didn't see not-for-profit mentioned, don't you think this is
> essential to the success of gentoo?

Yes, I think it is. Having me move out of the day-to-day management
efforts will allow me to focus efforts on getting the not-for-profit
started. Right now I am simply too overwhelmed with work.

[...] ⁶⁷

> 4) gentoo-linux apparently (as currently) is being represented
> by 2-3 people, this is the same sort of bureaucracy that is
> hindering it now, could there be a group of people who have
> absolute authority by vote? <-- this is a big deal to me, and
> should be to everyone on this list

OK, lots of questions here and I'll try to address them one by one.

First, Gentoo doesn't have a bureaucracy. It's an unorganized
mess. :)

Next: we will have a process for new top-level managers to be

67 Edited for brevity. Original at

<https://archives.gentoo.org/gentoo-dev/message/e6413db7da2f79999d536700b6324526>

added, and this process will need to begin immediately. The current top-level project assignments in some cases model the current situation today; they are certainly **not** all ideal.

The top managers have too much work even after this organization. But at least we have an **official procedure** in place to start delegating work and responsibilities. That's the real focus of this proposal.

So, yes, the goal is to quickly yet responsibly "grow" our top managers, and officially delegate responsibilities to sub-project managers, and at the same time clearly document everything and establish regular meetings and accountability to one another. That's the recursive nature of this plan.

The goal of this proposal is to give everyone the authority, accountability and structure they need to get their relevant work done in a pleasant and efficient way, and for Gentoo as a whole to meet deadlines.

As for the progression to the not-for-profit, the top-level managers will likely become the not-for-profit's initial board of directors. At that point, we will have some system in place for electing members of the board.

[...]

A range of perspectives is visible in the sampled messages and throughout the different media by which Gentoo communicates. An apparent initial reluctance to change on the part of many, particularly those in positions of apparent authority, is clearly visible. The basis for the reluctance is in part that those involved in the Gentoo Games venture believed that they were doing the right thing and acting for the benefit of Gentoo. Robbins regularly repeats his mantra for freedom and enjoyment and against conflict but also clearly regards himself as being in charge of the organization. There are, however, regular acknowledgements on the part of Robbins and other participants to the effect that the organization is struggling in its present form. Dissent and distrust are high, and productivity has become stagnant in part due to structural

problems and in part because individuals lack the authority or access thereto to do the work they want to do.

Productivity also suffers when members are concerned about the ends that their efforts support. As I have said, as volunteers they feel aggrieved when someone appears to profit from their efforts. Some begin to apply pressure to the leadership, and others choose to leave the organization.

8.17. Continuing Pressure

Resistance to the organization and its leadership occurs in a range of different ways. Organization members consider that they have a right to challenge the leadership and they do not hesitate to do so. Many make direct and overt approaches with on-the-record written challenges. The mailing list message that I have presented in the preceding section, titled “**IMPORTANT* top-level management structure!*” is an example of such an interaction. The parts of the message preceded with ‘>’ symbols – known as ‘quotes’⁶⁸ – are questions from a member of the organization:

On Tue, Jun 24, 2003 at 09:15:00PM -0500, Joshua Brindle wrote:
> 1) I notice you are in many of the subprojects as manager,
> will this really solve the problem of all issues going
> through you?

And the text immediately following the quoted sections are the manager’s responses.

Yes, the goal is to move me out of day-to-day management and into more of a strategic role so I can focus on stuff like starting the not-for-profit.

⁶⁸ I mentioned in Chapter 6 on Methodology that people who communicate in on line environments often adapt for the lack of verbal and visual cues by adding additional cues to the texts that they write. The use of quotes, including parts of a preceding message in a response to make clear precisely what they are responding to, is one such adaptation. The portions of a message that are quoted from a previous message are prefixed with a character, often ‘>’.

These types of challenges are usually public, at least public within the organization, and have the effect, particularly in an environment where a level of distrust is already present, of forcing the leadership to respond.

In one such exchange, a Gentoo user posted a series of quite direct questions about the status of the move to non-profit status:

From: Eric Jahn <eric@xxxxx.net>
Subject: [gentoo-dev] Timeframes for Gentoo to Become a Non-profit Org?
Date: Sun, 27 Jul 2003 16:31:37

I wish to know what has been done towards Gentoo achieving non-profit status. I think it is crucial for the gentoo system to become non-profit, considering the volunteer support it receives. This question is directed at Gentoo management.

Most non-profits start their work and declare themselves as non-profits before getting an IRS Employer Identification Number/Tax ID as a non-profit. Why hasn't Gentoo done the same?

My questions are what are Gentoo's self-imposed deadlines for non-profit status?

Who in the government on what date has been contacted so far, and what forms have been filed, could a copy be posted on the web?

Every non-profit has a mission. What is Gentoo's 501(c)3 mission?

Gentoo has a management structure. 501(c)3s have boards. Who is on the Gentoo Board?

Who is drafting the non-profit bylaws?

I will gladly undertake the administrative task (except for signing of course) for Gentoo management if they need some help with this stuff.

As a frame of reference on the timelines, I have seen non-profit teen pregnancy centers with one half-time volunteer register themselves for non-profit status within about a month.

Thanks for spending time responding to this. Thanks!

When that particular enquiry went unanswered, another individual employed an oft-used technique by simply pointing out publicly that an answer is expected:

From: FRLinux <frlinux@g.o>
Subject: [gentoo-dev] Gentoo Non profit
Date: Thu, 07 Aug 2003 22:57:16

Hello,

I've seen a post a week ago about someone who asked about the status of Gentoo becoming a non profit org. As nobody replied, i'm asking the same as well as it was discussed a month ago.

Steph

The request received responses in support, but no direct answer to the question. The same person issued a reminder by repeating the request:

From: FRLinux <frlinux@g.o>
Subject: [gentoo-dev] Re: Gentoo Non profit
Date: Mon, 18 Aug 2003 23:15:44
In Reply to: [gentoo-dev] Gentoo Non profit by FRLinux

Hello,

This is my weekly wake up call. Just for reference, i asked about it a couple of times but still no real answer, so i'll keep trying.

Steph

The tone of the enquiries is interesting. There is, on the face of it, no sense of aggression or dissatisfaction and no explicit demand for a response. Even so, the point is clearly made: this person expects an official response to an issue that they consider important.

Some members appeared willing to wait for a formal response:

```
From:      "Brett I. Holcomb" <brettholcomb@xxxxxxxx.net>
Subject:    Re: [gentoo-dev] Re: Gentoo Non profit
Date:       Tue, 19 Aug 2003 01:14:53
In Reply to: [gentoo-dev] Re: Gentoo Non profit by FRLinux

    > On Monday 18 August 2003 19:15, you wrote:
    > > Hello,
    > > This is my weekly wake up call. Just for reference, i
    > > asked about it a couple of times but still no real answer,
    > > so i'll keep trying.
    > > Steph

    I imagine when Robbins, Gentoo, etc. has the stuff ready they'll
    let us know.

[...]69
```

The individual making the repeated follow-up enquiries did not post again on the subject of the transition to non-profit status. Given that she had posted regularly to the mailing lists on a range of important topics, was a regular contributor to Gentoo and had engaged the leadership in planning discussions – all of which seem to indicate a clear continuing commitment to Gentoo – her subsequent silence should perhaps have stood as a warning to the leadership. Her next post simply announced, without reason or fanfare, her decision to leave Gentoo:

```
From:      FRLinux <frlinux@g.o>
Subject:    [gentoo-dev] Goodbye
Date:       Mon, 25 Aug 2003 21:01:01

    Hello all,
```

⁶⁹ Edited for brevity. Original at

<https://archives.gentoo.org/gentoo-dev/message/2e1b12a75e47da5898f63b0c00a1d25f>

It is one of those emails about a departure from an interesting project. The main difference is that i usually read and don't write them ;) So you've understood i am leaving the Gentoo project for good. It has been quite nice to work for a year and a half on the translations in Moliere's language but the time has come for me to focus on other areas.

I wish you all the best, still in a free world.
Steph (aka FRLinux)

There are three particular points of interest in this series of exchanges. First, the range of topics on which individual members of the organization may seek to intrude is very broad. The exchange I have presented above constitutes a direct intrusion into the very structure of the organization itself, yet there is no apparent risk that those making the enquiry will be marginalized though, as I will show in Chapter 10, there are limits on the extent to which individuals can resist before other members will intervene. Second, the individual members have no apparent qualms about making their interventions. This type of exchange, disruptive and intrusive as it is, is usual and accepted and seems to be regarded as a right by members of the organization. Thirdly, the individuals who intervene have a very clear power over the leadership and the organization, that is the power to withdraw their participation if their needs are not satisfactorily met.

Whilst it is easy to interpret the data we have at its face value – that is to say that a simple exercise of resistance on the part of organization members forced the hand of the leadership and effected structural change – there is other evidence that indicates that this was not the only factor. At about the same time, other efforts were under way that threatened to disrupt the organization by, effectively splitting it in half.

8.18. On Forking Open Source Software

A feature of OSS licensing is that anyone is free to take a copy of the source code for any given project and to use it as the basis for a new project. This occurs sometimes where a new direction for the software is planned that presents a substantial diversion from the goals and functions of the existing software, and it also occurs in where instances of conflict or dissent where agreement on future directions cannot be reached.

Called ‘forking’ as a metaphor for the process of causing a stream or a river to branch, the product of which is a ‘fork’, the practice is widely regarded as a strongly negative event for the damage it can cause to an organization and the product (Raymond 2001). Since software is by its

nature intangible, there is no real loss of product, but a fork is often accompanied by the departure of many important members to the organization and the establishment of a product that is a direct competitor.⁷⁰ The result of any fork is two new OSS projects, both of which are smaller in terms of members and potential effort than the original whole. Loss of key members can threaten the very existence of an OSS project, and so great effort is expended in the avoidance of forking.

Notably, and in an action that seems at odds with the events I shall recount in the next sections, Robbins' sought to downplay the impudence and the impact of forking projects when he chose to do it himself. He starts out by asserting that Funtoo Linux (explained in section 8.23 Gentoo Restructured, below) is not a fork of Gentoo:

"We are not a fork of Gentoo in the traditional sense of the word, though of course we are trying to do things better (otherwise, what would be the point of doing anything?) We are trying to aim to be as compatible with Gentoo as possible, so that it is easy for us to share technology with Gentoo." (Robbins 2008)

Then he goes on contend that the practice of forking – which he had just claimed to have not done – is not an impropriety:

"Forking is no longer a political thing, but something a developer does whenever appropriate." (ibid)

Before directly encouraging others to fork Funtoo Linux if they see fit:

"If you need to do something new or interesting, or fix some bugs, you should be able to easily fork Funtoo. Then, with your own private copy of Funtoo, you can pleasantly do your cool thing, test it, and then share your work. If you did something useful, others will merge your work into their efforts. We encourage others to fork our projects." (ibid)

While Robbins appears to be trying to justify his own act of forking a project by asserting that the practice is acceptable and is even to be encouraged, the internal inconsistency of his rationalization seems to, if anything, support the opposite proposition.

In addition to the way in which forking threatens to rout a project of its workforce and its user base, the nature of OSS culture means that a fork of a piece of software is an imposition on its authors, too.

70 Whilst notions of 'profit' and 'competition' are somewhat intangible in OSS or certainly not as clear cut as in a capitalist oriented for-profit organization, a fork has the potential to draw many of the original project's users away.

8.19. No Blame Game

Raymond (2001) argues that an additional reason for the broad avoidance of and opposition to forking lies in the nature of OSS as a form of gift culture. Building and maintenance of reputation, as the central imperative that it is to gift cultures (Rehn 2001), is crucial to individuals who do OSS work. Noting that disassociating or disconnecting an author's name from their work is strictly proscribed in OSS culture (Raymond 2001) – as an offence that is akin to plagiarism and equally detested – an act of forking threatens to increase, perhaps double, an individual programmer's workload in a way that is interesting, and perhaps not entirely intuitive.

Another important norm within OSS culture is that of how blame is assigned when things go wrong. De George correctly observes a disconnect between faulty software and the people who author the software, saying “[w]hen programs malfunction or software has bugs, that is no one's fault” (2008, p.6), though his argument that this is ethically unsatisfactory because “*anything that has to do with computers and information technology has a life of its own and is not susceptible to moral evaluation or blame or censure*” (ibid) is flawed, at least insofar as it applies to OSS work. As a culture, OSS operates on the premise that individuals do their work and make their contributions in good faith and with benevolent intent. When problems arise, the presumption is that they are accidental and unintended, and the focus turns to repairing the problems. When genuine mistakes occur in OSS, there is no allusion to malice and any investigation will be limited to preventing recurrence; a pleasant contradiction to the usual practice of inquisition, persecution and recrimination that is a usual feature – arguably necessary for individual survival (Hood 2010) – of business and particularly government bureaucracies.

Despite this absence of blame and retribution, individual authors of OSS still take continuing responsibility for the programs they write and will continue a process of monitoring uses, addressing bug reports and making adaptations and improvements – a practice known as ‘maintaining’ – for as long as the software remains useful to themselves or to others. OSS is rarely abandoned unless it is completely obsolete; rather in situations where an individual can no longer maintain a piece of software, they will seek out a suitable replacement and entrust continuing maintenance of the software to someone new. The precise reason for this practice is unclear, and not within the scope of this research, though it seems likely that maintenance of reputation by way of continuing association, continuing maintenance and a continuing ‘scratching of the personal itch’ – noting in particular the way that the constitution of the itch changes over time (see the section in Chapter 9 titled “That Ubiquitous Itch”) – are key factors.

These factors seem to effect an author's continuing commitment to a work of OSS so that they will feel, if not obligated, then at least compelled to continue to maintain their work. If another party forks their work, the author is faced with the task of either maintaining the software in two places or the unpalatable alternative of abandonment.

Thus, because of the threat that this practice poses for OSS projects and the imposition it places on authors, the practice of forking software projects is widely discouraged and avoided. Even so, forks do occur from time to time and, as I will now show, the threat of a fork is one means by which a resister can force leadership action.

8.20. Forcing The Hand That Leads

While the stated goals of the formal leadership of the for-profit Gentoo were to benefit the organization financially and otherwise and they were explicit about not seeking personal benefit, another member was quite clear about his expectation of reward for his efforts. In a memoir – one of several written by various members of the organization at various stages – a Gentoo developer seeks to explain his reasons for leaving Gentoo. Both his reasons for leaving and the mechanism by which he left are interesting.

The developer alerted the Gentoo community to the memoir by way of a message posted to Gentoo mailing lists announcing the mechanism of his departure – a fork of Gentoo – to all.

```
From:      Zach Welch <zwelch@g.o>
Subject:    [gentoo-dev] FORK: The Time Is Now
Date:       Thu, 26 Jun 2003 01:09:00
```

Fellow Gentooers,

I am proud to announce that The Zynot Foundation was registered today as a 501.c.3 member controlled, non-profit organization in the state of Oregon. This new entity is being established to hold a fork of the Gentoo Linux distribution, targeting embedded and enterprise users and developers. We will be establishing a new development culture suitable for creating a reliable, validated, and production-ready distribution - initially using the Gentoo technology we all have come to know and love.

While I am currently leading this effort, I have already attracted a number of others willing to help me guide this project through its initial growing pains. In the next couple of months, I expect this project to evolve as truly community run organization, and we will be drafting the foundation's bylaws out in the open, accepting input from the community throughout the entire process.

I humbly submit that every present or future Gentoo user, developer, client, or investor should read my paper at the following URL. In great detail, it describes the events that drove me to this current state of affairs, the reasoning behind the fork (along with a section covering the most current events), along with a brief glimpse at the choices this fork will be offering the community that grows around it:

<http://www.zynot.org/info/fork.html>

and the following links has some initial questions answered about the future and other ideas:

<http://www.zynot.org/info/faq.html>

[...] ⁷¹

The announcement uses measured language, but contains a number of implied criticisms of Gentoo with clear links to the problems occurring within Gentoo at the time. Welch's implicit criticisms extend to Gentoo development culture and its effect on the apparent quality of the Gentoo product. In the second paragraph he does not state that he is drawing members away from Gentoo, but the implication is clear. As I have said, a fork is a threat to the viability of an OSS project because it takes members and users away from the project and reduces the number of people making contributions. Whilst Welch doesn't say as much explicitly, it seems likely that he intends to suggest that the fork will have an erosive effect. He goes on to promote a '*truly community run organization*' that will establish rules and policy '*out in the open*'; clear references to, and criticisms of, the dissent within Gentoo surrounding the centralized control and the secrecy relating to the Gentoo Games effort. By "*humbly submit[ing] that every present or future Gentoo*" member should read his memoir and publishing it externally to Gentoo, Welch encourages all members, present and future, to engage in his resistance, and situates his resistance such that the Gentoo leadership has little power to prevent it.

71 Edited for brevity. Original at

<https://archives.gentoo.org/gentoo-dev/message/531eee24fe176e5617ac3d30d695d524>

The memoir (Welch 2003), speaks of an individual who claims to have left well-paying employment as a software developer with Microsoft products to start his own company producing equivalent software using embedded Linux. Called ‘embedded software’ for the way it is encapsulated within small and relatively simple electronic devices such as televisions, printers and industrial control equipment, the production of embedded Linux requires the application of specialized techniques and skill sets that differ from that used to produce other types of computer software. A Gentoo project, called ‘embedded gentoo’ was established and, for a time, produced a functional version of Gentoo that was suitable for embedded devices.

Welch’s memoir (2003) claims that he made it clear from the outset that, in return for financial and contributions of manpower – including the hiring of a staff member explicitly to work on the embedded Gentoo project – that he expected his own organization to be able to make use of embedded Gentoo for profit.⁷² A series of conflicts with Gentoo leadership and other Gentoo developers – some of which were based on a similar holistic disapproval of his attempt at making profit that caused problems for the Gentoo leadership – led him to form the belief that “[a] major fork of the Gentoo Linux distribution was both necessary and inevitable” (Welch 2003) and proceeded to take the necessary steps to register a non-profit corporation, establish a web site and fork Gentoo into the new project named ‘Zynot Linux’ (ibid).

The memoir argues that the Zynot fork had the effect of forcing Robbins’ hand with respect to the conversion to not-for-profit status and the concomitant restructure of Gentoo. It seems more likely, given that the process was already under way, that the threat of a fork and the risk of substantial damage to Gentoo meant that it was necessary to move quickly to address widespread dissent and minimize said damage. Coincidence or not, Robbins moved quickly to restructure Gentoo, but not before responding to the claims used to justify the fork.

8.21. An Angry Response

In replying to Welch’s announcement of the fork and his accompanying memoir, Robbins’ also uses measured language. His anger, however, is barely hidden.

From: Daniel Robbins <drobbsins@g.o>
Subject: [gentoo-dev] Re: [gentoo-core] FORK: The Time Is Now
Date: Thu, 26 Jun 2003 04:02:07

⁷² Noting that there is nothing inherently wrong, much less illegal, about using OSS for profit. Stallman has made it clear that works covered by his *GNU General Public License* (see Chapter 5 section titled “*Of Speech and Beer: The GNU General Public License*”) in for-profit contexts. The license requires that the source code remain freely available but does not limit price or usage.

In Reply to: [gentoo-dev] FORK: The Time Is Now by Zach Welch

On Wed, Jun 25, 2003 at 06:08:55PM -0700, Zach Welch wrote:

> Fellow Gentooers,

>

> I am proud to announce that The Zynot Foundation was registered
> today as a 501.c.3 member controlled, non-profit organization in
> the state of Oregon. This new entity is being established to
> hold a fork of the Gentoo Linux distribution.

Zach, I wish you and your team the best.

I will not make any attempt to correct your account of events, even though they contain numerous gross exaggerations, innaccuracies, massive "spin," and false insinuations that I am ripping people off, just in my initial scan of what you wrote. Littered with lies, and slanderous, certainly.

Your write-up is like a "based on real events" TV movie, where there are *just* enough facts to make the story believable to those who don't know any better.

I will not "retaliate" by writing up a startling expose of any supposed wrongdoings on your part. Because, frankly, life is too short for this kind of stuff. I don't want to waste it by launching personal attacks on people.

I could easily "win" the argument by explaining in detail what really happened, sharing the real facts, details, situations, conversations and intentions, proving lies to be fabrications, assertions to be stories, and your supposed critical analysis to be fueled solely by irrational anger. But somehow I think that I'd end up "losing" by adopting your tactics.

As always, if any developer has questions about *anything*

related to Gentoo, including how money is spent, please feel free to ask me. Those who have asked know that I answer all questions fully, and do my best to help developers out with any needs they may have when I am aware of them.

Anyone who suspects that I am rich can come visit my home in Albuquerque and form their own opinions. You can even take pictures and post them on the Internet, as long as you take pictures of my daughter (soon to be daughter*s*) too :)

As for the debate, what's to debate? I congratulate you on your new open source project and wish you the best.

Best Regards,

Coming as it did at a time when Gentoo leadership, and Robbins in particular, were already under pressure from Gentoo members, Welch's fork applied a great deal of additional pressure. Robbins is clearly aware of the consequences of this new event, and his response appears to tread carefully between unbridled anger and astute caution. Rhetorically, Robbins alludes to a range of problems with the aforementioned memoir, arguing that it is inaccurate, exaggerated and itself designed to be more rhetorical than a proper version of events. Whilst making all of these rejections, Robbins never actually enumerates specific concerns with specific claims. Instead, in an approach that seems designed to acknowledge the challenge, reject it, then to focus heavily on keeping whatever peace remains, Robbins turns to defending his own character and motivations. Despite its emphatic tone, Robbins' response offers little more than a rhetorical defence of his own position. Even so, another challenge to the status quo is raised in the form of resistance from a Gentoo member who does not, in classical hierarchical terms, have the power to do so, and as a result change seems unavoidable.

8.22. Inevitability of Change

Whatever the precise reason for change, and it seems that there were many contributing factors rather than one single triggering event, it seems that members of the Gentoo organization at all levels regarded change in the form of a restructure as necessary and inevitable. Members, as I have shown, pushed for change with a degree of commitment that seems to indicate a conviction for the necessity and a belief that it will occur. Leaders also clearly accept the need for change and, though not always willingly, proceed to implementation.

My interviewee spoke from the perspective of a then leader with, in his words, “the clarity of hindsight” about the structural changes:

(11:38:31 AM) geoffb:	you're no longer a (big?) part of gentoo...
(11:38:37 AM) geoffb:	may I ask what 'happened'?
(11:39:07 AM) shane:	I'm no longer any part of gentoo, other than a user
(11:39:33 AM) geoffb:	I could have sworn I saw you help someone the other day! ;-)
(11:39:39 AM) shane:	nothing really happened -- my preference is for smaller, more intimate situations, because of the high degree of energy and interactivity
(11:40:22 AM) geoffb:	I wondered if some of the political strife that gentoo has experienced had some impact on your decision to change your involvement
(11:40:28 AM) shane:	not so sure about that -- as many #gentoo-* related channels that I'm in, I watch very few of them at all, and participate once, maybe twice, in a given month
(11:40:47 AM) shane:	the political strife was inevitable
(11:41:15 AM) shane:	I think there are studies that show how the nature of a group changes when the number of members of that group goes beyond a certain threshold
(11:41:26 AM) shane:	s/the number of members/population/
(11:41:47 AM) shane:	by its nature, gentoo had to grow, and thus its nature had to change
(11:42:08 AM) shane:	strife, political or otherwise, was always going to be a consequence of that change
(11:42:59 AM) geoffb:	is that a view taken with the clarity of hindsight, or did it also seem that way at the time?
(11:43:48 AM) shane:	I knew it on some level at the time -- I had to do a bit of introspection at the time, to figure out where my motivation went
(11:44:15 AM) shane:	the clarity of hindsight only confirms its inevitability
(11:44:40 AM) shane:	however, I did believe at the time that some of the change could have been managed better (or at least delayed) had some different decisions been made

Noting that this interviewee’s decision to step back from his leadership role at Gentoo occurred well after the changes that are the focus of this analysis, my enquiry into his reasons for leaving serves here as a segue into a discussion of the “*political strife*” that lead to the change. We see here a keen awareness of the consequences of growth and the accompanying belief that change was inevitable for Gentoo. At the same time, a concern for the events that triggered change is present. Here, the interviewee acknowledges a degree of mismanagement, and I have shown other examples in this chapter where the same interviewee spoke of “missteps” in leadership activities.

It is important to note that while I have presented the events as something of a continuous timeline of cause and effect, albeit with some diversions, this interviewee's perspective is more nuanced. Where I began this portion of the interview considering that "*political strife*" was the trigger for change, he also points out that it was a consequence of change. My goal at this point is to demonstrate that organization members were able to use resistance to effect change, and to show the progression of organization structure from an apparently 'classic' hierarchy to its new and present form. The roles and conduct of various members of the organization are a continuing focus for Chapters 9 and 10; at this point I return focus to structure.

8.23. Gentoo Restructured

In contrast to the series of events that triggered change within Gentoo, the actual process of restructuring is relatively uninteresting and certainly beyond the scope of this work. The research question,

1. *How does the Gentoo Linux Project organize, and to what extent have resistant acts from within the Gentoo Linux Project contributed to the form of organization that has been adopted?*

is addressed and so I now turn to a presentation of key structural factors to complete the picture of the Gentoo organization as it stands at present day, and to provide a structural background for examinations of leadership and membership in Chapters 9 and 10.

Gentoo's organization structure moved, over the course of about a year, from the almost completely flat fledgling organization to a more thoroughly defined hierarchy with the range of bureaucratic features that I have described in the opening sections of this chapter. Over the course of the next year, Robbins put in place the mechanisms required to progress Gentoo. The Gentoo Foundation was established, and registered formally as a not-for-profit organization. Robbins and his peers appointed founding members to the Gentoo Foundation and the Gentoo Council and set in place a process for the renewal of those bodies by way of democratic elections. A system of, in effect, legislating formal developments to rules, policy in structure was established in the form of Gentoo Linux Enhancement Proposals (GLEP) and control of the process was passed to Council. Robbins subsequently resigned from Gentoo to focus on his own new fork of Gentoo named 'Funtoo Linux' and to euphemistically "*spend more time with family*". Other members of the original Gentoo leadership also, in time, stepped back from their roles and reverted to minimal participation or left the project entirely. Interestingly, Robbins seems to have sought to recast key parts of Gentoo history.

8.24. Amending History

Between April and May of 2006, the 'Gentoo Philosophy' document as it was officially posted online changed. All of the parts of the document that were of the nature of a 'manifesto' or an historical account were removed, and only the parts I have discussed in section 8.7 titled “A Self-Defeating Philosophy?” on page 173, above remained. The reason for the change is not clear, it having apparently been made quietly, though given the convention within OSS of maintaining authors' links with their works (Raymond 2001), it is likely that the changes were made by Robbins himself or a member of the original leadership group.

Whilst examinations of personalities are beyond the scope of this work, individuals' belief in their own power to engage in certain acts are certainly within its scope. Noting the tone and stated intent of Robbins activities at various times over the course of his movement from Stampede Linux to Enoch Linux then to Gentoo, there is a clear sense of 'ownership' – again consistent with the OSS convention linking authors to their works (ibid). There is also a continuing emphasis on his own self-appointed status as 'benevolent dictator' and 'founder' that in turn implies an apparent belief in the 'right' to direct outcomes. It is unlikely that the alterations to the founding Philosophy document were in any way malicious; rather it seems likely that Robbins took, in the course of removing himself from the Gentoo project – the events do coincide temporally – the liberty of removing the parts most closely associated with his self. Even so, as I have said, the core founding philosophies remain in official Gentoo documents and they have also been extended into newer documents associated with the restructure such as the formal statement of Gentoo Principles in the constituting documentation for the Gentoo Foundation. As the Gentoo organization operates now, alteration of policy documents require formal proposals and what is effectively a legislative process using the GLEP system.

8.25. Gentoo Linux Enhancement Proposals (GLEP)

In the course of the restructure to what I have called the new 'democratic' Gentoo, a formal process, akin to a legislative process, was established. Called '*Gentoo Linux Enhancement Proposals*', universally abbreviated to '*GLEP*', the system is an effective parallel for a parliamentary process of creating and submitting bills to a legislature where they will subsequently be debated, perhaps amended, and then approved or rejected.

As I will show in Chapter 11 whilst addressing the third research question, the GLEP process is borrowed – though with characteristic good humour, the official record states that it was 'stolen' – from the Python OSS project – another large but unrelated OSS project – and their system of '*Python Enhancement Proposal*'s (Warsaw et al. 2016). By the GLEP process, any member of Gentoo may author a proposal – as I have said, akin to a parliamentary bill – and submit it to Council for debate.

I return to further consider the GLEP process and how it is operated by the leadership in Chapter 9. At this juncture, the important point is that Gentoo has an established and formal process for establishing, and keeping, rules and policy.

8.26. Organizing, and Resisting, Gentoo

The principle goal of this chapter has been, as I have said, to provide a basis of evidence to address the first research question,

1. *How does the Gentoo Linux Project organize, and to what extent have resistant acts from within the Gentoo Linux Project effected the form of organization that has been adopted?*

Structurally, Gentoo presents a clear hierarchy of functions and a parallel hierarchy of roles. The Gentoo Foundation holds overarching legal responsibility for the organization in the sense that it is the externally visible legal ‘face’ of the organization – the point of interaction for government, business and other organizations – the legal owner of copyrights, trademarks and other property and the operator of financial and compliance functions. The constituting documents explicitly task the Foundation with “*decoupling necessary bureaucracy*” (Vermeulen & Shields 2005) from the day-to-day work of the organization’s ‘bureaucratic’ functions. Internally, the Foundation controls matters relating to externally focused activities such as advertising and legal work, and provision of infrastructure for Gentoo by way of an elected board of members called ‘Trustees’.

A peak rulemaking body in the form of the Gentoo Council, also comprised of a number of democratically elected board members with, notably, no single role of head of the organization meets on a regular – typically monthly – basis to debate and decide internal matters referred to Council by members of the organization, and to debate and decide what are in effect legislative proposals in the form of GLEPs. Council is interesting here for its status as a peak body in a hierarchy, and also for its legislative and decision-making capacity. In Chapter 9, Council is re-evaluated from the perspective of leadership practice within Gentoo.

Individual formal members of Gentoo are called ‘*Developers*’ (universally abbreviated to ‘*dev*’ or ‘*devs*’). They have practical powers to directly effect changes and improvements to the Gentoo Linux product, and they have legal powers to vote in elections and make legislative proposals. As this chapter has shown, individual members also have a very tangible power to resist the organization and to effect change by way of their resistance.

Gentoo Developers occupy roles in Projects. Projects are an analogue to the bureaucratic concept of a department in which divisions of labour and of function are effected. Projects are arranged hierarchically, with approximately thirteen to fifteen top-level projects leading a total of some 187 sub-ordinate projects. Projects have the power to make rules for and direct activities in their sub-ordinate projects.

In an initial hint at what seems to be a Bakhtinian (1984) inversion of hierarchy, the end ‘User’ is elevated to prime status as the core focus of Gentoo activities by the Gentoo Philosophy document. Whilst the Philosophy document has been altered concurrent with major organizational changes, the original and principle focus on attending to users needs by way of producing efficient and flexible computer software that is “*a joy to use*” (Robbins 2003). Subsequent to an initial presentation of the nature of the organization as it exists at present day, the chapter returns to the pre-history and history of Gentoo and charts its genesis and development from a small privately-owned organization with a defined leadership group into the large democratic hierarchy that is contemporary Gentoo.

Of central interest to this chapter and this work is the mechanism by which Gentoo’s transition occurred. Consistent with Clegg and Courpasson’s (2012) notion of polyarchic bureaucracy, change within Gentoo is regularly effected by resistant acts on the part of individual organization members who, in conventional hierarchical terms, ought not have the power to effect change, certainly not to the extent that they do. The extent to which Gentoo members may resist and effect change, however far exceeds that granted to members of polyarchic bureaucracy. For Clegg and Courpasson (ibid), resistance is allowed only to the extent it does not interfere with the overarching structures and function of the organization, whereas Gentoo members have an unfettered power to resist in whatever way, and to whatever end, they choose.

Gentoo members seem to regard that, as volunteers making valuable contributions to Gentoo, they have a right to resist to whatever extent they see fit. The nature of their resistance and the affect that has on Gentoo leadership is a continuing focus of this work in Chapters 10 and 9, respectively. At this point, however, it seems likely that the status of members as volunteers is a basis for their belief in a right to resist at levels that far exceed those observed by Clegg and Courpasson (2012).

In addition to its focus, the nature of member resistance is interesting. Despite the obvious presence of strong convictions and heightened emotions, resisters almost always remain quiet and polite in their acts of resistance. Some, in an approach that should perhaps be quite alarming to managers, will resist in such a benign way that their actions are barely recognizable as resistance at all. A valuable staff member who offers a series of very subtle ‘warnings’ by way of simple and polite requests for action, then simply and equally quietly walks away from the organization when her inquiries are not addressed, has exercised what might be seen as an ‘ultimate’ power to resist: the power to deny the organization of her participation and of her – by the accounts I have presented – valuable contributions. Managers here are presented with a significant challenge. They must, in a complete absence of loud demands, rambunctious debate and ‘bridge burning’ confrontation, recognize the most subtle acts of resistance as a risk posing substantial damage to the organization barely before such resistance is even visible.

Concomitant with the right to resist that Gentoo members feel, they also believe in a right to be informed. Situations where the leadership took unilateral, well meaning but ill-advisedly secret actions triggered dissent at such comprehensive levels within the organization that the very structure of the organization was, ultimately, reconstructed. Keenly aware of the strongly disruptive and potentially damaging consequences of unaddressed dissent, leaders have little choice but to respond quickly, emphatically and democratically to challenges. The alternative, as we have seen, is to lose control over the organization and to potentially lose substantial numbers of resources as dissenting individuals leave the organization.

That change is inevitable in any organization, particularly as significant growth occurs, is uncontroversial. What is different here is that, where the leadership of a more conventional organization is charged with detecting the need for change and for effecting change at their convenience, in this organization if leaders disregard or do not detect the need for change, individual organization members will step in and force change upon the leadership.

Contemporary Gentoo is an organization vastly different to its original form. With formal legal status, formally documented and established leadership, written processes for operating and legislative functionality to build new processes, a firm functional hierarchy of functions and an established hierarchy of roles, Gentoo is, by and large, organized as a classic Weberian (1978) bureaucracy. Gentoo departs from Weber's prescription in the same way that Clegg and Courpasson (2012) have observed, by organizationally permitting resistance on the part of members at all levels in the hierarchy. Gentoo exceeds Clegg and Courpasson's prescription by permitting vastly more disruptive acts of resistance than their polyarchic bureaucracy permits.

Subject to further discussion in subsequent chapters, I think it fair to claim that, at this point, the first research question is addressed by the evidence presented herein and the closing claim that the Gentoo organization is, by and large, a bureaucracy consistent with Weber's prescription in almost every way save that Gentoo grants almost unfettered freedom to effect change by way of resistance to all of its members irrespective of their position in the organization hierarchy. Our next task is to examine the role and function of Gentoo leaders and the way in which they lead and manage the organization in context of the unusually broad right of members to resist. Chapter 9 considers the experience of leading Gentoo, a process that I will perhaps counter-intuitively liken to being herded by cats!

true: in each case you get a number of totally incompatible answers, one of

9. Leading Gentoo – Herded by Cats

“I suspect that many an ailurophobe hates cats only because he feels they are better people than he is — more honest, more secure, more loved, more whatever he is not.”
(Carrière 1967, p.25)

9.1. Introduction

Having established in the preceding chapter that Gentoo is a fundamentally bureaucratic organization with the particularly unique feature of permitting resistance from all members regardless of their position in the hierarchy, this chapter attends to the practice of and challenges associated with leading in this somewhat unusual environment.

The second research question considers the roles of Gentoo members:

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

We can say that Gentoo has three broad types of members: there are leaders, developers and users, roles that I have described in the preceding chapter. Noting that, almost universally, all developers are also users and all leaders are also developers, I attend to the research question primarily as it applies to leaders in this chapter, and again as it applies to developers and users in context of a discussion on conflict in the next chapter.

Whereas Chapter 8 presented a historical account of Gentoo’s genesis and the events, and resistant acts, that contributed to the form of organization that Gentoo has now adopted, this chapter looks at Gentoo in terms of its present post-restructure state. This approach is effective because while the series of resistant acts described in the preceding chapter caused, or at least greatly accelerated, the structural changes, resistant activity has by no means ceased. Gentoo members at all levels of the hierarchy continue to enjoy their inherent right to resist and to effect change by way of resistance.

9.2. Founding and Counselling Gentoo

As I have discussed in Chapter 8 the restructure produced, amongst other changes, leadership groups with functionality broadly similar to that of boards of directors in the form of a Gentoo Council comprising seven members, and the Gentoo Foundation Board comprising five trustees. The initial Council and Foundation comprised members and trustees appointed by the outgoing management group, and mechanisms were set in place for subsequent democratic elections of Council members and Foundation trustees to be held annually. As I have said, the Foundation

“*decouples necessary bureaucracy*” (Vermeulen & Shields 2005) from Gentoo’s software development work as its principle function. Perhaps counter-intuitively, the work of the Foundation is of lesser interest to this study because the management of legalities, licensing, marketing and finances can be viewed as interfacing with the ‘real world’ and are not markedly different from similar work in any other organization. For this reason, this study does not examine the Foundation or its work. The Gentoo Council and its members, on the other hand, are of central importance to this study.

9.3. Electing Council

Council, constituted by GLEP:39 (Goodyear & McCreesh 2006), comprises seven members who are elected by Gentoo developers and sit for one year. Fundamentally, the election process is quite ordinary in that a defined set of constituents cast a ballot to select a leadership group. One interviewee, however, made a point of highlighting the approach adopted by Gentoo:

(5:09:27 PM) niall:	mind you, the voting method used within gentoo is called the condorcet method, where the elected people are those with the most acceptance across all votes
(5:10:05 PM) niall:	if 30% of the people give a top-vote for a particular person, and 50% says they definitely don't want this guy, then even if he has the top-most personal top-votes, he won't be elected
(5:10:07 PM) geoffb:	I've not heard of that (condorcet) before
(5:10:56 PM) niall:	it's a nice voting mechanism
(5:11:05 PM) niall:	you don't give votes to people, you order them in order of preference
(5:11:33 PM) geoffb:	so a high order drags you up, and a low order drags you down, and a combination of the 'two' is what delivers a final result....
(5:11:52 PM) geoffb:	yes, it does sound nice
(5:12:03 PM) niall:	something like that, yes
(5:12:40 PM) niall:	it ensures that a very popular guy in one field, but entirely not popular in another, isn't elected due to the "vocal minority" :)
(5:12:51 PM) niall:	(something that politics here in belgium ⁷³ should learn ;p)

73 The nature of this type of work is that geographic location is largely irrelevant to the contributions that people make and so I made a conscious decision, as I said in Chapter 6 on Methodology, not to ask for demographic data that was unimportant to the community (things such as age, sex, location and even real names). A few interviewees volunteered the information in the course of our conversations, however. Noting another point that

(5:13:23 PM) geoffb:	and someone who is elected will likely have the support of a broad range of 'constituents'...
(5:13:59 PM) geoffb:	hehe... actually, belgium came up in a conversation somewhere about a week ago... I commented that, at the time, Australia hadn't had a government for almost three weeks... and someone said... "pah, that's nothing, look at belgium!"
(5:14:48 PM) niall:	=)
(5:14:58 PM) niall:	iirc, in 2007, we didn't have a government for over a year
(5:15:22 PM) geoffb:	and I'll bet things ran perfectly smoothly during that time too!
(5:16:20 PM) niall:	day-to-day business doesn't have issues with a no-government situation
(5:16:29 PM) geoffb:	exactly!
(5:16:35 PM) geoffb:	so... is it fair to say that people voted on to council via that approach will be quite well supported by much of the community? that their decisions will generally be accepted?
(5:16:43 PM) niall:	it's only for long-term planning (especially on financial or political topics) that it is important
(5:17:46 PM) niall:	yes, people elected that way are often perceived to be generally similarly minded yet have sufficient expertise so that the community at large doesn't need to investigate each proposal that is voted upon

Methodologists may find the easy switches between a question/answer interview approach with concurrent chatty asides (included here to maintain the flow of the transcript) interesting; an apparently monotonic and emotionless medium does have potential for concurrent serious and casual chatter. What is notable in the context of this analysis, however, is the interviewee's quick preparedness to describe and defend the Gentoo approach to conducting elections. Whilst it may be difficult to discern from the transcript, I have a clear memory from the interview of feeling that the interviewee seemed proud of the election process and this sense of pride in what Gentoo achieves becomes more apparent when I examine more of this transcript in section 9.6 titled "Giving Feedback – The Role of Council" on page 217, below.

In setting out the goals and criteria for elections, the Gentoo Election Project (2017) refers explicitly to the Wikipedia page (2010) for the Condorcet Method. As the transcript implies, the

I raised in Chapter 6, that the Internet makes it possible to do types of research that would otherwise be unfeasible or impossible (Silverman 2004; Markham 2004). This interview took place with my interviewee in Belgium and I in Australia – a distance of some 16,700 kilometres (about 10,000 miles) – and yet our locations present as no more than an aside and a matter of interest.

Condorcet Method is a version of approval voting (Brams & Fishburn 2007) in which voters indicate their approval and disapproval of candidates such that, as the interviewee describes, candidates with strong approval by a minority of voters do not garner an unwarranted advantage.

Council elections occur about once per year. Because GLEP:39 (Goodyear & McCreesh 2006), the policy document that constitutes Council, provides for a number of safety mechanisms whereby Council may be dissolved prematurely if certain trigger conditions are met, elections are scheduled as they are required rather than on a particular calendar date. Gentoo members who are developers may be nominated, or nominate themselves, by way of a message to the gentoo-nfp (Not for Profit and Trustees) mailing list and must accept the nomination before the election period begins to be included on the ballot. All members who are developers are also eligible to vote, and they do so by remotely accessing a designated computer and executing a program that facilitates electronic creation, selection of preferred candidates, verification and submission of ballots. Subsequent to the fifteen-day voting period, votes are counted, winners announced and a complete audit trail that includes a log of the nominations process, every submitted ballot and the source code of the software used to count the ballots is published. The published ballots are coded with unique identifiers provided only to individual voters such that they have the option to verify the processing of their own ballot whilst their vote remains anonymous.

The elections process is interesting for a range of reasons. We see, yet again, the embedding of rules, policy and processes into the software tools used by the members. Gentoo has adopted a technically complex – when compared to more common voting methods – process for electing members to office, using electronic tools of their own making to implement the process. The process is highly transparent and operates such that any member of Gentoo or even of the general public can view and audit the entire election process from beginning to end if they see fit. The Condorcet method, promoted by Brams and Fishburn (2007) as a superior method of voting because of its propensity to elect genuine majority candidates rather than powerful minor candidates and its immunity to strategic or insincere ‘donkey’ voting is, I argue, attractive to Gentoo members for a number of reasons. First, the methods for voting and counting have been subjected to rigorous analysis and defence in both logical and mathematical terms (see: Szpiro, 2010:ch6; Brams, 2009; Saari, 2001:ch5). The merits and flaws of commercially produced electronic voting systems such as those used for government elections in the United States of America and The Philippines are a frequent and popular topics of debate in the OSS community and that the systems are widely criticized by computing professionals for the systems’ lack of transparency and susceptibility to tampering. Adoption of an open and defended voting system allows Gentoo members to resist established mainstream practice such that various world governments become the ‘other’ to this resistance, and at the same time they manage to embed a permanent resistance to the apparently opaque activities of early Gentoo leaders. Second, the very feature of the Gentoo organization that permits unfettered resistance has a secondary effect

of enabling strong emotions and occasional loud conflicts. The issue, which I have already demonstrated and shall further explore in this and subsequent chapters, makes the vulnerability of other methods of voting to election of strong minority candidates (Brams & Fishburn 2007) a particular threat to an OSS organization like Gentoo. Adoption of approval voting arms Gentoo members with an effective tool to assure the genuine broad approval of their elected representatives and that they are able to resist loud and assertive minority interests. The value of this capability will become increasingly apparent as we proceed. Third, the implementation of the entirely transparent system of elections enables Gentoo members to remain true to the fundamental principle of openness that is core to the OSS movement and, fourth, the creation of a computerized voting process provides an opportunity for play.⁷⁴ The Condorcet Method is more technically complex than other more common voting methods, but the complexities are easily addressed in software by skilled programmers who will regard the task as an interesting and enjoyable challenge.⁷⁵

An additional benefit exists in that the transparency of the process combined with the possibility of collective suppression of unfavourable candidates means that election results, once established, are widely accepted. My investigations have not identified instances of widespread or significant dissent relating to election results. Noting Raymond's (2001) observation that individuals build reputation by making regular contributions of good quality work – a practice analogous to Rehn's (2001) finding that reputation is built by gifting – and taking into account my findings in prior works that individuals with leadership qualities in OSS groups can be identified by observing networks of referral and reputation (Breach 2008b), I argue that members elected to Council by Gentoo members enjoy sufficiently widespread support that they are able to move quickly to the work of Council without enduring the delays, dissent and challenges that occur all too often in government elections.

9.4. Council Meetings

According to its constitution (Goodyear & McCreesh 2006), the Gentoo Council sits at least once per month. In practice, this does occur, though occasionally Council will meet more often

74 Whilst play, humour and inside jokes are a strong feature of OSS work and are something that is regularly visible in the various transcripts and documents I examine in this work, a detailed examination is a potential focus for future research but beyond the scope of this work. It ought to be noted, however, that the programmer Richard Stallman whom I credited with starting the GNU project and the notion of Free Software describes himself as a '*hacker*' (not to be confused with the '*crackers*' that the press actually mean when they misuse the word) and defines a hacker as a person who enjoys 'playful cleverness'. "*Playfully doing something difficult*," says Stallman, "*whether useful or not, that is hacking*." (2002).

75 An opportunity to 'hack', if you like.

by mutual agreement where higher workload or pressing issues arise. Meetings are conducted virtually in an Internet chat room in much the same way as I described my conducting of interviews for this study in Chapter 7. Council meetings occur at pre-agreed dates and times that are published so that all Gentoo members can know, if they wish, when meetings occur. Interested parties begin to appear in the chat room in the minutes before the scheduled start. Anyone, including members of the public, can attend. Organisers use software settings to prevent all but Council members from ‘speaking’ whilst the formal agenda proceeds. Should any other person need to address the meeting, be it by invitation or request, then software settings will be adjusted to facilitate their participation. Typically, at the end of each sitting, the chat room is ‘thrown open’ and an invitation to speak is issued to all present; the time is often used to ask questions of Council members, to offer input or to bring issues to their attention. The process is exactly like any ordinary meeting of a suburban council or community group, with the only substantial difference being that members attend virtually, from cafés, homes and workplaces, all around the world!

Council sittings begin with a roll call to confirm attendance of Council members. The Council’s constitution (Goodyear & McCreesh 2006) has a series of ‘safety net’ provisions to ensure the presence of members. An elected member who fails to attend two consecutive meetings is marked as a ‘slacker’, and any subsequent absence renders their seat on Council vacant and a new election is held to fill their place (though in the situations where I have observed this occurring, be it to deal with a resignation or dismissal of a slacker, Council has simply voted to endorse the next unelected candidate from the most recent annual election ⁷⁶ and no notable controversy arose from this variation to procedure). Members may appoint a proxy to appear on their behalf without triggering the slacker provision. Another safety net clause provides that if a Council meeting is attended by less than half of the elected members, Council is immediately dissolved and a new election for all places takes place within one month. Again, however, there seems to be a degree of flexibility in applying these rules. Only two Council members attended an extraordinary Council meeting scheduled for 15th May 2008, just one week after a regular monthly meeting. Lacking sufficient numbers to progress the agenda, much of the short meeting was spent debating whether or not the failure of five Council members to attend the extraordinary meeting ought to trigger the dissolution process. One member, clearly annoyed, vowed to take the issue to the gentoo-council and gentoo-project mailing lists for further discussion, but does not appear to have carried out his plan. The issue appears to have quietly faded away, perhaps because the Council had only one meeting remaining in its sitting year before a new Council was due for election.

76 See 11th September 2008 Council meeting transcript, for example,
<https://projects.gentoo.org/council/meeting-logs/20080911.txt>

Strong attendance by elected members is usual; they are mindful of their responsibility and take their work very seriously. Members occasionally appoint proxies to appear on their behalf where an absence is foreseen. Lateness occurs from time to time, particularly at times when time zones are shifting from Summer to Winter time in various parts of the world, but members always make a clear effort to attend and Council, self-policing as it is, is accepting of genuinely inadvertent errors to the effect that the slacker process is regularly acknowledged but rarely invoked.

Complete transcripts of Council meetings are kept – indeed, any person present can record a transcript as the meeting progresses – and are published on the Internet alongside written summaries of the agenda, key points and decisions taken by Council. Those published transcripts and summaries are available to the general public, in fact they form an important part of the data on which this study relies. Responsibility for writing summaries falls, informally, to whichever member undertakes to complete the task in any given month. In some years – notably in the 2009-2010 year – a non-elected member of Gentoo offered his services as a ‘secretary’ to Council and subsequently took responsibility for administrative functions such as establishing agendas, pursuing action items and writing meeting summaries.⁷⁷ This appointment is interesting because it seems to be an exception to the flat or inverted power structure at Gentoo and a reversal of the general practice at Gentoo – akin to Semler’s (2001) well-known ‘no secretaries, no assistants’ approach in his Brazilian organization – but at the same time, it is not a reversion to a Mintzbergian (1983) formalized “*support staff*” (p. 10), rather it is an isolated example of an individual recognizing and attending to an observed need. The notion of ‘personal itch’ – a kind of need – that I introduced in Chapter 5 is an important factor in addressing the ‘motivations’ part of the second research question, which is considered in further detail later in this chapter.

9.5. What Colour Should we Paint the Bike shed? – Efficiency of Effort

Council meetings are chaired by an informally self-selected Council member – typically a brief “*who wants to be chair this time?*” discussion will occur at the beginning of a meeting – who will lead the assembled members through the agenda, formulate the wording of statements and decisions for members to vote on, call for votes and counting of votes. An important focus for the meeting chair is the avoidance of ‘*bikeshedding*’ – a “*Law of Triviality*” (Parkinson 1983, p.45) described to amusing effect in “*Parkinson’s Law and Other Studies in Administration*” (2014) whereby members of a committee spend inordinate amounts of time debating relatively

⁷⁷ See 12th February 2009 Council meeting transcript,
<https://projects.gentoo.org/council/meeting-logs/20090212.txt>

unimportant matters – and keeping the meeting focused and on-topic with meaningless debates minimized.

```
[21:34:51] <dilfridge>      seems like we dont get any further here.
[21:34:53] <blueness>      scarabeus, write something and then email use to
                             review
[21:35:05] <dilfridge>      I volunteer to go through the old text and fix the
                             worst outdatedness.
[21:35:42] <dilfridge>      yeah scarabeus I guess noone objects if you just
                             send it to the alias somehow
[21:35:45] <dilfridge>      ok
[21:35:52] <dilfridge>      let's conclude this for now
[21:36:00] <scarabeus>      yea use our alias so we all can bikeshed in advance
[21:36:06] <blueness>      right!
[21:36:17] <dilfridge>      3. Open bugs with council involvement
[21:36:27] <dilfridge>      Bug 477030: Missing summary for 20130611 council
                             meeting [6] 78
```

Experienced as they are at participating in debates and discussions on line, individual members are keenly aware of the possibility for endless and largely useless conversations to arise. The term ‘*bikeshed*’ – widely used within OSS – is universally understood as an amusing label for a productivity-threatening phenomenon. Recognition of a discussion slipping towards bikeshedding is treated with mirth, but taken seriously so as to progress the meeting.

The propensity for voluminous yet largely unproductive discussion is widely recognized, not only in council meetings. Individuals may withhold their input on matters that are not of critical importance:

```
20:21 <dberkholz@>        i also have an opinion who should sign but i don't
                             want to bikeshed about it 79
```

or seek to terminate valueless conversations where continued discussion is wasteful of effort:

```
21:37:23 <dertobi123>      this topic is somewhat useless ... there's no
                             problem to solve. if someone screws up -> get their
                             account locked.
```

⁷⁸ Extract from 8th October 2013 meeting transcript,
<https://projects.gentoo.org/council/meeting-logs/20131008.txt>

⁷⁹ Extract from 23rd October 2008 meeting transcript,
<https://projects.gentoo.org/council/meeting-logs/20081023.txt>

21:37:28 <Calchan>	how about letting anybody touching anything as long as it is masked?
21:37:40 <Calchan>	dertobi123, unfortunately it isn't that easy
21:37:50 <dertobi123>	it is ...
21:37:52 <solar>	ok so policy.
21:37:52 <Betelgeuse>	Lot of people are well reachable so allowing touching is not good.
21:37:59 <Calchan>	dertobi123, we have to leave people a certain margin for error, they
21:38:01 <Calchan>	re not robots
21:38:16 <dertobi123>	having loads of policy just for some tards is just plain bullshit
21:38:20 <solar>	policy proposal. No useless data in metadata.xml (that's what #3 is about right?)
21:38:33 <Calchan>	Betelgeuse, ok, (I was raising an hypothetical idea here, not pushing anything)
21:38:43 <Calchan>	solar, right
21:38:45 <scarabeus>	yeah lets stop that bikeshed on -dev about that metadata changes
21:38:45 <solar>	where useless is stuff that does not help the end user in anyway. Ie internal stuff only. ⁸⁰

In this section of transcript, members are discussing a proposed procedure for addressing situations where a developer makes a technical mistake that has widespread effect. Though not mentioned here, members are aware that Gentoo has technical mechanisms that allow the easy reversion of errors. The discussion, apparently in response to a recent isolated event, quickly recognizes the rarity of the perceived problem, acknowledges that to spend time on discussing it is wasteful and the meeting moves on quickly to the next agenda item.

In the preceding chapter I highlighted the principle of OSS that the forking – breaking up – of projects is a damaging event to be avoided, largely because forks rob projects of resources by reducing the number of people available to do work. The quick recognition and avoidance of effort wasting activities seen here seems to be related. An oft-repeated theme in discussions on Gentoo forums, mailing lists and in meetings is the abundance of work that needs to be done and the dearth of people available to do it. As far back as 2006, in the July Council meeting, members acknowledged the issue with typical levity:

80 Extract from 9th March 2010 meeting transcript,
<https://projects.gentoo.org/council/meeting-logs/20100308.txt>

21:50 <@solar>	who is going to code it anyway? I'm not totally in favor of approving something then the work is dumped on others.
21:50 <@Koon>	we approve the idea of it
[...]	
21:51 <@Koon>	because "approving things and then hoping someone will do it" is what we do ⁸¹

As something of an interpretive aside, it is important to note that this and other uses of humour cannot be interpreted to mean that members do not take their work seriously, for the evidence shows that, overwhelmingly, the opposite is true. In fact, my notes record that immediately after that exchange the individuals who were joking light-heartedly at one moment proceeded with notable and explicit caution for the possible consequences of a Council decision relating to developer access to Gentoo infrastructure.

While light-hearted banter is so usual as to be a matter of routine, I believe this is a consequence of a strong shared experience among a group who very much enjoy the work they do. As in any group, Gentoo and OSS generally have a large collection of in-jokes and inclusion of humour in day-to-day communications is usual. In Chapter 6 in discussing the disembodied nature (Markham 2005) of research carried out on line I noted Rheingold's (1994) observation that individuals communicating on line will embellish their communications so as to better convey tone and intent in textual communications. This is important because, as is widely understood, the lack of visual and audible cues heightens the risk of serious misinterpretations that may quickly develop into unwarranted conflict. Particularly in spirited debate, people may interpret aggression or anger where no such emotions were present or intended to be conveyed. A liberal use of humour and in-jokes is one such mechanism whereby genial relations are maintained.

A common feature of Council meetings is recognition of an immediate need to allocate a particular task. Individuals are quick to volunteer effort where it is needed, but they are at the same time keenly aware of their own workloads, both within Gentoo and elsewhere in their lives, and will not hesitate to decline to participate, with a genuine and apologetic explanation, when they know that they do not have the personal capacity to accept additional work. The apologetic stance seems to be a dual recognition of the importance of the work and the cost to the organization of taking on work that is unlikely to be completed on a required schedule. The value of effort and efficiency of its application is a core theme of Gentoo work.

81 Extract from 20th July 2006 meeting transcript,

<https://projects.gentoo.org/council/meeting-logs/20060720.txt>

9.6. Giving Feedback – The Role of Council

Astute readers will have noted that I used the word ‘counsel’ in the heading of a section (section 9.2 titled “Founding and Counselling Gentoo” on page 207, above) earlier in this chapter discussing council. The choice of terminology was not accidental; rather it alludes to an intriguing feature of leadership within Gentoo.

One of the most striking points of the data collection phase of this research occurred during the formative interview stages. Whilst a tendency for people in leadership roles to downplay the importance of their personal contributions is a major theme of this study, one particular individual’s representation of their role stood out.

I sought to establish the nature of individual’s role with Gentoo:

(8:49:27 PM) geoffb:	so you mentioned gentoo council... and also LUG.... can I ask you about the council first... what was that about? what was your role there?
----------------------	---

The response seemed innocuous:

(8:50:16 PM) niall:	my role was giving feedback on proposed directions of the gentoo project
---------------------	---

It was the continuation of the answer that prompted me to investigate further:

(8:50:25 PM) niall:	quite similar as what the current council does
(8:50:52 PM) niall:	(see council.gentoo.org)

I was of course already familiar with the Gentoo Council. This response piqued my interest because I saw Council as a peak decision-making body that in effect controlled decision making within Gentoo. I was unaware of feedback-giving roles within the single-level structure of Council, and so I was unprepared for this answer.

(8:50:59 PM) geoffb:	looking at that now :-)
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My interviewee continued:

(8:51:06 PM) niall:	previously, gentoo was managed by gentoo managers (which were the top-level project leads)
(8:51:24 PM) niall:	gentoo had quite a few attempts to steer the project in its life :) ⁸²

⁸² Note again the use of a ‘smiley’ emoticon here.

(8:51:39 PM) geoffb:	yes, I've heard a few comments to that effect
(8:52:48 PM) niall:	the advantage is that, if someone has a good idea and there are at least a few fellow people that want to actively work on it, then it'll be done, integrated and such... the need for such steering bodies within a free-software community is less pertinent for technical choices as long as those choices don't limit other choices

I felt that the notion of 'feedback' required clarification:

(8:53:48 PM) geoffb:	so the web page says "Council decides on global issues and policies" but you used the words "giving feedback"
(8:55:36 PM) geoffb:	has the role of council changed, or do you consider the role to be a little less 'direct' than the page implies?
(8:56:10 PM) geoffb:	(I'm not sure if 'direct' is quite the right word...)
(8:56:25 PM) niall:	I think feedback is more properly defined; it's quite difficult for a community to allow non-feedback-driven decisions
(8:56:45 PM) niall:	say that the council goes direction A, but the community wants B, who will win?

I answered his rhetorical question:

(8:57:07 PM) geoffb:	community, of course...
----------------------	-------------------------

The interviewee pressed on with his explanation of 'feedback':

(8:57:11 PM) niall:	I think the council has a wide area of expertise and that expertise will help the council to give steering directions (feedback) on issues
(8:57:58 PM) niall:	and when a hard choice needs to be made, the council will need to take a particular stand and thats good, because if there's no decision then, then the choice will be continuously postponed

Acknowledging, apparently, with a 'smiley' emoticon that 'feedback' is a deliberate play on words:

(8:58:06 PM) niall:	yet i still see it as feedback :)
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I interpret this as an indicator of the participant's awareness of the nature of our conversation; one is immediately reminded of Mead's (1961) experiences with apparently playful participants

(Scheper-Hughes 1987). This is an opportunity for him to construct and present a particular narrative and, while he recognizes that I am aware of what he is doing, he persists.

I too, persist:

(8:58:33 PM) geoffb:	the council has a formal decisionmaking role... at least on 'paper'.... what's really happening? how are decisions made?
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His response is consistent with my understanding of Council process. The group meets regularly and negotiates a predefined agenda of work in a similar way to a parliament debating and voting on bills:

(9:00:53 PM) niall:	proposal is sent in, council members read it, have a little discussion, take a stand and give feedback on that stand
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The interviewee persists with a representation that seems passive and servile. This is interesting because as a member of Council he and his co-councillors have the legal responsibility to ‘*debate*’ and ‘*decide*’ on the organization’s direction, yet he describes his role in terms of ‘*a little discussion*’ and ‘*give feedback*’. If there is power in the role of councillor – and I believe that there is – then the interviewee seems quite reluctant to represent it as such.

I offer further explanation of my intent, along with an indication of my ability to triangulate this ‘data’:

(9:01:03 PM) geoffb:	(I realize, by the way, that I can figure this out for myself by reading meeting logs, but I'm interested in how you see it more than how I interpret it)
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And received another smiling acknowledgement:

(9:01:11 PM) niall:	=)
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Whilst one possible interpretation is that there is a game being played here, – a twisting of words for the participant’s amusement such as that allegedly experienced by Mead (1961) – subsequent comparison of this interview text with transcripts of Council meetings led me to believe otherwise. The reluctance to speak in powerful terms here is, as I shall show, entirely consistent with the conduct of Council itself. For this reason, I interpret the smiles as acknowledgement of a perceived shared understanding, not as amusement.

Unsatisfied with the notion of ‘giving feedback’, I press on:

(9:01:14 PM) geoffb:	feedback takes the form of a 'decision'?
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(9:01:30 PM) niall:	yes, but how is that decision definitive in a free software project?
(9:01:46 PM) geoffb:	that's exactly what I'm wondering
(9:01:50 PM) niall:	I mean, say that the council would decide to drop portage in favor of paludis (won't happen, but hypothetically)

By way of clarification, ‘*portage*’ and ‘*paludis*’ are two computer programs called ‘*package managers*’ that have a central role in controlling and managing the process by which the Gentoo Linux ‘meal’ is assembled from its constituent ‘ingredients’. The distinction between the two might be considered similar to that of cooking on a gas stove or an electric stove; the final result produced by either means is largely indistinguishable from the other but the merits of each approach are contested. Here, portage and paludis represent two distinct approaches to achieving the same outcome and they are the focus of a major, central and at times heated political debate within Gentoo. I will return to the package manager debate several times in the course of this analysis.

The interviewee goes on to discuss the political consequences of decision-making and the need for extreme care:

(9:02:28 PM) niall:	first, it's a wrong decision (because both can be used interchangeably), it will be difficult to be digested by the community, and you're giving wrong signals to the portage developers
(9:03:53 PM) niall:	but if the council takes a well-documented and thought-through decision, it will be properly accepted. that's imo ⁸³ the primary role of the council
(9:04:28 PM) geoffb:	hmmm, ok, so it's in a sense a formalization of a decision that was more-or-less made by the community already?
(9:05:03 PM) niall:	yes, or a decision where the community was split equally and a decision needed to be taken.
(9:05:13 PM) geoffb:	ok

In closing, the interviewee alludes to technical expertise as a key source of power for Council members:

(9:05:43 PM) niall:	in such cases, either decision would be accepted, but the expertise within the council would propose decisions that are in line with a common vision
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83 Abbreviation meaning “in my opinion”.

(that of the council) rather than fragmented decisions

This portion of the interview concludes with an acknowledgement that, as I said in Chapter 6 on methodology, interviewees and other participants are rarely focused on the single task of participating in research or in the Gentoo project:

(9:06:09 PM) niall: gotta go for a while, need to prepare food
(9:06:20 PM) niall: see you later? (probably back in an hour or two)

The closing text of the interview is interesting methodologically because it shows me constructing questions while the interviewee is ‘speaking’. By the time he had constructed his previous answer and then said “*gotta go*”, I had already constructed my next question:

(9:06:24 PM) geoffb: what about, hypothetically speaking, if the community at large was pushing for a particular direction but the council members, because of their expertise, could see that the direction was somehow inherently broken....

And then acknowledge his previous statement with a commitment to re-ask the question next time we meet:

(9:06:37 PM) geoffb: ok (committing that one to the log now, will ask you about it again later)
(9:06:44 PM) niall: ack ⁸⁴

As it happened, the conversation resumed almost two weeks later!:

(4:59:21 PM) geoffb: ready when you are :-)
(4:59:58 PM) niall: yup
(5:01:04 PM) geoffb: so... last time around we talked about your involvement with OSS, mostly with gentoo, past and present... documentation is a big part of what you do... and we were discussing your role on the gentoo council
(5:01:12 PM) geoffb: 'giving feedback', as you described it!
(5:01:38 PM) geoffb: I've been pondering that a great deal!

84 Abbreviation meaning “acknowledge” or “I acknowledge”, etymologically derived from the use of ‘ACK’ (acknowledge) and ‘NACK’ (not acknowledge or ‘fail’) as part of an error checking function in computer communications protocols.

(5:02:02 PM) niall:	yes, and iirc, ⁸⁵ you wanted to know what I thought would happen if the council would "enforce" a decision rather than giving feedback, or something like that
(5:02:22 PM) geoffb:	well, the question that I 'committed to the log'... was this:
(5:02:27 PM) geoffb:	what about, hypothetically speaking, if the community at large was pushing for a particular direction but the council members, because of their expertise, could see that the direction was somehow inherently broken....
(5:02:42 PM) niall:	ah yes
(5:02:55 PM) geoffb:	(do you have a copy of the log so far, if not, would it help if I sent one?)

We continued where the previous discussion had ended. Note that the interviewee's statements continue with his prior characterization of Council's role as 'giving feedback' and 'making suggestions'.

(5:03:43 PM) niall:	well, it depends what you see as the "community at large". If the push comes from the user community, but the developer community follows the council, then the suggestion of the council will be followed
(5:04:26 PM) geoffb:	hmmm, ok... I hadn't considered two 'sub' communities
(5:06:17 PM) niall:	if the developer community pushes and council doesn't follow, then either the proposal from the developers gets resubmitted with additional remarks (to counter the council's remarks) or (but this is when things are really ugly) the council is revoted upon (reelections)
(5:06:56 PM) geoffb:	in what sort of situation might the dev's push and council not follow?
(5:08:41 PM) niall:	no idea, that situation sounds almost absurd, because the council is more than often a result of developers voting for the council members, so it would be weird if the developers (who voted for the council members) have entirely different opinions on the matter
(5:09:08 PM) geoffb:	hmm, true
(5:09:27 PM) niall:	mind you, the voting method used within gentoo is called the condorcet method, where the elected people are those with the most acceptance across all votes

85 Abbreviation meaning "if I recall correctly".

The context of the discussion on the use of the Condorcet approval voting method that I presented earlier in this chapter is further expanded here. In response to my question regarding a hypothetical situation where Council and the developer community were at odds on a particular issue, the interviewee explained the election process to demonstrate why the situation I proposed was “almost absurd”. Essentially, the method I presented in section 9.3 titled “Electing Council” on page 208, above, whereby electors effectively vote for preferred candidates and against undesirable candidates produces an outcome whereby elected members have broad approval and individuals who have only isolated approval are unlikely to be selected (Brams & Fishburn 2007). This, together with the near complete transparency afforded to the election process by Gentoo seems to create not only a genuine satisfaction that the ‘right’ candidates have been selected but also a comfort that the collective will of the organization’s members is met.

The nature of the election process also appears to, at least in part, explain the notion that the role of Council is not to make decisions but to ‘give feedback’. As the transcript shows, it was immediately apparent to me that this was an important feature and so I continued to explore as the interview proceeded.

(5:17:46 PM) niall:	yes, people elected that way are often perceived to be generally similarly minded yet have sufficient expertise so that the community at large doesn't need to investigate each proposal that is voted upon
(5:18:43 PM) geoffb:	which... in a way... almost seems at odds with your 'giving feedback' position...
(5:22:24 PM) geoffb:	which I find to be particularly interesting. The council seems to have strong and broad support, yet it is still very careful with the process of decisionmaking
(5:22:54 PM) niall:	I think it is because it is careful with decisions that it has broad support
(5:23:18 PM) geoffb:	ok
(5:23:22 PM) niall:	note that, officially, they take decisions often, but if you read the decisions, I personally interpret them as feedback :)

(Note here the use of a smiley emoticon again. Clearly the interviewee is well aware of my interest in his notion of ‘giving feedback’ at this stage but the meaning of the smile is unclear. Perhaps it is an acknowledgement of what is by now a shared understanding, an interpretation I have made in other contexts already, or it may be an acknowledgement that he has been ‘caught out’ in a quite deliberate play on words. Other interpretations are, of course, possible.)

(5:23:57 PM) niall:	unlike enterprises, where decisions are not backed up with reasoning (often because the reasoning may not be known to the employees)
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(5:24:59 PM) geoffb:	in this case, the reasoning is very much out in the open for all to see
(5:25:50 PM) geoffb:	Im intrigued by the 'feedback' perspective
(5:25:59 PM) geoffb:	how did you arrive at that way of thinking?
(5:27:17 PM) niall:	I guess it evolved from experience; back when Gentoo had "top-level domain managers", it was more a decision-making process where the reasoning was less transparent to the community. Although users perceived the distribution as evolving faster, there were internal struggles with how the steering of the project was done. The introduction of the Gentoo Foundation and the council remediated that
(5:29:16 PM) geoffb:	do other council members see their roles in the same way... 'giving feedback'?
(5:31:45 PM) niall:	no idea, I don't think that every member thinks that way (they're not clones of each other ;)
(5:32:07 PM) niall:	btw, ⁸⁶ like I said earlier, I <i>*was*</i> a member of the council a few years back, I am not currently
(5:32:30 PM) geoffb:	yes, I realize that you're not a member now
(5:33:01 PM) geoffb:	I am, as I said, particularly interested in your view of that responsibility... wondering how it came about, whether it's a view shared by other members past/present, etc...
(5:33:40 PM) geoffb:	I wondered (by that last question) whether you arrived at that position by your own thinking or by discussion with others, something like that.
(5:35:25 PM) niall:	I can recall that it was discussed as well and, apart from the actual wording, the semantics where generally the same :) ⁸⁷
(5:35:46 PM) geoffb:	discussed at a council meeting?
(5:36:02 PM) niall:	no, was in the council channel but was general chatting
(5:36:14 PM) geoffb:	uh-huh
(5:36:29 PM) niall:	I can remember it was first about the use of the english language (because far from all members were native english speakers) and evolved from that point

This section of the transcript is interesting from a power perspective. The interviewee aptly describes a practice and a way of thinking that is widespread; other interviewees expressed similar sentiments and the published transcripts of Council meetings routinely show Council members behaving in a way consistent with the idea that Council gives feedback and offers suggestions but does not (really) make decisions. When I put it to the interviewer that the level of

⁸⁶ Abbreviation meaning “*by the way*”.

⁸⁷ Yet another smiley; see my parenthesized examination on this on the preceding page.

caution he claims Council members take seems at odds with the strong and widespread support that they enjoy – meaning, to me, that the support they enjoy means they ought to be free to take whatever decisions they choose – he astutely points out his belief that the reason they enjoy such strong support is that their decision-making is so cautious.

9.7. An Abundance of Caution

In one meeting, an extended technical discussion over a method to address the way in which a certain type of library file – used in building computer programs – would be managed across the entire Gentoo software base met with universal approval of Council members. When a call to vote on the issue was called, several members called for the matter to be deferred to the mailing list (referred to as ‘ml’ in this transcript):

```
20:54 <@ferringb>          so... vote?
20:54 <@jmbsvicetto>       I thought we were going to move this to the ml? 88
20:54 * ferringb has the hammer :P 89
20:54 <@jmbsvicetto>       hehe
20:55 * ferringb notes the ml suffices if folks want it, but it's not going to
                        be a fast process
20:55 <@wired>             [dodges the hammer] +1 here ftr :)
20:56 <@Halcy0n>           I say just give it about 5 days to let people
                        comment if we missed anything, and then we can just
                        go ahead with it if nothing big is brought up.
20:56 <@jmbsvicetto>       If we want to vote, I vote yes. I'm ready to work
                        with people to get an implementation plan that
                        addresses all concerns raised during this discussion
20:56 <@Halcy0n>           We can do stuff on the mailing lists and not just in
                        these meetings :)
20:56 * ferringb nods
20:56 <@jmbsvicetto>       we've already decided we can vote through email at
                        any time
20:57 <@ferringb>          basically I'd like to get it decided today, then
                        leave it to the next council run for the exact
```

⁸⁸ Abbreviation meaning “*mailing list*”.

⁸⁹ Note this form of speaking as an ‘action’. The writer causes this to appear by typing “/me has the hammer :P” and the software presents the message as shown. The goal is to represent a sense of a physical (if virtually physical) action by way of a kind of illeistic device. This is yet another example of participants in a disembodied environment re-inserting conversational cues in the way that Rheingold (1994) described and one that is widely used.

	details of transition plan to be worked out by then
20:57 <@jmbsvicetto>	ok, in that case I vote yes
20:57 <@wired>	yes
20:57 <@Betelgeuse>	So we are voting on if we want to get rid of them?
20:57 <@Betelgeuse>	or what?
20:57 <@ferringb>	heh.
20:57 <@ferringb>	punting them, specifically the eutils approach.
20:58 <@Betelgeuse>	I have no desire or need for them so - yes
20:58 <@jmbsvicetto>	ferringb: let's find a wording to point to
20:58 <@ferringb>	jmbsvicetto: would be useful yes.
20:58 <@Chainsaw>	I am in favour of deleting LA files where it makes sense, yes.
20:59 <@jmbsvicetto>	The motion is to drop la files, when appropriate, through the use of a function in eutils that will only be called if the static-libs use flag is not set. ⁹⁰

The outcome reached here is that, despite the Council having already reached agreement on the technical issue, the particular matter will be referred back to the gentoo-dev (developer) mailing list for further discussion by all interested Gentoo developers. In an example of the caution that it takes with decision-making, Council recognizes the broad impact that their decision will have and creates an opportunity for Gentoo members to comment on the decision before it takes effect. Notably, one Council member's wish to have some form of decision recorded leads Council to take an in-principle vote that will become effective after five days if no major new concerns arise. The vote passes with unanimous approval.

There is a danger, however, that the abundance of caution that seems to be a key foundation of Gentoo members' approval of Council may lead to paralysis. Consistent with any other governing or decision making group where the make-up of the group is characterized by regular scheduled change or time-limited appointments – we see discussions of the nature of the French High Court of Australia ⁹¹ or the Obama Presidency in which particular styles or characteristics are attributed to an institution by virtues of its composition at the time – the Gentoo council has clearly visible, if not explicitly stated, agendas, approaches and styles of operating and decision-

90 Extract from 26th October 2010 meeting transcript,
<https://projects.gentoo.org/council/meeting-logs/20101026.txt>

91 The term “*French High Court*” refers to the period (September 2008 to January 2017) in which Justice Robert French AC was Chief Justice of the High Court of Australia.

making. In my notes on Council meeting transcripts, I have made regular entries to the effect that in certain years Council seemed relaxed and jovial, at other times more confrontational, and the matters discussed and how they are dealt with varies according to the make-up of Council. A notable instance occurred as the 2009-2010 Council year drew to a close. At the beginning of the meeting it became apparent that no formal agenda had been prepared:

21:06:15 <Calchan>	I spent a lot of time and effort last month putting together an agenda and a meeting that some of you said was a waste of your time
21:06:15 <Betelgeuse>	ferringb: ⁹² we can still vote on issues but members might be vary on voting on something they know little about
21:06:23 <Calchan>	so I certainly wasn't going to waste any more of your time again this month
21:06:45 <Calchan>	and it demonstrates yet again that if I don't do it then nothing happens
21:07:09 *- dertobi123 sighs	
21:07:14 <ferringb>	Calchan: don't suppose you've been maintaining a list of things that didn't make it into a specific council meeting?
21:07:15 <Betelgeuse>	so missing leio, ulm ?
21:07:18 <ferringb>	aka, a backlog?
21:07:29 <leio>	I'm here
21:09:23 <Betelgeuse>	was this our last meeting?
21:10:06 <dertobi123>	this is our last one, yes
21:10:51 <Betelgeuse>	Not having an agenda is quite fitting for the year.
21:11:12 *- ferringb sighs	

Noting the examples of re-insertion of emotion into the textual discussion that I have mentioned previously, the meeting begins with an air of apparent frustration and seeming disappointment. An indication of the tone of the self-assessment that comes later in the meeting is set early. With no formal agenda to attend to and brief technical issue resolved, discussion turned to a reflective self-review.

21:18:42 <ferringb>	additional item that likely is worth discussing; since this is the last meeting, a post mortem of the last year is likely wise, in terms of what worked, what didn't.
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92 Note this practice of directing a statement to a specific individual in the course of a group conversation.

[... unrelated technical discussion ...]

21:41:35 <ferringb> standard post mortem (if you've not participated in one of these just pm and I'll go through details)

21:41:40 <ferringb> sound good?

21:42:43 <Betelgeuse> yes

21:44:00 <Betelgeuse> I think this council suffered from the usual lack of "drive"

21:44:20 <Betelgeuse> People do show up but effective work would require plenty of hours outside meetings

21:44:21 <ferringb> Betelgeuse: lack of drive, or burnout?

21:45:21 <Betelgeuse> It tells quite a lot that our last two summaries are "To be completed"

21:45:26 <ferringb> yep

21:45:35 <dertobi123> well, from my pov ⁹³ ... this council was way too passive. we merely just discussed some eapi/pms stuff and became tired while doing so. personally i somehow lost interested in gentoo and several other things became much more important for me. i should've stepped back from the council half a year ago or so - but seeing who'd take my seat i decided to fullfill my term.

[...]

21:46:28 <wired> id like to see the council be more decisive

[...]

21:47:18 <ferringb> Betelgeuse: things aren't really getting done however.

21:50:28 <ferringb> either way... other failings/issues from the past year?

21:50:55 <ferringb> wired: "be more decisive" is a bit vague. specifics/examples would be useful here- post mortem should be specific failings rather than "I'd like us to be more xyz" if at all possible

21:52:32 <dertobi123> ferringb: there was interest, i just didn't worked an hour or two a day on gentoo - just like i did a year or two ago. that's what i tried to express with "lost interest".

21:53:08 <ferringb> dertobi123: fair enough. as said, wasn't trying to pick at you specifically, more looking at the general problem that can arise there

21:54:40 <ferringb> dertobi123: any thoughts on how to help w/ that? realistically the council does have a semi-hefty req on one's time

93 Abbreviation meaning “point of view”.

21:54:52 <wired>	ferringb: a few months back i proxied for leio at a meeting where nothing was decided, no-one had read the agenda items enough and everything was postponed. i don't blame people for not having enough time to spend for the council, but in my eyes the council should be a swift body, quickly resolving things devs can't
21:55:09 <ferringb>	similar views for myself
21:55:34 <ferringb>	so why is it slow? ignoring people not reading shit (can't do anything about that aside from come election time)
21:55:54 <dertobi123>	well, i was prepared (i.e. reading the agenda and related topics/gleps) every meeting i attended
21:56:05 <dertobi123>	but that doesn't matter at all now
21:56:22 <ferringb>	"doesn't matter at all now" howso?
21:56:58 <wired>	im not pointing fingers here and my experience doesn't mean that you hadn't done your studing, but the result was the same, a month went by without anything getting done
21:57:32 -*- ferringb notes	the point of a post mortem here is to not care about who did what. it's to ensure that next time around, these issues don't re-occur
21:58:08 <dertobi123>	ferringb: as in "it doesn't matter if i was prepared, if in the end the result was to just postpone things"
21:58:14 <ferringb>	ah, right
21:58:32 <ferringb>	dertobi123: any thoughts on how to keep the council body from continually postponing things?
21:58:48 <wired>	i also feel that the council is kind-of afraid to take big decisions
21:58:51 <Betelgeuse>	ferringb: you need a member actively pushing things to avote
21:58:53 <NeddySeagoon>	council meetings should mostly be a dog and pony show - making decisions public and explaining the reasoning. There should be very little discussion. Its an opportunity for the council to be held to account by the voters ⁹⁴

A number of interesting points arise here. There seems to be agreement among all members that this Council has not been as productive as it might have been, and there seems to be a general air of disappointment in the discussion. Whilst one individual briefly becomes defensive, the apparent result of a misinterpretation, others using phrases like “*I’m not pointing fingers*” and “*is*

94 Edited extract from 14th June 2010 Council meeting,

<https://projects.gentoo.org/council/meeting-logs/20100614.txt>

not to care about who did what” are quick to assert that the goal of the discussion is to reflect, not blame. Other parts of the discussion (excluded here for brevity, visible in the original transcripts) considered the possibility that constitutional changes might make Council more functional – arguably a form of bikeshedding and an exemplar of the group’s own self-assessment, since an outgoing Council has no time or power to effect such change – and a consideration of whether the broader Gentoo community and the gentoo-dev mailing list in particular had been sufficiently active in bringing matters to Council for decisions.

The latter point is notable in terms of power roles. Not only do Gentoo developers and members have the right to resist that I identified in the previous chapter, it seems that they are expected to engage Council on issues before Council will act. When considered together with the prior example of Council reaching agreement, taking a unanimous decision and still referring the matter back to organization members for discussion, we see that the view of the interviewee whom I presented earlier that the role of Council is to ‘give feedback’ is well supported by the way in which decisions are made. Notwithstanding the potential for paralysis and noting that the example of self-review indicates a clear understanding that making no decision is as much a problem as making ‘wrong’ decisions, the collective care that Council members take with their decisions is unique, and entirely different to that which we would expect of a conventional management team, board of directors or government. A basis for this unique approach appears to lie in the motivations that bring Council members to their leadership roles, a particular variation of the concept of the ‘personal itch’.

9.8. That Ubiquitous Itch

Interviews with individual Gentoo members have given, as I have said, powerful insights in to the way the organization and individual leaders operate. I am fortunate that many individuals in leadership positions were so willing to tell their stories. The research question that this, and the next, chapter considers:

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

And so I now turn – though it might be argued that this chapter is entirely about motivations – to the personal and private motivations of members of the leadership. I will argue more explicitly later that everything we have discussed in this chapter so far can be seen as exemplars of resistance to conventional approaches to organization, leadership and decision-making; still the reasons for this resistance must be considered. To attend to this, I remind the reader of the notion of the ‘personal itch’, first introduced in Chapter 5 as the basis for “*every good work of software*”

“Every good work of software starts by scratching a developer's personal itch.”
(Raymond 2001, p.23)

As I said in Chapter 5, the notion of the personal itch has been very widely explored in the literature. Searches on the Internet for that explicit quote turns up some two hundred books – scholarly and otherwise – and more than one hundred journal articles. When I interviewed Gentoo members and other OSS programmers, almost every person brought up the notion of the personal itch, unprompted, when I directed the conversations to explore their reasons for participating. The ubiquity of this notion presents an interesting challenge for research. One may ask why, if we know with certainty, that almost without exception any person who is asked why they participate in Gentoo or in OSS will answer *“I was scratching a personal itch”*, should we ask the question at all?

I asked, initially, because I wanted to see the responses. I was well aware – I think everyone in OSS is – of Raymond’s (2001) ‘personal itch’ metaphor, yet I wanted to see first hand how the metaphor was used ‘in the wild’. As I have said, it became quickly apparent to me that the metaphor was ubiquitous – and apparently universally accepted – and so I took it upon myself to investigate more deeply; to try to seek out the nature of the itch, whether it was the same for everyone and how the itch was relevant to my ‘motivations’ question.

Everybody who spoke of the itch – be it prompted or volunteered – cited the itch as a key motivation and was able to articulate at length the personal issue that constituted their itch:

(10:53:13 AM) geoffb:	so... at gentoo... you said package updates and bug fixes...
(10:53:30 AM) geoffb:	what sort of things did you do in those respects?
(10:53:53 AM) shane:	debian was arguably the most stable of the linux distros (and they achieved that precisely because they took so long to release new software)
(10:54:42 AM) shane:	there was a lot of watching freshmeat.net ⁹⁵ for new & exciting packages, for new upstream versions of software; a lot of listening in online forums and irc for different bugs etc
(10:54:58 AM) shane:	and I applied all of that to (my idea of) improving the package sets in the portage tree
(10:55:12 AM) geoffb:	"my idea of"?
(10:55:46 AM) shane:	well, my approach to being a gentoo developer was that I was here to scratch my own itches (e.g. the -nls USE flag being obeyed)

95 ‘freshmeat.net’ (later ‘freecode.com’) was a web site that operated as a well-known central point for announcements of new OSS projects and updates to existing OSS projects.

(10:56:05 AM) shane:	and I figured others might share some of those itches, and those who did would benefit
(10:56:25 AM) geoffb:	sounds good to me!
(10:56:33 AM) shane:	I didn't necessarily approach my work as a "this is what users might want" (because it's honestly not possible to predict)
(10:56:46 AM) shane:	I knew what <i>*I*</i> wanted
(10:56:58 AM) shane:	and I think that most gentoo developers at the time shared that view point
(10:57:12 AM) shane:	and did so for a couple of years after I joined
(10:57:19 AM) shane:	(but more on that later, I suppose)

This interviewee began contributing to Gentoo by solving bugs he had identified in the ‘nls’ functionality – as he says “*the -nls use flag being obeyed*”⁹⁶ – that controls whether Native Language Support (nls) is installed and thus whether Gentoo will operate in languages other than English. His particular concern – his itch – was that a lot of optional programs within Gentoo would call for the nls functionality to be installed even though the particular system was configured not to install nls, and so he set about fixing those programs one-by-one and contributing his corrections back to Gentoo. Note also that this interviewee is beginning to assemble a narrative as he speaks of his early motivations for joining and working on Gentoo. This is an important point to which I shall return.

Similarly, another interviewee offered his own personal itch:

(11:54:27 AM) riley:	This all happened because I wanted to "scratch my own itch": the web presence provider I was using (who were running FreeBSD, and whom I've been with since 1996) were running sendmail, and advising people to use procmail for mail forwarding.
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96 A key feature that facilitates the unique customisability of Gentoo is the ‘USE flag’. Configured according to the present needs of an individual user, USE flags tell Portage which sub-components to include and exclude (to use or not use) when building a particular program. To apply the food metaphor, setting USE flags to “beetroot onion egg” would be equivalent to ordering an ordinary hamburger with those additional ingredients. Prefixing USE flags with a minus sign, say “-olives -anchovies” would be akin to ordering a pizza with no olives and no anchovies. USE flags may be applied system-wide such that “pineapple” is an acceptable addition to both hamburgers and pizza, and “-coriander” because the Devil’s weed is never appropriate in any context. In the explanation offered by the interviewee, his driving concern was that native language support functionality was being included in programs even when “-nls” (‘exclude nls’) was specified as a USE flag.

(11:55:34 AM) riley:	Now, without getting technical, procmail (at least at the time) had an arcane syntax (which I could cope with), abysmal code quality (meaning it crashed and lost mail regularly, which I couldn't cope with), and worst of all tended to create mail loops by changing the mail's envelope address.
(11:58:10 AM) geoffb767:	scratching my head here now trying to guess what the software is...
(11:58:33 AM) geoffb767:	(feel free to get technical if it suits you, I can cope!)
(11:56:06 AM) riley:	mdforward -- not widely known; really only ran at pair Networks (www.pair.com)
(11:59:35 AM) geoffb767:	ok, I'd never have guessed mdforward. I haven't seen that before

This particular interviewee, once given license by my *“feel free to get technical”*, was happy to continue explain in some detail. What I think is interesting here is the turn of the conversation – more of a monologue at this point – to the way in which the software he wrote to resolve a personal need became useful to others, even though he made no real effort to distribute it.

(11:59:40 AM) riley:	At the time I'd become totally disgusted with sendmail ⁹⁷ (three remote security holes in one month while I was away in the USA without access to my now vulnerable home server) and qmail had reached beta, so I started playing with it.
(11:58:31 AM) riley:	Pair had announced that they intended to migrate to qmail, and that gave me an idea: how much of qmail could I emulate under sendmail? The answer was a pretty fair amount: bye bye procmail. And when I told other pair customers about it in some private newsgroups, they said "me too, please?" and I released it officially.
(11:59:39 AM) riley:	I chose not to publicize it widely outside pair: a lot of the users were pretty unsophisticated when it came to mail (they were web site developers) and so until a few other people gained some knowledge I was providing more free technical support than I liked.
(12:02:46 PM) riley:	On the other hand, there wasn't enough demand (I thought) and I didn't want the commitment of accepting paid support contracts. I had enough of that in my day job, after all!
(12:03:12 PM) geoffb767:	so you just kept it quiet-ish
(12:03:42 PM) geoffb767:	hmmmm, even freshmeat doesn't know about it :-)

97 'sendmail', 'qmail' and 'procmail' are server programs for receiving and delivering electronic mail.

(12:01:21 PM) riley:	Anyway, I knew that mdforward was a success when someone I didn't know recommended it to someone else I didn't know, and saw people answering questions about it without needing me. Pretty cool, certainly nice for the ego, and it worked for me which was why I'd written it in the first place.
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The author's delight, if muted, at the realization that his work had become useful to others is interesting. In fact, it becomes a key part of this investigation. The latter part of this transcript alludes to the itch being something greater than a simple need to resolve a technical problem and seems to contribute to explaining, at least in part, the passive advice-giving nature of leadership at Gentoo.

9.9. Some Reason to Believe

*“Struck me kinda funny seemed kind of funny Sir to me
How at the end of every hard earned day people find some reason to believe”*
(‘Reason to Believe’ in Springsteen 1992)

Theoretically, the ubiquity of this itch presents an interesting dilemma. Consistency of accounts is desirable in a scholarly sense because it serves as an indication that the collected evidence is likely to be accurate. Accounts that are *too* consistent, however, are problematic. Whilst conferral between police officers is not illegal, allusions or evidence that it has occurred attracts negative attention from politicians and the media (Hope, Gabbert & Fraser 2013) and can result in judicial findings that *“their discussions resulted in them giving surprisingly similar accounts of the incident that tended to misrepresent what had happened”* (Braidwood 2010, p.265). Storytelling, too, is an important promoter of social cohesion in many occupations (Boje 1995) and professions (Fletcher 1996). In a sense, the personal itch is like Fletcher's “250lb Man in an Alley” in that it is a story or a notion that is ubiquitous to a very wide range of people – the story that Fletcher identified was not only pervasive within law enforcement, but extended to the emergency services, ambulance services and fire brigades, as well – to the extent that entirely independent and unconnected individuals recount the same story.

Clearly these examples – Fletcher's 250lb Man and OSS' personal itch – are explanations drawn from the vocabularies of knowledge that Mills (1940) described. The confrontational 250lb man in an alley for police was translated to a 300lb heart attack victim on the second floor for paramedics and an unconscious 200lb co-worker for fire fighters, but the underlying premise was the same: the question of how female – and supposedly weaker – members of police, ambulance or fire services would cope with the presented situation was a political one designed to marginalize women in those professions (Fletcher 1996). This political use of vocabularies of knowledge as a tool to marginalize certain groups occurs by applying different explanations for the same activities – women might be *“control freaks”* but men merely *“passionate”* – and it can

be very difficult for the deprecated group to overcome the characterization (Meyerson & Fletcher 2000). The itch in OSS is not a tool for marginalization, however. If anything, it is quite the opposite. The itch, promulgated by Raymond (2001) as I have said, is so widely known and understood that it is the universally accepted explanation for motive to participate in the OSS vocabulary of motive.

The problem in characterizing the itch as an explanation that the common sense regards as proper is that it devalues it as an account of motive. Having invoked Mills (1940) theory of vocabularies of motive and the notion that a motive is a rhetorical and sometimes political tool that individuals will invoke on the basis that what they offer is essentially what they think the listener wants to hear, and noting the near ubiquity with which the itch is invoked, then it becomes vastly more difficult to regard the idea of the personal itch as anything more than an explanation that members of the Gentoo and OSS discourse collectively agree is an acceptable thing to say.

Naturally this is an issue that warrants considerably more attention. I am able to offer two potential ‘saving graces’ for the itch at this point, however. The first is in the observation that whilst almost every individual I have spoken to cites ‘scratching the personal itch’ as the basis for their participation in OSS, that each characterizes their instigating personal need as an ‘itch’ that needed ‘scratching’ and that the broad nature of the need is almost universally technical, the precise technical details of the ‘itch’ are unique to each individual. In that sense, the itch draws back from an account of motive that is agreed to be acceptable by way of a common-sense understanding into something that is more of an agreed categorization of explanations that are in fact unique to each individual.

The second potential source of redemption for the notion of the itch lies in the idea that not only is the itch unique to each individual that feels it but that the itch is not static, rather it seems to evolve over time. One interviewee offered an insight that is quite remarkable.

9.10. Moving the Goalposts (and Other Sporting Metaphors)

An interviewee came to Gentoo in the hope of receiving more timely updates to software packages than were available on his then preferred Linux distribution, Debian Linux. As a matter of policy, the Debian Project moved slowly, only releasing new software when it was thoroughly tested and shown to be reliable.

(10:48:58 AM) shane:	my own motivation to try gentoo at the time was also driven by the slow pace of debian updates
[...]	

(10:49:14 AM) shane:	I think I'd specifically wanted python-2.1, and it wasn't present in debian unstable ⁹⁸ even
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Specifically, the interviewee wanted to use a newer version of the Python programming language than was available on Debian Linux so, in a sense, the itch that prompted his move to Gentoo was that wish. Once working with Gentoo personally, he began to ‘hang around’ in an online chat room – #gentoo – helping others with their Gentoo installations:

(10:45:23 AM) shane:	well, three bugs + my participation in #gentoo
(10:45:44 AM) geoffb:	what did you do on #gentoo in those days?
(10:45:46 AM) shane:	remember, there were only 12 or so gentoo developers at the time, the development was a lot more intimate
(10:46:00 AM) shane:	hung around, helped people install and configure gentoo on their systems
(10:46:08 AM) shane:	I think the release back then was 1.0_rc6 ⁹⁹

By a combination of fixing the natural language functionality that I mentioned earlier and assisting other Gentoo users in the #gentoo chat room, this interviewee was quickly accepted and invited to participate formally as a developer. During interviews it became apparent that the itch that drove individuals to participate was in no way static. The two examples I have given, and many others, clearly indicated that the itch is something that changes, often transmuting entirely, over time.

I pressed on with my questions about this interviewee’s role in Gentoo:

(10:56:33 AM) shane:	I didn't necessarily approach my work as a "this is what users might want" (because it's honestly not possible to predict)
(10:56:46 AM) shane:	I knew what *I* wanted
(10:56:58 AM) shane:	and I think that most gentoo developers at the time shared that view point
(10:57:12 AM) shane:	and did so for a couple of years after I joined

98 Often OSS projects will release a ‘stable’ version of their product that is known to be safe and reliable and a newer ‘unstable’ version that will typically include newer features but at cost of being less thoroughly tested and potentially unreliable. Over time the ‘unstable’ – also colloquially known as ‘bleeding edge’ – evolves to become ‘stable’ and an even newer ‘unstable’ version is released.

99 ‘Release’ meaning ‘version number’. In this case, ‘rc’ is ‘release candidate’ which means a finished set of software that will become version 1.0 if it passes various testing. ‘rc6’ means the sixth release candidate and implies that five previous release candidates were returned for changes deemed necessary for the final release.

(10:57:19 AM) shane:	(but more on that later, I suppose)
(10:57:33 AM) geoffb:	at what point did users start asking for things?
(10:57:53 AM) shane:	probably since the first non-gentoo developer installed gentoo, there was a request for something
(10:58:14 AM) shane:	but, remember, #gentoo itself was less than 100 people at its peak hours at the time ¹⁰⁰
(10:58:19 AM) shane:	#gentoo-dev was less than 20
(10:58:34 AM) shane:	so the developers and the users were all fairly intimate in conversation and interaction
(10:58:56 AM) shane:	so some requests were made on bugzilla ¹⁰¹ , some on irc, some directly, some implied
(10:59:11 AM) shane:	it was just an ongoing conversation & idea exchange between the devs and the users
(10:59:18 AM) geoffb:	ok
(10:59:24 AM) shane:	highly interactive, highly exciting
(10:59:31 AM) shane:	because we were all building this gentoo thing together

At this point, the interviewee is speaking of the time when Gentoo was very new, before the restructure discussed in Chapter 8. As I said earlier, this interviewee is clearly constructing a narrative, observing his initial goals of resolving personal technical needs. Someone may arrive at a realization of a personal need only after another raises it:

(10:59:51 AM) geoffb:	I'm thinking about how the line between implementing requests and scratching itches works... if there is one...
(11:00:29 AM) shane:	I'm not sure there is a line -- I think that if someone makes a request, or mentions an itch -- if there is a developer who shares that itch (after thinking about it, perhaps) then the request gets implemented
(11:00:46 AM) shane:	once a project reaches a certain size, that dynamic changes, somewhat
(11:00:52 AM) geoffb:	so a request might prompt an itch that a dev didn't know he had...?

100 Meaning that less than one hundred people were present in the #gentoo public chat room at the busiest times and, in the next line of the transcript, less than twenty were present in the #gentoo-dev chat room at the busiest times.

101 'bugzilla' is the system for tracking 'bugs', where 'bugs' are formal requests for some sort of work – be it fixing an actual flaw (bug) in the software or any other assignable task.

(11:00:59 AM) shane:	yeah
(11:01:07 AM) geoffb:	changes...?
(11:01:07 AM) shane:	exactly

The notion of an itch, as I have suggested, changes over time. Initially, it's an explicit personal technical need. Subsequently it becomes a previously implicit personal technical need to which another person with similar needs alerts one. As the project grows, however – the interviewee speaks of “*this present size*” referring to post-restructure Gentoo when the numbers of participants had grown substantially – the line between scratching a known personal itch, scratching a previously unknown personal itch and attending to the needs – itches – of other people becomes blurred and the transition is far from explicit:

(11:01:34 AM) shane:	well, I think to this day most people who join #gentoo join it to scratch their own itches
(11:01:57 AM) geoffb:	going there, initially, for help?
(11:01:57 AM) shane:	but the size of the userbase is overwhelming right now, so feedback to anything comes almost immediately and from several directions simultaneously
(11:02:27 AM) shane:	so it's impossible and impractical to maintain the idea that I'm only here to scratch my own itch when the project is this big and has this many users (as today)
(11:03:02 AM) geoffb:	what is happening then, if you're not scratching that itch?
(11:03:16 AM) shane:	you're scratching someone else's :)
(11:03:24 AM) geoffb:	heh :-)
(11:03:40 AM) geoffb:	and so... the line...
(11:03:49 AM) shane:	there isn't one
(11:03:55 AM) shane:	not at this present size
(11:04:16 AM) geoffb:	... ?

The transcript offers a number of interesting clues to the nature of leading Gentoo. The tone, for example, is so calm that an outsider unfamiliar with OSS work might believe everything is calm and friendly at all times. Where this interviewee mentions the “*feedback that comes almost immediately and from several directions*”, he does not mention the aggression and rudeness that often accompanies such ‘feedback’. The often-conflictual nature of communications is a focus for the next chapter; at this point it is notable that – as with other commentary from leaders that I have shown – a degree of composure and calm rationality pervades the way that leaders represent their work.

We also begin to see the overwhelming nature of leading such an organization. While Gentoo started as a tiny group of equals who collaborated closely and knew each other personally, it has grown to be a very large organization now. The lack of role hierarchy, the near complete openness and the inverted nature of power relations means that leaders can be and are routinely contacted – even bombarded – from all sides at all times.

As this conversation continued, I sought to eke out the finer details of the personal itch that members of the community agree motivates most, if not all, to participate. Having offered a known personal technical need that subsequently transitions to incorporate or become other previously unknown personal technical needs, the interviewee then seeks to enumerate the process explicitly:

(11:04:19 AM) shane:	1. your itch might well coincide with a large number of other people's itch
(11:04:39 AM) shane:	2. the cure for your itch might well create itch for a large number of other people
(11:05:22 AM) shane:	the motivation for the gentoo project as it is today is likely not what it was in the early days (by the natural process of growth and evolution)
(11:05:45 AM) shane:	I guess the analogy might be: a start up company has different motivations than a multinational behemoth
(11:05:59 AM) shane:	and so the dynamics within and without are very different between the two
(11:06:16 AM) geoffb:	and when you're scratching those other people's itches, have you not crossed (my imaginary) line between scratching your own itch and coding for someone else's benefit?
(11:06:19 AM) shane:	and gentoo has definitely crossed from "start up feisty distro" to "establishment distro"
(11:06:33 AM) shane:	yes, but you probably don't realize that you have
(11:06:40 AM) geoffb:	hmmm, ok
(11:06:45 AM) shane:	and I don't think the line is sharply defined
(11:06:59 AM) shane:	I think there's a mix between my itch and other people's
(11:07:24 AM) geoffb:	ok.. so "this isn't exactly my itch, but it's related"
(11:07:29 AM) shane:	I won't pigeon-hole it (but you're free to, later) :)
(11:07:46 AM) shane:	yes
(11:08:18 AM) shane:	and also "if I don't do this, I might piss off a significant amount of users, and then that'll become an itch, which will need to be scratched"
(11:08:20 AM) geoffb:	(I'm not so likely pigeon-hole it actually! I doubt it's that simple!)

(11:09:09 AM) shane:	so you might start off with itches that are technical in nature, and about the work itself, but with a large project, the itches become more about the people around you and the people that use what you develop
(11:09:17 AM) shane:	does that make sense?
(11:09:29 AM) geoffb:	it does, yes

The apparent motives that led to the original establishment of the organization and prompted individuals to join as the organization grows evolve to new motives as the social dynamic changes and as individuals communicate needs to each other. For the leaders – be they explicitly elected leaders or individuals who have taken it upon themselves to lead a particular sub-project – the personal need shifts from technical to social:

(11:09:37 AM) geoffb:	having people use what you develop is important?
(11:10:03 AM) shane:	I would speculate that that is a basic human motivator
(11:10:13 AM) geoffb:	...
(11:10:22 AM) shane:	it's why inventors invent, companies exist, etc
(11:10:49 AM) shane:	one's work, one's activities are validated when others use them or rely on them
(11:10:55 AM) shane:	we are a social species, after all
(11:11:51 AM) shane:	I guess it's more correct to say that in general people like to be recognized for what they do
(11:12:22 AM) geoffb:	... I can see how this goes around to resolve the 'no line' idea...
(11:12:31 AM) geoffb:	there is no line, just the itch changes
(11:12:35 AM) geoffb:	is that right?
(11:12:43 AM) shane:	whether that recognition comes in the form of money/pay or fame or other things, it seems that people like to be recognized and acknowledged
(11:12:52 AM) shane:	exactly, the itch changes
(11:13:26 AM) geoffb:	so, initially the itch might be something like "I need X to work with Y"... and later becomes "I need other people to like my fix for X and Y" ?
(11:13:36 AM) shane:	yes
(11:14:16 AM) geoffb:	hmmm, how very interesting!

The transition is, I think, striking. What we see here, reflected over and over again in this organization, is a group of people for whom working to resolve a technical problem becomes

secondary, seemingly, to making each other happy. The interviewee continues with his views on the way that Gentoo makes this possible:

(11:16:10 AM) shane:	(I'll actually be writing a series of articles around the following): gentoo's early success (and FLOSS in general) can largely be attributed to one concept:
(11:16:13 AM) shane:	empowerment
(11:16:30 AM) shane:	we, the developers, were empowered to improve gentoo for our own needs
(11:16:51 AM) shane:	and we, the users, were empowered to use our computers the way we wanted to
(11:17:43 AM) shane:	and gentoo really embodied that concept of empowerment, because all of a sudden, you could tailor make your linux system to conform to precisely your own needs (with your own compiler optimisations, your USE flags, your own ebuilds, etc)
(11:17:53 AM) shane:	it was simply a framework around empowerment
(11:18:06 AM) geoffb:	that's a nice way of looking at it
(11:18:17 AM) shane:	and *that* is why your earlier statement about heady days was true
(11:18:21 AM) shane:	(and is stil true)

Organization theories, particularly those with a critical bent, have noted the way in which imposed empowerment is little more than a mechanism for control (Barker 1993), the possibility of empowerment seems more authentic in this context. By setting in place broad senses of openness and ownership and a freedom for individuals to take on whatever roles best serve their personal ‘itches’ – whatever they may be – Gentoo does genuinely empower its participants. The sense of excitement, even exhilaration, that comes with genuine freedom means – as the interviewee repeats back to me in my own words – that Gentoo must be a very nice place to work!

This interviewee’s perspective encourages us to re-evaluate the value of the itch as an account of motive, too. At the end of the preceding section I raised the concern that, as a common sense and universally accepted explanation, the value of itch as an explanation must be strongly doubted. At the same time, I raised the possibility that, if we view the itch as a *category* of explanations that are in fact unique to each individual who expresses it, then its usefulness here is regained. Noting the admission of the interviewee ‘niall’ ¹⁰² (see page 224 in this chapter) that Council members had discussed the notion, if not the nomenclature, of ‘giving feedback’ ¹⁰³ and my proposition that this may devalue certain explanations as devices to support declarations of

¹⁰² A pseudonym.

research outcomes, the apparently transformative nature of the itch, particularly if it can be shown to transform in different ways or at different times for different people, seems to support my proposal for a vocabularic category of explanations.

9.11. On Ailurophilia: Leading Gentoo, and Liking It

I set out in this chapter to address, by way of evidence from interviews, meeting transcripts, chat rooms and mailing lists, the second research question insofar as it applies to Gentoo leadership.

The question asks:

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

I has been established in the preceding chapter that Gentoo, as an organization, is structurally consistent with any other bureaucracy. It has a formal hierarchy – more so for division of labour than power – and rules, policy and extensive written records of activities and decisions. The key differences lie in the power structure within the organization and the nature of resistance as it occurs within the organization. The chapter now turns to examining the continuing roles of individuals in shaping the organization and their reasons for doing so – including continuing to resist – with focus on the post-restructure Gentoo.

Gentoo Council is the peak body for day-to-day decision-making within Gentoo. Seven Council members are elected for terms not exceeding one year. The election process is electronic – invoking the practice of embedding bureaucratic rules within technical systems observed by Burawoy (1985) – and open to the extent that all parts of the election process including the software used to count votes and the votes themselves are open to scrutiny by all Gentoo members and even the general public. The nature of the election process, an implementation of the Condorcet method (see: Brams and Fishburn, 2007) that enables voters to both approve and disapprove of individual candidates results in election outcomes that are widely accepted and rarely, if ever, criticized or challenged. The voting method also has the effect of limiting the possibility that candidates with strong approval within an isolated sub-group but lacking broad-based approval will be elected, and this seems to cause widespread trust in election outcomes, so much so that mid-term appointments of Council members to fill interim vacancies by drawing the next excluded candidate from the prior election rather than calling new elections is widely accepted without criticism. The degree of trust produced by the election process seems also to strengthen further the authority of elected candidates.

103 This apparent ‘collusion’ – if I may call it that – may be seen as another explanation for the interviewee’s repeated use of smileys in our conversation (see my inquiry into this point on page 223 in this chapter).

Once elected, Council meets not less than once per month, and more often when needs arise. Meetings follow a pre-published agenda that begins by confirming attendance of Council members and are open and public. Transcripts of each meeting are taken and published on the public Internet. In much the same way as any other formal council or board meeting might operate, meetings are moderated such that only Council members may speak but other individuals are invited to participate as needed during the meeting and to contribute *en masse* at the end of the meeting. Mechanisms to protect Council from inaction by providing for replacement of individual members or dissolution of Council altogether are set out in the GLEP:39 (Goodyear & McCreesh 2006) document that constitutes Council.

Continuing with the notion identified in the preceding chapter of the value of individual effort as a key resource, allocation of tasks and conduct of meetings occur with a strong focus on effectiveness. While individuals are quick to volunteer effort where they believe they can address a need, they do so with a keen awareness of their own pre-existing commitments and their ability to deliver a timely outcome. An informally appointed chairperson leads meetings so as to maintain focus on the published agenda and to assume the wasteful practice of bikeshedding – the devotion of time and effort in excess of the importance of discussions and decisions.

Despite the broad authority invested in them, Council members are extraordinarily cautious in their use of that authority. Decisions taken by Council rarely proceed to a vote until all elected members have reached agreement on the issue at hand, and votes almost invariably pass unanimously. Even in situations where Council members have unanimous agreement on an issue, they will return it to Gentoo members at large for further debate if the issue is in any way controversial or has the potential to pose a significant imposition.

Caution extends to the way leaders describe and conduct their activities. One Council member characterized his role as “*giving feedback*” and the role of Council as “*making suggestions*”; views that are evident in the way that others in leadership roles speak and behave and are apparently commonplace within Gentoo. An explanation for what might almost be seen as a refusal to wield authority and certainly to exercise a far greater degree of caution than one might expect lies in the second part of the research question: in the motivations of individual Gentoo members.

The idea that individuals engage in OSS work in order to attend to a personal technical need – termed a ‘personal itch’ by Raymond (2001) – is universally accepted in OSS generally and within Gentoo specifically. Individuals are quick to acknowledge – often unprompted, for Raymond’s (ibid) idiom is so widely known – that the goal of ‘scratching a personal itch’ is the motivation for their engagement, and all are able to cite a specific technical problem that constituted their own initial itch.

What this chapter has revealed is that the notion of an itch is not static – it is open to change over time as the nature of individual engagement develops – and that the itch does not necessarily

remain founded on a technical need. For some, notably those in leadership, the personal itch that started as a simple technical problem transforms into a social need; a need to do work for the benefit of others and apparently to gain the approval of others. The recognition that the initiating itch transforms into unanticipated technical needs and to social needs is a point of anagnorisis, of critical discovery, that is, central to this study. It helps understand why Gentoo has adopted its present structure, why resistance is accepted to the extent that it is, and why leaders are so reticent to use their undeniably powerful authority. It also helps to validate the itch, despite its ubiquity as an explanation of motive, as something that is a genuine categorization of motive rather than an explanation that is universally understood to be politically acceptable. This recognition and the use of the itch as an explanation for motive are factors that continue to be useful as we assess developer, member and user conduct – and perhaps more importantly, *misconduct* – in Chapter 10, and in considering the generalizability of this study in Chapter 11.

As this chapter draws to a close, the reader may be left with a sense of uncertainty regarding use of the ‘herding cats’ metaphor. Whilst the source of the metaphor is unclear – some attribute it to early writers on managing computer programmers, others to work on leading groups of intelligent people, and one computer consulting company employed it to entertaining effect in a television advertisement (O’Hagan 2000) ¹⁰⁴ – it is another example of what might best be described as an abiding culture of linguistic cleverness that exists within the computing field – both commercial and open source – wherein metaphor and shared humour are an important part of the culture. The notion of ‘herding cats’ is an allusion to the difficulty associated with leading and managing intelligent people who work with far-ranging freedom. Having discussed the nature of leadership and motive in this environment, we turn now in the next chapter to continue to observe leadership and to re-invoke the activities of other Gentoo members – developers, members and users – and the ways in which they collaborate, interact and clash.

104 An elaborate TV advertisement to promote a technology management consulting company and aired during the 2000 American Super Bowl broadcast features a small team of professional ‘cat herders’ who ride horses and dress as cowboys speaking about the challenging work of cat herding. There’s a web address in the citations list at the end of this book!

10. Contesting Gentoo – Death in Paradise

*“When the whistle blows
 Girl, I’m down the street
 I’m home, I’m out of my work clothes
 When I’m out in the street
 I walk the way I want to walk
 When I’m out in the street
 I talk the way I want to talk”* (Springsteen 1980; Rhodes 2004)

10.1. Continuing Conflict

Having shown, in the preceding chapter, the nature of work at Gentoo from leadership perspectives, this chapter continues to address the second research question:

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

I have taken the decision to address the question in two separate chapters largely because the distinction of ‘leadership’ or ‘management’ from ‘workers’ and ‘employees’ is a typical division applicable to conventional organizations and because it serves to highlight clearly the power inversion that exists in the Gentoo organization. This, however, is not quite the distinction that occurs. Given the ‘task discontinuous’ (Offe 1976) nature of this organization – a claim I will support forthwith – we don’t so much see ‘managers’ and ‘workers’ as two distinct groups of people as two somewhat distinct *roles* that will often be executed by the same individuals. Given that there is no clear line with separate and identifiable groups of people taking up positions on one side of the line or the other, what we are dealing with is a little unusual. As one interviewee reminded me when I asked him a question about the role of developers as compared to users:

(11:21:07 AM) shane: devs *are* users

The point is that roles at Gentoo are merged and in a sense are cumulative. Gentoo members almost always begin as users, with many progressing to becoming developers when they begin to make contributions to the project, while some take on leadership roles, either as sub-project ‘leads’ or as elected members of Council and the Foundation and many take on roles at every level. This can be seen as a parallel to the bureaucratic notion of a career but with the difference that individuals often hold multiple roles and do not relinquish existing roles when they take on new ones. Connections between task and status, as Offe (1976) predicted, are dissolved and instead status appears to be gained and lost by way of participation in a gift economy (Rehn 2001; Mauss 1966).

With this in mind I encourage the reader not to consider this chapter in isolation but in a cumulative sense in that whilst it writes about a distinct set of roles and activities, it does not address a distinct group of people. In that way this chapter should be seen as building upon the findings of the preceding chapter on leadership and the chapter preceding that on organization, rather than standing in isolation. Whilst this chapter sets out to consider activities within Gentoo other than leadership, it necessarily includes all roles, just as Gentoo includes all roles. It is a presentation of a different facet of Gentoo, not of a different set of roles or of certain levels in a hierarchy.

As we have already seen by way of multiple examples, to be at the bottom of the organization hierarchy in Gentoo is absolutely not to be at the bottom of the power structure. If anything, something approaching the opposite is true. What we see at Gentoo is in one sense a manifestation of the ‘task-discontinuous status organization’ proposed by Offe (1976) whereby two distinct power structures – one based on legal-rational authority and the other based on members’ skills – exist and necessarily interact within one organization. In another sense there is something more akin to a complete Bakhtinian (1984) inversion of power in which those at the top of the role hierarchy, imbued as they are with authority by virtue of their positions, regularly and willingly defer to users and members at the lower levels of the role hierarchy and are so careful with their authority that they almost refuse to exert it. These two perspectives on power structures are complementary here for the ways in which they both offer useful – and compatible – insights into the structure of the organization and the behaviour exhibited by its members, and so this chapter continues to develop both.

The notion of inversion of the power structure has, so far, been most visible in this organization. It offers what are arguably great benefits to both the organization and the individual for the possibility that individuals have the capacity to effect change irrespective of their status in the hierarchy. While this positive aspect is another continuing theme in this chapter, there is also a sense of there being a ‘dark side’ to the freedom to resist that this organization grants. I have alluded to the presence of conflict in preceding chapters; in this chapter conflict becomes a central theme. Gentoo is, in every sense, heavily contested. We saw in Chapter 6 that Gentoo was borne of conflict in the sense that Robbins took the decision to create Enoch Linux – later renamed to Gentoo Linux – when he reached his limit of tolerance for a conflict with people he labelled “freaks” within the Stampede Linux project. Later in the same chapter we saw Gentoo leaders effectively forced to restructure the organization by multiple instances of resistance that threatened to escalate to outright hostility – or organizational collapse – if they were not resolved. Robbins’ departure from Stampede Linux and the restructure of Gentoo did not bring an end to the various conflicts that had arisen. If anything, conflict became very much “the way we do things around here” (Bower 1966, p.41).

I shall begin with a striking example of the sense of power that certain individual Gentoo members feel.

10.2. Doesn't That Make Me More Important than You?

In the course of a long-running and rambunctious debate over a technical approach to software package management – the *portage* and *paludis* debate which I introduced in the preceding chapter – a Gentoo developer sought to remind the developer mailing list that one of the key figures in the debate was not a Gentoo developer, apparently seeking to relegate the weight of the subject's influence to that of an unendorsed private individual. A few hours later, the individual, Ciaran McCreesh – also known as 'ciaranm'¹⁰⁵ – replied:¹⁰⁶

```
From:      Ciaran McCreesh <ciaran.mccreesh@xxxxxxxxxxx.com>
Subject:    Re: [gentoo-dev] A friendly reminder: Ciaran McCreesh
            is not a Gentoo dev
Date:       Fri, 22 Jun 2012 06:46:19

On Thu, 21 Jun 2012 23:01:15 +0200
Michał Górny <mgorny@g.o> wrote:
> Just a short note as it seems some confusion arises lately:
> Ciaran McCreesh is not a Gentoo dev and his words don't represent
> the position of Gentoo development team.

Right. Doesn't that make me more important than you?
https://lwn.net/Articles/501815/
--
Ciaran McCreesh
```

McCreesh's response points (by way of the URL he includes) to a statement that the developer had made two weeks prior in accepting nomination for the 2012/2013 Council elections:

```
From:      Michał Górny <mgorny-AT-gentoo.org>
To:        gentoo-project-AT-lists.gentoo.org
Subject:    Re: Gentoo Council 2012/2013 election
```

¹⁰⁵ This is an example, of which there are a great many herein, of individuals adopting monikers that do not necessarily reflect their legal names (though in this case it does) as demonstrated by Rheingold (1994) and discussed in Chapter 6.

¹⁰⁶ Note that this message is authored by McCreesh and that he has included, in the lines prefixed with '>' characters, the statement which I have described and to which he replies.

Date: Sat, 9 Jun 2012 20:02:29 +0200

On Fri, 08 Jun 2012 20:59:21 +0100
Markos Chandras <hwoarang@gentoo.org> wrote:
> I would like to nominate the following people (grab a pen):
>
> mgorny
I think I will have the necessary time this year, so I accept.
My manifest follows:
There are three things I believe in when it comes to Gentoo:
[...] ¹⁰⁷
2) That users are more important than developers. Although in Gentoo
that line is quite blurry, let's be honest: without users, what would
we need developers for? I believe we should first think about making
things more friendly to users, then about making them easier for devs.
Not the other way around.
[...]
--
Best regards,
Michał Górny

The admonishment, made in the context of a broader series of fierce debates that left many participants visibly frustrated, received support from others:

From: Homer Parker <hparker@g.o>
Subject: Re: [gentoo-dev] A friendly reminder: Ciaran McCreesh is not a
Gentoo dev
Date: Fri, 22 Jun 2012 01:46:56

On Thu, 2012-06-21 at 23:01 +0200, Michał Górny wrote:
[...] ¹⁰⁸

¹⁰⁷ Edited for brevity. Original at <https://lwn.net/Articles/501680/>

¹⁰⁸ Edited for brevity, original at

<https://archives.gentoo.org/gentoo-dev/message/73dce3a048e760a18a97a7d9bfd98a12>


```
> Ciaran McCreesh is not a Gentoo dev and his words don't represent
> the position of Gentoo development team.

    Amen.

--
Homer Parker <hparker@g.o>
```

Whereas McCreesh's assertion of greater importance was rejected by another:

```
From:      George Prowse <george.prowse@xxxxx.com>
Subject:    Re: [gentoo-dev] A friendly reminder: Ciaran McCreesh is not a
            Gentoo dev
Date:       Fri, 22 Jun 2012 15:47:10

On 22/06/2012 07:40, Ciaran McCreesh wrote:
[...]109
> Right. Doesn't that make me more important than you?
[...]

To Exherbo? Probably
```

This response refers to yet another Linux distribution, Exherbo Linux, that had been launched some years earlier with an announcement (Østergaard 2008) that again, notably, attributes the project to “*scratching your particular itches*” (ibid) and that is characterized by several unmistakable slights and criticisms of Gentoo. The Exherbo Linux project was initiated by a group of Gentoo and ex-Gentoo developers, including McCreesh, led by a long-standing Gentoo Council member who had himself left Gentoo in 2007 citing “petty fights” (Østergaard 2007)

Notwithstanding that, as will become apparent as we proceed, the particular individual – McCreesh – who is the subject of this exchange – had built a considerable reputation for being an antagonist; in this instance, his strategy of directing attention to the rival's own words is powerfully effective because it invokes Gentoo's essential philosophy, that of the centrality of the user.

¹⁰⁹ Edited for brevity, original at

<https://archives.gentoo.org/gentoo-dev/message/9180393d4eca8d56ceedf2f8b35694cc>

Whilst there is no reason to believe that Robbins' original exaltation of the 'user' in his Gentoo Philosophy manifesto was done with anything other than the best of intentions, the consequences of setting that initial course have been far-reaching.

10.3. On Naming Names

It will have become apparent that a small number of key names have arisen repeatedly and will continue to do so in the sections that follow in this chapter. In particular, the antagonist of the "*more important than you*" exchange that I have just recounted will be the subject of several more examples. Whilst the reader can be forgiven for thinking that a single incendiary personality is implicated in most, if not all, of the conflict that arises at Gentoo, that is certainly not the message that I intend to convey. As we have seen in previous chapters, events such as resignations from projects and instigations of new projects – typically argued by way of lengthy memoirs and manifestos – are commonplace within this corner of the OSS community at least, with conflict usually being a central feature of these events. The hand of a single provocateur does not dispense trouble in this paradise; rather it is the work of an entire parade of freaks!

10.4. A Parade of Freaks

Kulleen gave his memoir on the subject of conflict at Gentoo the title of "*A Parade of Poisons*" (2007a), though we are talking about the same types of people that Robbins' labelled 'freaks' (Hillesley 2011), the relabelling fits. Kulleen clearly reached the same conclusions as an insider as I have reached as an observer and began much as I have: by highlighting McCreesh as a highly visible antagonist and then pointing out that McCreesh is far from being solely responsible (2007a).

In this, one of several memoirs on various issues at Gentoo (in which conflict is a regular focus), Kulleen initially acknowledges the way in which McCreesh often attracted negative attention:

"Yes, people, I'm about to declathe some emperors on this one. As I indicated in the prelude posting, Ciaran is only the latest in a series of jerks. As up in arms as people get about him every few months, the truth is that he isn't what will bring Gentoo down." (Kulleen 2007a)

He goes on to list a number of other instances in the course of Gentoo's history in which he regarded others as being the 'poisons':

"There was the zydiot who tried to bribe his way to the top. His m/o was the following: he gave of his time and brain power to gentoo (I believe his pet term for this was "sweat equity" whatever the hell that actually means. Someone find me a powerpoint presentation about it, stat!). In return, he wanted to be able to make money for his business." (ibid)

That event continued for some time, and became quite heated:

“The long and the short of it is that he decided he couldn’t stay without being in control, and surely he (of all people) deserved to be in control of Gentoo. I think he offered to buy a certain percentage of Gentoo Technologies from Daniel at one point, too. He also involved lawyers in the thing, it got pretty tense and ugly.” (ibid)

To Kulleen’s satisfaction, the ‘poison’ eventually departed Gentoo:

“Mercifully, he forked off into that zydiot distro (I forget the name, but it sounded like zydiot), and took a good percentage of Gentoo with him. The poison purged itself, so to speak.” (ibid)

The reader may recognize this example as another perspective on the case I presented in Chapter 8 regarding the turmoil that prompted one member to leave Gentoo for the Zynot Linux project. Here, Kulleen makes a continuous and what is a clearly deliberate pejorative misspelling of ‘Zynot’ as ‘zydiot’. The list of ‘poisons’ does not stop there, however:

“However, there was another poison waiting in the wings! Another one who fancied that his business credentials were more important to running a distro. He went about his power grab in a different and more subtle way (and a not so subtle way, as you’re about to learn). He decided he would “help” out with the infrastructure. And that was his way in. He took control of Gentoo’s infrastructure and formed a team of loyalists around him.” (ibid)

I suggest that this series of accounts must be interpreted carefully. The author, Kulleen, was one of the very early members of the Gentoo Project and took on a central leadership role well before the restructure occurred. In a sense, it might be said that he was a member of the pre-restructure leadership team to whom early instances of resistance I presented in chapter 8 were directed. This is not to suggest that the perspective is somehow factually incorrect, for it is not. Rather, the notable strength of emotion embedded in the statements must be attributed in part to the fact that the conduct of those labelled ‘poisons’ had a direct and negative affect on Kulleen and the organization he led. Note also, that this application of strongly pejorative labels to apparent instigators of conflict when these memoirs are written seems to be widespread; we saw the same thing in Robbins’ writings of his negative experiences with the Stampede Linux Project that preceded Gentoo.

10.5. Considering Motive

“No one does anything from a single motive”
(Attributed to Samuel Taylor Coleridge 1772-1834)

It is appropriate to consider motive in light of the instances I have recounted in the preceding sections. In McCreesh's acceptance of his critic's characterization of him as a 'user' and his immediate move to reframe an intended disparagement in a positive way by reminding that as a user he is therefore "*more important than you*" we can see an astute invocation of vocabulary of motive. Robbins introduced the notion of the importance of the user and the desire to serve the user in his original 'Gentoo Social Contract' (2003) manifesto and so to argue that one's motive is to privilege the user is both intelligible (Blum & McHugh 1971) and acceptable (Mills 1940). As a rhetorical device it is perhaps one of the most powerful motives one can claim at Gentoo.

Kulleen's lengthy denunciation of the 'poisons' is also interesting. By beginning by highlighting a well-known antagonist in McCreesh and characterizing him as a 'poison', Kulleen invokes a widely, if not universally, held common sense of McCreesh as the 'type of person' (Blum & McHugh 1971) who is regularly causing trouble. It is difficult to directly impute malicious intent here because, as I will show, almost every action no matter how aggressively pursued can be ascribed a genuine and well-intentioned motive within the bounds set out by the shared vocabulary. Because of this difficulty, Kulleen's move to invoke the 'type of person' to whom unacceptable motives can subsequently be imputed then to immediately move to a kind of defence of McCreesh as by describing him as "*only the latest in a series of jerks*" walks what is a very fine line between using the shared vocabulary as a rhetorical device whilst at the same time distancing himself from a direct malignment of McCreesh. Precisely why McCreesh is treated so delicately in this memoir whilst Kulleen's other targets are roundly excoriated is a point of particular interest. I argue that the gift economy is a central factor.

10.6. Gifts and Good Relations

It is interesting that the authors of these scathing critiques choose explicitly to name their antagonists in apparent direct opposition to the practice that I highlighted in Chapter 8 in the section titled "*No Blame Game*" whereby the inadvertent actions of individuals who make genuine mistakes while working with benevolent intent are overlooked in favour of repairing the mistake and addressing the possibility of recurrences. Here, it is clear that the antagonists' actions are not inadvertent but there is much to suggest that these conflicts are really differences of views as to the best way forward rather than being representative of any truly malicious intent. The degree of conviction and the strength of emotive force with which individuals press their cases naturally effects strong emotional responses in those comprising the opposition and this must be a factor in the tone of reactions and the longevity of ill will. One important factor in some of the examples is that there is an apparent element of competition for direct personal benefit – financial gain in at least one case and personal power in several others – and so it can be argued that while not explicitly malicious, the disruptions are not entirely innocent, either.

I am harping on this point for longer than might seem necessary because I think it is an important one. The 'naming of names' in negative contexts is unusual in this culture where, principally, the

fact of most participants being volunteers sets leaders an imperative to ‘keep everyone happy’. One builds reputation in a gift culture by giving, not by disparaging others. Raymond’s (2001) view, that because the value of a gift in this context is difficult to objectively distinguish as ‘good’ or ‘bad’, maintenance of reputation and peer repute is dependent on the somewhat subjective assessments of others. Raymond (2001) is emphatic in his insistence that in the absence of all of the usual measures of success – productivity, sales, income et al – that we see in more conventional organizations, peer review and peer repute are really the only things left on which to base and build reputation. He is also at pains to highlight that, whereas in many parts of academic “*trashing putatively defective work by others is an important mode of gaining reputation*” (Raymond 2001, p.90), such behaviour is so heavily tabooed in OSS culture that he was initially unaware that it was a point of anthropological interest. It follows from this that to debase others is to risk injuring oneself reputationally.

I argue that this point helps to explain the difference in treatment of McCreesh and other so-called poisons in Kulleen’s memoir: where the other poisons and their sympathizers had left Gentoo and it can safely be assumed that little empathy remains for them, McCreesh was still present and, whilst much maligned, not universally so.

Other individuals I spoke to alluded to conflict at Gentoo in far more subtle ways; in this example the ‘smiley’ emoticon acknowledges a shared understanding of the euphemistic nature of the statement:

(8:51:24 PM) niall: gentoo had quite a few attempts to steer the project in its life :)

In most other cases that I have seen, references to conflicts are common – as I have said, conflict seems to be a core part of Gentoo work – but identification of individual antagonists by name is rare. For the most part, assertions regarding actual and perceived misconduct – some worded subtly as per the example just given, and others quite aggressive in their tone – may be worded so as to leave little doubt as to the identity of the target, but explicitly name individuals on relatively few occasions.

There seems to be a delicate balance playing out here. Individuals are committed to the earning and building of their own reputations by doing good works and gifting them to the community. At the same time, they are clearly aware of the importance of others’ contributions in what is necessarily a collaborative effort – there is too much work for one person to do on their own – and so there’s a need to maintain good relationships with others – to ‘play nice’ if you like – so as to ensure not only that others who are directly engaged will be on good terms but also that third persons who view the interactions will not form impressions that may negatively affect third persons’ willingness to participate. That, I think, when combined with Raymond’s (2001) observation that good relations must be maintained to assure good reputation serves to explain the practice of eschewing inquisition and blame in preference for repair and processual

improvement but at the same time participants must consider threats to their own efforts. Noting the powerful economic value of effort that I have discussed in the preceding chapter on Gentoo leadership and the imperative that situations with the potential to waste effort be avoided, an individual contributor faced with a proposal to change the course of direction of a project may interpret said proposal as a threat to waste the already-committed efforts of their own and of their collaborators. The balance then, between maintaining good relations and protecting one's efforts is a tricky one. There seems to be a tipping point, though. A small transgression, be it innocent and damaging, or well intended and demonstrably an improvement, will be received with a civil tone so as to keep the peace. Once a new proposal becomes a substantial threat to effort – be that by way of nullification of previous efforts or by way of persistent and unwelcome debate that wastes time with interminable debate – then a point is reached where those defending an existing position will no longer tolerate the deviance. At that point, the idiomatic gloves come off, and strong action is taken. Usually, that strong action amounts to words – a mailing list or forum post or, in extreme situations, a powerfully worded memoir – but occasionally something stronger occurs. Complex and astute political action is one possibility.

10.7. Machiavelli Would Be Proud

The case of the 'Paludis' package manager is instructive, and is perhaps the most lengthy and disruptive of post-restructure conflicts that have occurred within Gentoo.

A brief explanation is necessary: the reader will remember that a program called a 'package manager' – a program that manages the installation and maintenance of all other programs – is an important and central part of a Linux distribution. So important, in fact, that the very character of any given Linux distribution is heavily influenced, perhaps even defined, by the package manager that it employs. Given the central and character-defining status of the package manager, it stands to reason that any proposal to change a package manager will be vigorously contested. Because package management is a complex task, it is common for Linux distributions to adopt an existing tool,¹¹⁰ but the unique nature of Gentoo Linux, the result of adopting customization techniques from FreeBSD, meant that it was necessary to create a new package manager program. The result of that early effort was 'Portage'.¹¹¹ Portage remains the official package management tool for Gentoo to this day, though not without having faced significant opposition along the way.

Paludis was instigated as a project within Gentoo in early 2004 and promulgated as a substitute for Portage by the then Gentoo developer, McCreesh. I think that it is fair to say that the

¹¹⁰ Widely adopted examples include the *Advanced Package Manager* from Debian Linux or the *Red Hat Package Manager* from Red Hat Linux.

¹¹¹ See: <https://wiki.gentoo.org/wiki/Portage>

persistence and zeal with which McCreesh promoted Paludis over such a long period of time, along with a long standing practice of blunt and even combative communication, is the basis for the widespread contempt in which he is held widely held within Gentoo. While Paludis was initially offered up as an alternative to the existing Portage with the apparently benevolent aim of comprehensively addressing shortcomings of Portage, it quickly became a focus for division and dissent. Notwithstanding that Paludis is arguably superior in technical terms,¹¹² throughout the mailing list logs, meeting notes, interview transcripts and my own notes, ‘Paludis’ appears time and time again as a pejorative, but almost never as a broadly accepted alternative to Portage. During one early interview, a developer asked me:

(7:03:14 PM) ken:	do you know about paludis?
(7:03:24 PM) geoffb:	the alternative to portage?
(7:03:27 PM) ken:	haha
(7:03:33 PM) ken:	that's an optimistic way to look at it
(7:03:51 PM) geoffb:	well, I was about to say, that's the absolute extent of my knowledge of paludis!
(7:04:03 PM) ken:	well, charged political background
(7:04:29 PM) ken:	mostly ciaran being kicked out of gentoo twice, and his "friends" being total dickheads that kept trying to derail discussions
(7:04:51 PM) ken:	plus paludis being buggy and doing things differently from portage just because
(7:05:21 PM) ken:	but they had a plan for world domination - paludis allowed for some new ebuild features (kdebuild-1 eapi)
(7:05:46 PM) ken:	that way users wanting to use kde4 would have to switch to paludis, which would create huge leverage for paludis as default package manager etc. ¹¹³
(7:06:17 PM) geoffb:	ok, I'm starting to see what you mean by "politically charged" now!

He describes a notable technical effort to manipulate Paludis into popularity by offering technical features that were not available elsewhere. He went on to describe his own efforts to subvert that:

112 Superior at least in the sense that a newly written piece of software is not constrained by requirements for compatibility with legacy versions in the same way that an older design might.

113 The point that the interviewee is making here is that he observed what he regarded as an underhanded attempt to bring about a widespread adoption of Paludis ‘by the back door’ so to speak. By working to introduce desirable new features into Gentoo – the KDE Window Manager system that affects the entire visual ‘look and feel’ of the computer desktop environment – but doing so in a way that meant that users who wished to adopt the new KDE features would first have to adopt Paludis, McCreesh and his compatriots angered many within Gentoo.

(7:06:27 PM) ken:	one rainy afternoon I took the overlay, forked it and undid the paludisms
(7:06:34 PM) ken:	so it worked with portage ¹¹⁴
(7:06:47 PM) ken:	and I gave access to everyone who asked, not just people I considered 1337 enough ¹¹⁵
(7:07:03 PM) geoffb:	what does "gave access" mean in this context?
(7:07:25 PM) ken:	git repo, commit access to my server
(7:07:33 PM) geoffb:	ok
(7:07:37 PM) ken:	so people could just push in their changes/bugfixes themselves
(7:08:06 PM) ken:	half a year later we had almost 20 people working on it where the "old" paludis-kde overlay was rotting
(7:08:19 PM) ken:	and out of that gentoo got a handful of good new devs
(7:08:25 PM) geoffb:	nice

114 Because OSS is, of course, open, there is nothing to stop anyone from taking open program code and doing whatever they wish with it. This interviewee simply took the work that had been done to introduce the new features via Paludis and adapted it to work with Portage, effectively subverting the effort to promote Paludis.

115 The use of ‘1337’ in this sentence is an invocation of ‘leet speak’, a cultural meme that first appeared in shared pre-Internet computer systems called ‘bulletin boards’ in the 1980s. Leet speak is an approach broadly similar to the American schoolboy dialect ‘Pig Latin’ (cf. Halle 1962, p.62–4) that involves the substitution of some or all letters in words for numerical glyphs that are of similar appearance with the original goal of subverting the types of anti-spam filters that I have described in Chapter 6 in the section on Bayesian Analytics. The word ‘1337’ is simply a swapping of the letters ‘LEET’ for numbers that are visually similar. ‘1337’ is often also written as ‘31337’ (for ‘ELEET’ and is thus a phonetic equivalent for ‘elite’, a word used originally to describe someone who had attained a higher access level on a computer bulletin board system (Perea, Duñabeitia & Carreiras 2008). In more recent times, Leet has speak enjoyed a resurgence on various shared venues such as chat rooms and discussion boards in the mid to late 2000s, though the newer incarnation is more oriented towards parody and pejorative than subterfuge. To denote a person ‘1337’ by the contemporary usage is to suggest that the target holds himself in higher regard than is warranted; he is deemed to be a ‘wanker’ or a ‘tosser’. In this interviewee’s usage, to say “*and I gave access to everyone who asked, not just people I considered 1337 enough*” can be understood to mean “*my approach was inclusive, I didn’t limit access to a self-described elite*” with a decidedly pejorative tone.

The interviewee’s decision to choose this approach in speaking with me can additionally be seen as an acknowledgement of a shared cultural understanding.

(Note that the statement at 7:06:47, explained in the footnote below, is a clear slight aimed at the authors of Paludis)

Actions and counter-actions like these often led to expressions of hostility, even in usually staid Council meetings. At one Council meeting, a typically civil and routine technical discussion dissolved occasionally into combative exchanges:

```
20:29 < ciaranm> bonsaikitten: please troll somewhere else, we're trying to get
                                this settled
```

```
[...] 116
```

```
20:30 < bonsaikitten> ciaranm: so am I. Stop throwing mud.
```

In other meetings, Council was wary of the apparent motives behind certain proposals:

```
21:15 <@solar> please read it carefully. sbp and ciaranm both use gleps as to
                                smuggle in additional goals they have 117 118
```

Some interpreted activities as being with malicious intent (Noting that the participant ‘kloeri’ in this exchange later affiliated himself with the fork of Gentoo to Exherbo Linux to which McCreesh also departed):

```
Mar 08 15:17:08 <kingtaco|work> so we're not hostage to ciaranms "priorities" and
                                spbs master thesis
```

```
Mar 08 15:17:45 <Kugelfang> honestly, ciaranm wasn't asked to do this... so why
                                should we be hostage to his priorities?
```

```
Mar 08 15:17:46 <kloeri>      I think hostage is a bit strong tbh 119
```

And others were contemptuous of such perceived motives:

```
[17:14] <robbat2>              ciaranm seemed to want to reject anything other than
                                his own SVN
```

```
[17:14] <KingTaco>            fuck ciaranm 120
```

¹¹⁶ Edited for brevity, original at: <https://projects.gentoo.org/council/meeting-logs/20090423.txt>

¹¹⁷ Note here, the commenter alleges the use of subterfuge on the part of the same people who tried to ‘sneak’ Paludis by linking it to desirable new features (see page 256).

¹¹⁸ See: <https://projects.gentoo.org/council/meeting-logs/20060720.txt>

¹¹⁹ See: <https://projects.gentoo.org/council/meeting-logs/20070308.txt>

¹²⁰ See: <https://projects.gentoo.org/council/meeting-logs/20070510.txt>

In mailing lists, discussions sometimes degenerated into flame wars – heated, openly hostile and often brutal exchanges – that have the effect of derailing legitimate debates and causing lingering hostility. Flame wars, like other wastes of effort, are discouraged in OSS culture, but still occur with some regularity.

In referring to Machiavelli I am of course alluding to the ruthless and unscrupulous political conduct that he describes in *The Prince* (1515). Complex political games are clearly afoot; it is seemingly paradoxical that the group of people I demonstrated in the preceding chapter to have organized themselves thoughtfully and carefully and effectively are, apparently in parallel, engaged in such substantive conflict.

We continue to see examples of conduct that can be assessed in terms of motive. Concerns regarding the disruptive potential of Paludis and its proponents are widespread and substantial and, perhaps because as I have argued members see a threatened devaluation of effort already committed, the Paludis issue seems to be widely regarded as a disruptive and potentially damaging intrusion. This threat, interpreted as they are by way of ‘observer’s rules’ (cf. Blum & McHugh 1971), lead members to impute malicious motives. Notwithstanding that his intentions can also be interpreted as genuine and well-intended – I shall return to this point forthwith – McCreesh has not assisted his cause by conducting himself socially and politically as he has. As an apparent result we see widespread characterizations of McCreesh and his compatriots as the ‘type of people’ (cf. Blum & McHugh 1971) who will conduct themselves unscrupulously and with malice.

Intriguingly and apparently in spite of this open hostility, the proponents of Paludis ¹²¹ press on with their agenda. By this stage, the common sense seems to be against them however and so, naturally, there must be political consequences.

10.8. When Enough is Enough

As I have said and perhaps contrary to the raft of criticism directed towards him, McCreesh appears to have acted with benevolent goals and certainly did make substantial contributions of good quality work to Gentoo. Whilst many viewed his methods, as I have said, as somewhat Machiavellian, it is difficult to fault the apparent genuineness with which he carried out the underlying work of designing, specifying and writing computer software that can be seen to be at least potentially beneficial to Gentoo. A point that I have mentioned, and that arises regularly in all of the sources of information I have used, is that this particular actor’s approach to communication was, in the assessment of many participants and observers and with which I concur, regularly abrasive and arguably quite tactless. Frequent flame wars between he, his

¹²¹ In happier circumstances, “Proponents of Paludis” would be a great name for a soft-rock band!

collaborators and their opponents were disruptive and divisive to the extent that, ultimately, the frequency and magnitude of the conflicts resulted in McCreesh being electronically banned on multiple occasions from participating in Gentoo forums and mailing lists. On one of those occasions, McCreesh himself insisted that he had actually been banned for naming a list of people who he considered had failed to meet quality assurance policies:

```
From:      Ciaran McCreesh <ciaranm@xxxxxxxx.org>
To:        gentoo-dev@l.g.o
Subject:    Re: [gentoo-dev] Re: Little respect towards Daniel please
Date:       Mon, 05 Mar 2007 16:21:37

On Mon, 05 Mar 2007 15:25:54 +0000 Steve Long
<slong@xxxxxxxxxxxxxxxxxxxxx.uk> wrote:
[...] 122
> As for his problem with ciaranm, i think a lot of people are fed up
> with that attitude which is why ciaran was banned from the forums.

No, I was banned from the forums for posting a list of the top QA
offenders. Which is pretty amusing, when it's considered fine to
repeatedly bash the QA team, Gentoo developers that the forum mods
don't like and anyone associated with any project the forum mods don't
like.
```

McCreesh's claim regarding this instance is borne out by supporting evidence. In the course of this, and other almost continuous episodes of conflict, McCreesh's status as a Gentoo developer was formally revoked by the Developer Relations Project ('devrel') team – a group responsible for, in effect, human resource management functions including discipline – and he lost the ability to participate in mailing lists for a time as well as the ability to make direct contributions to the Gentoo project.¹²³ There were differences as to the nature and appropriateness of this move:

```
From:      eroyf
Joined:     03 May 2004
```

¹²² Edited for brevity, original at:

<https://archives.gentoo.org/gentoo-dev/message/9b05d1601dc8dfc98d816ed03c11c61c>

¹²³ i.e. he lost 'commit access' and could only make contributions by having a Gentoo dev submit them on his behalf.

Posted: Mon Jan 08, 2007 4:49 pm

Subject: Cast your vote of the Gentoo Developer of the year

cokehabit wrote:

> eroyf wrote:

>

> > Now, please stop judging people because they retired.

>

> no, not "retired", pick the term of your choice: kicked out/excluded/
 > sacked/ expelled/told to fuck off

Retired it is. ¹²⁴

In large part, however, the suspension met with approval.

I should point out that is not my goal here to evaluate the alleged transgressions of a particular actor, and I will say again that I have chosen this series of events because they provide a clear exemplar and not to single out an individual person. What is interesting here is the process by which Gentoo engages in conflict and how conflict is addressed when a tipping point for tolerance is reached. What is important here is not who transgressed, but how they, and the community proceeded. Ultimately, McCreesh was ‘sacked’ from Gentoo.

What happened next will surprise you! ¹²⁵

10.9. Let Them Have, and Eat, Cake

Nothing happened next. ¹²⁶

After his widely publicized, and celebrated, sacking, but showing no signs of the shame or derivative stigmata (Goffman 1963; Edgell 2012; Letkemann 2002) experienced by, for example, unemployed Japanese salarymen, McCreesh simply returned and continued to do Gentoo work; it appeared that there was nothing anyone could do to stop him. Clearly strongly committed to the Paludis project, McCreesh continued to participate in Gentoo in a range of capacities; most

¹²⁴ Edited for brevity, original at <https://forums.gentoo.org/viewtopic-p-3828795.html#3828795>

¹²⁵ ‘Click bait’ is a narrative device, a form of ‘forward lure’, often adopted by the publishers of news and entertainment oriented web sites with the goal of securing a reader’s continued attention by way of referral to additional web pages (Blom & Hansen 2015)

¹²⁶ The lure often delivers a disappointing or anti-climactic result (ibid)

notably in activities related to package management. Even though Paludis appeared to have been broadly rejected by members, the technical issues that led to the creation of Paludis in the first place still existed within Gentoo broadly and Portage specifically, work to author a formal specification – the Package Manager Specification (PMS) – continued with the goal of clearly defining the requirements for Portage or whatever might replace it. Intriguingly, the work of writing the PMS fell largely to McCreesh and he continued to work on it even after his ‘sacking’ even to the extent that he was called to speak at various Gentoo Council meetings when the PMS was discussed, made various commitments to further the PMS at those meetings, even occasionally appearing and speaking at Council meetings as an appointed proxy for an absent Council member. On numerous occasions McCreesh has taken a leading role in Council meetings, defining and directing discussions, leading decisions and conducting himself as though he was an elected Council member, all without any formal status in the organization.

McCreesh’s continued participation presented interesting challenges for Gentoo leaders. As a usual practice and as one might expect, all of the computer software, documents, program files and related electronic materials that together constitute and produce the Gentoo Linux ‘product’ are stored on physical computer equipment that is the property of Gentoo. The Gentoo Infrastructure (‘infra’) project is responsible for establishing, maintaining, securing and maintaining access to that equipment. It is this equipment to which Gentoo members gain access by way of the ‘commit rights’ (discussed in chapter 8) when they become developers. The revocation of McCreesh’s status as a developer meant, of course, that his commit rights were also revoked and so he was unable to continue to contribute to the PMS, Paludis and other projects without a supervising intermediary acting on his behalf. Naturally, social issues and issues of convenience and flexibility made continuing contributions difficult. At one point a Council meeting examined a proposal to move PMS work off Gentoo-owned infrastructure simply to facilitate McCreesh’s continuing contributions. The premise for the debate was a bug (a problem report) lodged by McCreesh himself:

Bug 273759: ciaran mcreesh editbugs perms for PMS

Product: Gentoo Infrastructure

Assignee: Gentoo Infrastructure

Reported: 2009-06-11 18:46 UTC by Ciaran McCreesh

Description Ciaran McCreesh 2009-06-11 18:46:55 UTC:

I'm supposed to be able to, and used to be able to (see for example http://bugs.gentoo.org/show_activity.cgi?id=217492) close and reopen bugs with the "PMS/EAPI" component under "Gentoo Hosted Projects". For some reason my ability to do this vanished a while ago, and I never chased it up, but now I've got a big list of EAPI 3 things that needs tidying up. Could someone please find out what happened here and rectify the situation?

Comment 1 solar gentoo-dev 2009-06-11 19:26:52 UTC:

Please show where devrel, userrel and the council all voted on that you should be given any special perm[ission]s within Gentoo anywhere. The point of getting the boot is to limit what access you have. Not to make you a 50% dev.

[...] ¹²⁷

The comment by developer ‘solar’ (the last three lines in the above excerpt) cast some light on the reasoning behind the decision to withhold rights – to ‘sack’ – McCreesh. Ultimately, Council soundly rejected the proposal, unwilling to make a special exception and also unwilling to have an important part of the Gentoo Project stored somewhere other than on Gentoo infrastructure.

Whilst, as I have said, the decision to ‘sack’ the transgressive developer from Gentoo was met with widespread support, the true nature of that decision is interesting. We have a culture that strongly values effort and that, at the same time, seems to expend a large amount of effort engaging in and dealing with conflict. We have a culture that values reputation so strongly that wrongdoing is dealt with without identifying transgressors; at least until a tipping point is reached. I propose to address this notion of a tipping point directly later in this chapter and argue that Ng’s (2014) notion of dissonance driven saturation of self is a driving factor.

In context of this, a decision to deny an actor’s access to the key tools he needs to work seems decisive but practically – at least in the described instance – it has little apparent consequence. In almost all cases where this level of conflict has occurred the antagonist has taken the private decision to leave the Gentoo project, albeit dropping a metaphorical ‘bomb’ in the form of a memoir on their way out. McCreesh did eventually leave Gentoo but not before a protracted period of continuing and sometimes confrontational engagement. We have seen that at Gentoo, promotion – if it can be called that – to a new level in the hierarchy rarely sees an individual abandon their existing roles. Such is the apparent ‘task-discontinuous status’ (Offe 1976) of this organization that demotion, or even apparent termination, from a role does not see the individual leave that role either.

I think that this leaves something of an unanswered question, one that is perhaps not answerable at this time. I propose to revisit the question of role changes – both promotion and demotion – again in the next chapter in context of generalizing the observations about Gentoo to OSS and to concepts of work and organization more broadly. A further factor, clearly also important by the

¹²⁷ Edited for clarity and brevity, original at: https://bugs.gentoo.org/show_bug.cgi?id=273759

sheer number of times it appears, is that of the role of memoir, both in conflict and more broadly, within this organization.

10.10. A Memoir on Writing Conflict

The front cover of the paperback edition of Hopkins' (2017) work on the role of memoir in the violent political 'Troubles' in Northern Ireland between the late 1960s and late 1990s presents a simple photograph of a row of some fifteen books of varying heights, widths and colours with their spines, and thus the names of the authors and the titles, visible as though the books were arranged on a bookshelf¹²⁸. Though it is a simple image it conveys perfectly the idea that I'd like to present here. Each of the books is a political memoir that presents, in a somewhat biographical sense, each author's own experiences of and views on the Northern Ireland conflict. In Chapter 5 I introduced the notion of polyphony, a presence of multiple perspectives or 'voices' observed by Bakhtin (1973) in Dostoevsky's novels and brought forward into organization theory as a means for understanding the multiple perspectives that present themselves in any socio-organizational setting (Rhodes 2001b, 2000a; Hazen 1993). The cover photograph that I have just described is a perfect metaphor for this notion and for what I will argue is a political practice of employing metaphor at Gentoo.

Hopkins (2017) argues that political memoirs can be seen as a version of the traditional British Secretaries of State memoirs often employed in an "*attempt to seal a minister's reputation, perhaps to settle old scores*" (p. 134). O'Neill and Madibbo (2014) examine the use of memoir in genocidal and ethnic conflicts in sub-Saharan Africa and argue that memoir is used as a tool for individuals to engage audiences and deliver a particular view where other sources – news media and such – are seen as likely to subvert or unlikely to properly represent certain perspectives. Describing the works as "*social movement memoir*" (2009, p.123), Taylor makes an analysis of the use of metaphor in responding to conflict within the North American feminist movement. Noting, with interest, that the feminist movement as a whole aims to engage in political struggle at large with the goal of triggering reforms on a range of issues that affect women is, at the same time, engaged in its own internal political struggles. It is the use of memoir in respect of these internal conflicts that draws Taylor's (ibid) attention; she shows personal memoirs being written by individuals who feel they have suffered at the hand of the movement and seek to document experiences and present perspectives that differ from the dominant rhetoric.

What is interesting, I think, is that memoirs seem to appear wherever conflict threatens to silence voice. We might also argue that the presence of memoirs serves as evidence of political conflict; though I do not think a claim that Gentoo is engaged in political conflict is a controversial one!

128 See: <https://books.google.com.au/books?id=IVTRCwAAQBAJ>

I have repeatedly turned to lengthy written documents that have the character of memoirs as I have recounted various issues and incidents at Gentoo in these pages. Amongst those, we can see evidence of all of the characteristics I have just presented: we have seen multiple presentations, each of a unique perspective. We have seen use of memoir as a rhetorical tool designed in effect to ‘set the record straight’ on an issue that the author feels strongly about. We see published memoirs designed to ‘seal reputation’ in an environment where, as we know, reputation is of central importance, and we have regularly seen memoir used in a somewhat retaliatory sense to identify and rebuke transgressors who, typically, have personally offended the writer. Often, some or all of these characteristics feature together in a single piece of writing.

Notably, the accounts I have given here only represent a small portion of the memoirs published by various Gentoo members and ex-members. A common example is what we might label an idiomatically ‘bridge burning’ memoir in which the author announces his reasons for leaving the organization and gives reasons and blames individuals in such a way that they alienate not only these individuals but also even the bulk of the organization. Another type, the ‘genesis’ memoir, is written when an individual begins a new project. We have seen these in respect of the genesis of the Gentoo Linux project and also of Zynot Linux, and in both cases the author engaged in degrees of bridge burning in that they founded their decisions to start a new project on the basis of conflicts in prior projects.

Given the observation that memoirs seem to be employed at Gentoo and, per the other examples I have given in many other politically charged arenas too, whenever there is political work to be done, we can once again invoke theories of motive as an analytical tool. The examples I have given of setting the record straight, to seal reputations – be it for good or for bad – to burn bridges in anger or the hopeful genesis of a new project that encourages others to join all fit a broadly similar mould: they are intrinsically political, designed to rhetorically bring the reader to a position of agreement with the writer. We can anticipate all of the features that Blum and McHugh (1971) proposed. Theorising activity on the part of authors seeking to translate their own understandings of their own inner motives into expressed motives that they hope will fit the grammatical expectations of readers is naturally taking place; we can see this clearly in Kulleen’s careful representation of his intentions when explaining his decision-making – I attend to this point in more detail in the next section – and we can see *motives formulating actors’ methods* in Kulleen’s circumspect treatment of one still-present ‘poison’ whilst being relatively incautious in his assessments of other adversaries who had left the organization. We can see and anticipate theorising in the recursive sense that I offered in Chapter 4 in that actors are clearly not taking the rhetorical statements of others at face value; the example of McCreesh ‘returning fire’ by invoking an antagonist’s biographic pre-election statement is one such example of this occurring. The frequent use of memoir as a political device provides substantial opportunities for theorising and imputing motives; for individuals in crafting their own expressions of motive, for the engaged actors seeking to interpret and impute motive and also, of course, for those of us with a

research interest standing outside and looking in. It would, even at this stage, be easy to underestimate the importance of these activities of organizing. This is, after all, a group of unpaid volunteers doing whatever they want whenever they want and, whilst their technical and even organizational techniques are quite advanced, they still descend to fighting like schoolchildren with some regularity. I argue that it would be a mistake to make such an underestimation, however, for the memoirs still have more to offer in terms of understanding Gentoo people, who they are and the way they work. Another important feature of the use of memoir to which I will turn now lies in its role as a mechanism for reflection and in – perhaps rhetorically – exhibiting self-awareness.

10.11. A Memoir on Self Awareness

We observed in the examination of leadership practices in Chapter 9 that individuals are often keenly aware of the deeper social consequences of their activities, particularly in respect of the way they use their authority; a key case in point being the characterization of the role of Gentoo Council members as ‘giving feedback’. Clearly, those who rise to leadership roles within Gentoo have strong leadership skills; the meritocratic nature of OSS observed by Raymond (2001) does seem to extend to the selection of leaders in Gentoo. This sense of maturity extends to many of the memoirs that Gentoo members produce. Far from the bitter and mendacious diatribe charged with anger and designed to lay waste to opponents’ characters we might expect, these works are – while sometimes quite strongly worded – often carefully considered and insightful pieces. Within the range of reasons for writing a memoir, individuals often employ memoir as a mechanism for self-reflection and even reflexivity.

In an epilogue to the memoir I present in the section 10.4 titled “A Parade of Freaks”, above, Kulleen (2007b) recounts an episode of which, in hindsight, he was not particularly proud:

My goal was to stay out of developers’ way so that they can concentrate on scratching itches.

And then my ego popped up. All of a sudden, I was the head of devRel, and effectively second in command of Gentoo itself. Power trip? Me? Well, actually, yes. One day, on the -dev mailing list¹²⁹, someone asked a question about eclasses or dependencies or something (I don’t even remember). Well, one of the newly recruited developers answered that question. Now, the answer he gave was not completely accurate.

And that day, I turned into the type of manager/boss that I’ve despised. The right thing would have been for me to talk to the newly minted developer in private about the inaccuracy, just to make sure that he knew his facts. In other words, he didn’t do anything wrong. And really, it could have been anything from;

129 Edited for brevity, original at: https://blogs.gentoo.org/seemant/2007/03/08/the_poison_trail/

not quite knowing some of the subtleties, to not quite expressing himself to convey those subtleties. And as a senior developer, it was for me to gently guide him towards the right knowledge and the right expression of that knowledge.

Instead, yours truly decided to tell him off **on the list.** I not only embarrassed him by doing that, I embarrassed whomever his mentor was, by asking *"who mentored you?"* And after clicking *"Send"* I thought *"how did this person even make it into Gentoo without knowing this basic stuff??"*

To be fair, an event like this will not be very surprising when it occurs in any electronically mediated exchange, given the sense of disinhibition associated with online communications (Suler 2004), the propensity for increased rudeness that presents itself with a lack of eye contact (Lapidot-Lefler & Barak 2012), though in this instance, Kulleen (2007b) proceeds to reflect on his actions:

And then reality hit me. This same developer /msg'd ¹³⁰ me on IRC ¹³¹ later to talk with me. Man, he brought my head right out of the clouds. He didn't fight with me, he just told me the facts. He told me that he'd heard I was a bit of an ass and getting worse. He told me that people were leery to approach me with stuff because of it. He told me that I demotivated him by acting as I did on the list. He didn't call me stupid, as I had implicitly called him. He didn't call me dumb, as I had done to him. He just expressed the effect I'd had on him.

I can not even tell you how badly I felt.

This memoir (ibid) ends with a rhetorical call for better conduct, and an apology:

Life's too short to be a hard ass. Other people's lives are too short to make them feel like crap. Yeah, you have your standards But they're your standards. Beating other people with them won't make anyone jump to adopt your standards. Communicating with them effectively involves showing them why your standards would serve them.

Anyway, I wanted to publicly apologize to Rob for what I did. And to anyone else I've made feel that way over the years: my sincerest apologies. I didn't know it when I did it. If you'd like to vent at me (in public or private), I encourage you to do so. Don't hold it in (don't keep that negativity that I caused inside of you: it becomes poisonous); let it out. Give it back to me.

130 When an individual wishes to send a private message to another individual when they are both participating in chat rooms on IRC, he will prefix the intended private message with '/msg' and the target's name to instruct the software to deliver the message privately and not to the chat room at large. Here, Kulleen is saying that the individual initiated a private conversation with him, the point being that where Kulleen 'attacked' in public, his target responded discreetly in private.

131 Abbreviation meaning "Internet Relay Chat". One of the earliest forms of chat room, IRC is a principle means by which Gentoo members communicate in groups or in 'public'.

I have introduced this example to demonstrate that even in an environment charged with conflict, we are not dealing with unbridled animosity. Where the preceding chapters have presented a kind of open and democratic paradise, this chapter qualifies that picture somewhat. I would like the reader to see two things: first, that whilst conflict is a significant part of this organization, said conflict does not override or supplant what is at its core a congenial and productive work environment. Second, I aim to show that despite this being an organization comprised entirely of volunteers working at will on their own interests and making a product that is given free of charge, that the nature of the organization, its structure and its leadership, are no less sophisticated than any conventional for-profit organization.

I have said just now that actors in this organization are carefully evaluative in their interpretations of the representations that others make and in their theorising designed to infer and impute motive both in themselves and in each other. Noting Ng's (2007) proposal that reflexivity is a useful tool for dealing with dissonance and my counter contention that reflexivity is a skill that is perhaps not available to all, there is nonetheless evidence in Kulleen's words that I have recounted here and also in many of the other memoirs we observe that careful – and perhaps calculative – reflection and reflexivity are employed routinely by these actors. This claim is supported by Raymond's (2001) account of the strictly meritocratic nature of OSS work (cf. section 10.6 titled "Gifts and Good Relations" on page 252, above) with the concomitant strict taboo on attacks on competence, and also by his claim elsewhere in the same volume that the great success of OSS has occurred because OSS culture "*selects ruthlessly for competence*" and that "*its culture accepts only the most talented 5% or so of the programming population*" (2001, p.58). There seems to be something of a contradiction in claiming a meritocracy that never critiques competence yet at the same time selects for competence. Nor have I made any attempt to assess the skills or the competence of the people I have interviewed or otherwise observed. Even so, given the examples we have seen, it seems reasonable to conclude that the people we are observing here are intelligent, technologically capable and socially astute. It is not a stretch to argue that reflection and reflexivity are skills that are in use here, nor is it difficult to extend the argument that the theorized and grammatically calculated manner (Blum & McHugh 1971) in which motive is developed and expressed – sometimes explicitly, often merely implied – is very much in use and in evidence here.

Certainly, we do 'do things' differently 'around here' (cf. Bower 1966), but in many ways Gentoo is not really that different at all. One thing that is different when compared to more conventional commercial organizations, however, is the way in which resistance by 'speaking out' is managed, or not managed as it were.

10.12. Can't Stop This Memoir

Whilst the pieces I have described as genesis memoirs typically form a part of the constitution of a new project and are presented as something of an official historical account of the project,¹³² other writings that take a more controversial or confrontational approach do not, as one might expect, form a part of the official narrative.

We regularly see conventional organizations setting standards of conduct for employees that include policies for the way in which they may – or may not – speak or write about the organization in the public view; formal and informal codes of conduct will typically proscribe any conduct that may bring the organization into disrepute and formal reprimands or even termination of employment are a usual consequence of breaching these rules. Even the volunteer staffed feminist organizations presented by Taylor (2009) have (or at least assume) the power to censure and even expel individuals who speak out. When individuals speak out, for example by writing post-membership memoirs that are rhetorical works designed to defend a reputation or a political stance, Gentoo has no such power to respond to these types of transgression. When an individual writes a memoir or otherwise makes controversial statements in public and causes them to be displayed somewhere other than on an official Gentoo site, it cannot be removed or even denied. In a commercial context an organization may assume the status of a legal person and seek to take action in libel and perhaps on other grounds; I am not aware of this ever having occurred in the OSS community however and it seems to be broadly understood as usual. The apparent untouchability of this type of action is, of course, a key pretext for this means of speaking out. Individuals seem to resort to memoir when they have lost faith in other narratives (cf. O'Neill & Madibbo 2014) and the capacity to publish externally to the organization provides a level of protection for their expression of views. This combined with the situation at Gentoo where even an individual who was 'sacked' from the organization was able to continue his work largely unhindered presents an extension to the notion of limited and approved resistance observed by Courpasson and Clegg (2012) so that resistance by way of memoir is largely unfettered.

Given that this type of externally sited misconduct is beyond the reach of the organization, questions arise as to how the organization addresses deviance that occurs within its reach.

10.13. Watching the Defectives

*"They beat him up until the teardrops start.
But he can't be wounded 'cause he's got no heart."
(Costello 1977)*

¹³² With, of course, the usual caveats regarding idealism and revisionism.

Within Gentoo exists a project that has responsibility for managing interactions between the organization and with individual developers. Named “Developer Relations”, later “Community Relations”, and known as ‘devrel’ or ‘ComRel’, the group performs a role that is not unlike a human resource management (HR) department in a conventional organization. Perhaps unsurprisingly, Gentoo devrel bears a level of contempt consistent with that deservedly attracted by HR departments.¹³³

When I interviewed individual participants and leaders at Gentoo, and not yet aware of the extent to which conflict played a part in the organization, I enquired of various individuals as to the nature of misconduct at Gentoo and of how misconduct was dealt with. At that point, I couched my questions in terms of situations where a hypothetical individual would ‘go rogue’ and seek to cause damage to Gentoo and its software with malicious intent. It quickly became apparent that my inquiry was misguided: first, the commitment of individual members to the joint cause is – contrary to what one might think having read this chapter – virtually unimpeachable, and second because the technical functionality embedded in the computer systems that Gentoo uses to manage its work are such that any damaging action – mischievous or inadvertent – is able to be quickly and easily reverted to a known-good state.

In the context of a discussion about the way individuals became Gentoo members and developers, my interviewee told me about the process in the early days of Gentoo. Evidently, anyone who had shown some capacity and inclination to good work was quickly granted ‘commit access’ (rights to upload changes) to the entire ‘tree’ of Gentoo software.

(11:11:46 AM) geoffb:	So what goes on in a situation like that... someone makes a good, noticeable contribution... attracts the attention of one or more developers... then what?
(11:12:11 AM) shane:	developers decide to get out of that person's way, and grant them commit access

133 It would be remiss of me not to confess a certain bias: I am, to put it gently, not a proponent of the HR function.

I have heard a prominent scholar declare that Human Resource Management is academically a “*false discipline*”, and I cannot disagree. I am of the view that functionally, HR serves to exacerbate the alienation that Marx observed in capitalist modes of production (Simon 1994) and as an enabler for the labour practices that Marglin (1974) saw as a disingenuous provision of a role for an unneeded capitalist. As an organization theorist I have formed the view that HR is a function that arises when an organization has grown too large to properly attend to the needs of individual employees in an organic way and so the function necessarily becomes explicit, ‘synthetic’ if you like. At that point a principle role of HR is to, in effect, protect the organization from its workers; a sad indictment, I know.

(11:14:29 AM) geoffb:	that's the bit I'm interested in... who decides... is this a decision that any developer can make/grant, do developers chat amongst themselves and come to an agreement?
(11:14:39 AM) shane:	the latter
(11:15:05 AM) shane:	it was a meritocracy
(11:15:20 AM) shane:	I think it probably still is
(11:15:36 AM) geoffb:	so who actually 'flips the switch' that grants commit access?
(11:16:25 AM) shane:	in those days, daniel robbins
(11:16:48 AM) shane:	when I became the whatever I became a few months later, I inherited the switch
(11:17:44 AM) geoffb:	is there a formal process, some voting, a particular number of nominations, something like that, that precludes the 'switch'?
(11:19:02 AM) shane:	no
(11:19:10 AM) shane:	maybe now, I don't know
(11:19:12 AM) shane:	but not then
(11:19:18 AM) shane:	it was a flat organization, people talked, things happened
(11:19:25 AM) shane:	it wasn't a formal arrangement
(11:19:48 AM) shane:	it was people doing what they liked to do, finding others who liked it as well, and then just carrying on doing what they did
(11:20:23 AM) geoffb:	so if a person seemed to be doing good work and that could be helped by granting access, it happened?
(11:22:57 AM) shane:	yes

The statement that “*developers decide to get out of that person's way*” seems to be made from the same kind of perspective as the “*giving feedback*” sentiment that I presented and discussed in Chapter 9. Trust levels were high, and individuals were presumed to be acting with positive intent until they proved otherwise. Even so, there was little apparent appetite for proving otherwise.

(11:24:20 AM) geoffb:	what happens in a situation where someone turns out to not be doing such good work...
(11:24:41 AM) geoffb:	... I'm trying to think... maybe... committing broken code, even something that seems malicious?
(11:24:49 AM) geoffb:	does that happen? how is it dealt with?
(11:25:08 AM) shane:	I'm not certain anything malicious has actually happened
(11:25:15 AM) shane:	certainly errors have been made

(11:25:26 AM) shane:	but things were dealt with pragmatically
(11:25:48 AM) geoffb:	how so?
(11:25:53 AM) shane:	first the problem was solved, then a determination was made whether the error was serious enough to warrant revocation of commit access

On occasion, individuals have made well-intended changes that turned out to be mistakes with wide-reaching consequences, but even in a case where almost every individual software package in the Gentoo tree was prevented from working correctly for a few hours, the changes were simply reverted and the work of producing Gentoo Linux continued virtually unhindered.

Another interviewee told me, of a Gentoo project that he managed:

(7:09:58 PM) ken:	surprising, but in all the time I managed it there was no conscious vandalism, only accidental "bugfixes" that broke other things
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And went on to explain this in the broader Gentoo context:

(7:10:30 PM) ken:	I think that comes from the strategy - if someone provides two or three patches give them access
(7:10:45 PM) ken:	that way you know that they are honestly interested in working on it
(7:11:12 PM) geoffb:	ok, so there's a bit of a selection criteria, but not an onerous one.
(7:11:25 PM) ken:	mostly a proof of work
(7:11:46 PM) ken:	similar to how KDE works
(7:12:06 PM) ken:	most people there get commit access just because they provide a patch or two and want to see it committed
(7:12:13 PM) ken:	"do it yourself then" is a great motivator
(7:12:20 PM) ken:	and afaik ¹³⁴ they never had vandalism

Again, we see that malice is so rare as to be virtually non-existent.

As the organization grew, the likelihood of technically disruptive events occurring increased simply by virtue of the increased numbers of people working on Gentoo. Where the early process for membership was simply to do good work and ‘get noticed’, eventually a selection process came in to play whereby individuals would still approach Gentoo in the same way – by doing good work – but would also need to pass a questionnaire to demonstrate awareness of various technical functions and rules at Gentoo.

¹³⁴ Acronym for “as far as I know”.

Administration of the recruitment process as it was labelled fell, of course, to devrel, as did responsibility for dealing with instances of misconduct and the more egregious episodes of conflict. It seems that this latter functionality is where much disdain for devrel began. devrel has the power to censure Gentoo members by revoking powers and access and even by expelling individuals from the pool of developers. This power of censure combined with their unusual status as one of the few Gentoo projects that operates largely in secret – arguably necessarily so for privacy of accused individuals – meant that devrel bore a reputation in some circles for being akin to a policing function. When we consider that most, if not all, individuals who become involved in some sort of conflict – even if they do so assertively and with a lack of tact – are operating with the genuine benevolent intent that I have argued earlier in this chapter, then it must be expected that the ‘police’ will not always be held in high regard. Many of the memoirs, particularly the ‘bridge burning’ and ‘departure’ types that I presented (in section 10.10 titled “A Memoir on Writing Conflict” on page 263, above) earlier in this chapter, highlight a perceived overreach or abuse of power on the part of devrel as a reason for a decision to leave Gentoo.

One developer who had been referred to devrel as the subject of a complaint became frustrated because the secrecy surrounding the complaint was such that even he, as an accused, was not able to learn the details of the accusation. Where it is usual practice for Gentoo Council to refer issues to devrel for adjudication, in this instance the individual subject of the complaint Council to examine devrel actions. Given Council’s ‘arms length’ distance from matters such as this, they were unable to help him either. In frustration, he reacted:

22:59 <Philantrop >

Ok, that's enough. I'll give it a night to sleep over but I'm probably going to retire from Gentoo for this absurd and *perverted* handling of complaints.

Another developer, quoted in an article titled “*Gentoo attempts to deal with developer conflicts*” (Brockmeier 2007), cited his frustration with devrel as a key reason for his decision to leave Gentoo:

“Diego “Flameeyes” Pettenò says he left the Gentoo project in February due to “repeated insults” from another developer “every time I did something he disagreed with,” as well as “the incapacity of the current Developers’ Relations team to handle those situations.” (Brockmeier 2007)

In a case similar to the account I have given of a ‘sacked’ developer continuing to do Gentoo work, this resignee also continues to contribute to Gentoo:

"It doesn't seem to be a case of lost interest in the project itself. Despite his official retirement from Gentoo, Pettenò still contributes to Gentoo via proxy. "In the spare time I still have, I'm still working on xine-lib, and I try to still provide some improvement for Gentoo from time to time, by maintaining a few packages via some colleagues who I'm still in contact with." (ibid)

He even goes as far as to suggest that he will consider returning in the future if problems improve:

"Pettenò also says he'd consider rejoining after some time away to work on a personal project called Rust, which is an extensions generator for Ruby. "If something has changed in Gentoo afterward, I'll probably consider coming back. I miss my work there, and I still feel responsible for the users I left uncovered." (ibid)

It is, as an aside, important to note that this statement also shows the feelings of commitment to Gentoo users that we observed in the preceding chapter. It appears that this particular person has also experienced the shift in the nature of their personal itch from resolving specific technical needs to a compunction to serve others.

I am, I suppose, less interested in specific examples of the events in which devrel is involved, and more interested in the mere fact that devrel needs to exist as a function at all. As the HR-like group responsible for recruitment and discipline, membership and sanction (that may extend to expulsion), devrel is a clear consequence of organization growth. That a department exists that accepts formal complaints from members and takes referrals of disciplinary matters from the Gentoo Council in an organization that purports to be open, free and user-friendly presents something of a paradoxical situation. It also demonstrates that Gentoo differs even less from conventional organizations than we might have hoped.

10.14. On Death, and Life

Similarly to the goal for the preceding chapter, this chapter aimed to continue to address the second research question, only this time in respect of functions other than leadership.

2. *What role have individual members of the Gentoo Linux Project played in shaping the organization through resistance, and what accounting of motives leads them to resist?*

The question asks about 'individual members' and this wording, designed as it was well in advance of data analysis, turned out to be somewhat prescient. The division between this chapter and the preceding chapter is a division of roles, not a division of individuals precisely because the typically one-to-one linkage between individual actors and the roles they execute that is a central feature of Weber's (1978) conception of bureaucracy simply does not occur at Gentoo.

We see evidence of a Weberian career at Gentoo but here careers don't so much climb a hierarchy as extend into additional roles whilst continuing preceding roles. Perhaps the reason that this happens is that the role of 'user' – a role that one might expect to be a lowly one – is highly regarded; held up as the most important role at Gentoo and the one for which all Gentoo work aims to serve.

The notion of user superiority was demonstrated in powerful terms when an individual user, disparaged for his status by a developer frustrated with the user's conduct, simply turned about and reminded the critic of the superior status that Gentoo grants to its users.

Notwithstanding that conflict is a central and disruptive feature of the organization, Gentoo members deal with conflict in interesting ways. The premise that Gentoo, like much of the OSS movement, operates on principles akin to that of a gift economy (cf. Rehn 2001), means that all individuals are keenly aware of their own reputations. They are equally aware that to disparage another's reputation is to harm one's own and, in that vein, they eschew personalized attacks and anything that might be perceived as such.

Until they reach a tipping point.

Noting that the most valuable commodity in this organization is effort, in situations where perceived misconduct is so egregious as to be likely to discourage members from participating – contributing effort – or damaging to the results of effort already contributed, then the idiomatic gloves are removed and aversions to identifying perceived troublemakers – freaks and poisons – disappear.

There is a problem, however, with the notion of 'troublemaker' here. We have examples of quite heated conflicts, but we cannot say with any conviction that any of the participants in said conflict act with any sense of malice. Their communications – that are almost universally entirely congenial – can take a severe turn for the worse in times of conflict; so much so that severe sanctions could be expected if such exchanges occurred in a conventional organization. Conversely, the motivations for this seemingly perverse conduct can rarely be faulted. Everybody appears to work with the genuine goal of benefiting the users of the software they produce, regularly citing the Gentoo philosophy of enabling users as the basis of their motivations. The conflicts we see at Gentoo are not so much battles between any sense of 'good' and 'evil', but rather differences of opinion powerfully executed.

Notwithstanding that an external or relatively independent observer may recognize the genuine intent that seems to exist on both sides of many of the conflicts we have witnessed, those who have some "*skin in the game*" ¹³⁵ – given the importance of reputational accountability for one's

135 An aphorism of unknown origin with etymology traceable to at least the early 19th century and often incorrectly (Safire 2006) attributed to American businessman Warren Buffett.

contributions in this environment, the aphorism is appropriate – may not see conflicts of goals quite so objectively. We know that the personal itch undergoes a transition from technically founded to a more social orientation that has the effect of establishing a link between individuals and the work that they do that is so strong that they will continue to maintain their work indefinitely. We also recognize the centrality of peer reputation as the only real, if intangible, mechanism for building and maintaining reputation. With these in mind we can see that constructs of identity such as “*the author of an important piece of software*”, “*the maintainer of a widely-used category of ebuids*” and the concomitant sense of self that establishes around such roles and the reputation that they bring will be of central personal importance to individuals.

At the same time, the common sense that regards the user as “*more important than you*” along with the ‘task-discontinuous status’ (Offe 1976) nature of the organization that establishes everyone as a ‘user’ means that individuals feel compelled to conduct themselves congenially in their interactions with all members.

We have then two related senses of self. An individual may see themselves as “*a competent programmer who takes good care of his users by continuing the work that they need*” and also as “*an affable member of the community who regards everyone as equally important*”. When a situation occurs where another member proposes a course of action that threatens the first sense of self by disrupting or devaluing work already committed, then they naturally feel the need to defend their position. In defending their position, however, they immediately offend the second sense of affability and equality. It is the progressive distancing between two important senses of self that, for Ng (2014), causes the saturation of self that manifests as an ‘explosion’ (Ng 2017).

How this saturation of self – the tipping point – manifests will, as we have seen, vary from case to case. We have seen one tipping point past which individuals are prepared to forego the norm of criticizing people rather than problems; there is a second point after which the organization may become unwilling to allow an antagonist’s membership to continue. Whilst ‘sacking’ is relatively rare, it does occur very occasionally. Interestingly, however, being excluded from the organization presents little more than an inconvenience to the target. Individuals who are excluded from or choose to leave the organization still feel a sufficiently strong commitment to continued maintenance of the work they have already contributed that they will in many cases continue their work from their position of exile. The ubiquitous personal itch is so strong that, once it transforms from technically to socially motivated, individuals will continue to attend to the itch even after they have chosen, or have been asked, to leave the organization.

Another strong theme has emerged in respect of the way that members ensure that their stories are told. Any possibility that particular voices may be excluded from debate or decision-making as Bachrach and Baratz (1963) described, is subverted by the publishing of memoirs in ways that cannot be effectively suppressed. Consistent with other situations where conflict – be it political (Hopkins 2017), genocidal (O’Neill & Madibbo 2014), or organizational (Taylor 2009) –

individuals who are concerned that their reasons for taking particular decisions or criticizing certain antagonists may be suppressed or simply not heard will present their versions of events in writing. These often lengthy narratives are remarkably insightful; the memoirs written by those in leadership roles convey insight, self-awareness and a capacity for reflection equal to that which we might expect from leaders in conventional organizations. The memoirs also serve to support my claim that individual Gentoo members act with almost universal benevolent intent and serve as a way to make that good intent clear where preceding efforts made in the heat of conflict may have been less successful.

Whilst I have in some small sense alluded to the possibility of a kind of typology of memoir in this chapter, it is not my goal to extend that beyond that observation into a substantive theoretical contribution. The typology is useful here to explain what happens at Gentoo but it is an issue that extends beyond the scope of this study. I will say the opposite for the question of motive, however. I initially approached this work with the belief that the question of why individuals contribute to open source work as they do had already been thoroughly addressed in a subset of the literature on innovation that I think of as the ‘motivations’ literature.

My view has not changed in the sense that I think the simple question of “why” individuals participate has been thoroughly answered – a great many scholars have asked “why” and a great many participants have answered the question directly and explicitly – but when we overlay the prescription for motive set out by Mills (1940) and subsequently by Gerth and Mills (1953), then invokes Blum and McHugh’s (1971) typology,¹³⁶ we find ourselves standing at the cusp of what might constitute the paradigmatic shift previously denied to this work by bureaucracy’s steadfast refusal to die!¹³⁷

An interesting basis of dissent within Gentoo is concern for the formal impost of discipline. Gentoo is no different from any other organization in the sense that the workers maintain a barely concealed contempt for the HR department. Save to say that Gentoo members are under

136 All credit for my ‘discovery’ of Mills, Gerth, Blum and McHugh’s work on motive must be assigned to Stewart Clegg. Were it not for his advice to me and his invocation of their work in his own (1989), I will have remained ignorant.

137 This sounds excitable, and it is, but with good reason. I had considered the question of ‘motivation’ either ‘signed, sealed and delivered’ - and in some quarters of the literature perhaps it is – or ‘dead and buried’; there are a clear and established range of reasons for participation in open source projects and those reasons are so firmly established that the participants repeat the scholars’ own words back to them. When I presented my thinking on ‘motive’ to Ken, who has been kind enough to entertain my ramblings as I developed many of the ideas for this work, I believe I used words to the effect of “*and the heavens opened and the angels were heard to sing*”, such is the value of this perspective.

no particular threat of reprisal should they fail to hide their disdain, the Developer Relations project – devrel – executes a responsibility for HR-like functions such as recruitment, maintenance of membership, and discipline that is much the same as we might expect to see in any large organization. I say large because the presence of the devrel project at Gentoo is chiefly a consequence of growth. Large organizations find it necessary to formalize such functions when they reach a size at which said functions can no longer occur organically. In this way, Gentoo has become more like a classical Weberian (1978) bureaucracy as it has grown, not less.

With that, I think that the work of presenting evidence to address the second research question is complete. Where the first and second research questions have an inward focus, seeking to examine the Gentoo organization itself, the third and final research question proposes to consider the way in which what we have learned about Gentoo can be generalized to the OSS movement, and to organizations more broadly. With this goal in mind, then, I shall proceed in the next chapter to attempt to amalgamate what we have learned about Gentoo thus far into a clear set of conclusions, and then go on to consider how those conclusions might extend beyond Gentoo.

11. Generalizing Gentoo

“People with dirty jobs are happier than you think. As a group, they're the happiest people I know. And I don't want to start whistling "Look for the Union Label," and all that happy-worker crap. I'm just telling you that these are balanced people who do unthinkable work. Roadkill picker-uppers whistle while they work, I swear to God — I did it with them. They've got this amazing sort of symmetry to their life. And I see it over and over and over again.” (Rowe 2008)

11.1. Concluding before the End

It falls to the second-to-last chapter to accommodate, in addition to an encompassing discussion of results, something of a conclusion, or at least a prolegomenon to the final chapter. I defend my decision to do so by demonstrating that not only are organization theorists good at time travel but they are better at time travel than quantum physicists (notably because the physicists foolishly regard it as impossible!).

Doing so is appropriate because of the way that the research questions are structured. I have addressed the first question regarding the way in which Gentoo organizes and the way that resistance affects – and even *effects* – their approach to organizing in Chapter 8. Even before examining the empirical data in Chapter 8, the introductory work in Chapter 5 already made it clear by way of historical examples that a range of acts of resistance were central to the founding of the OSS movement. Typically these acts of resistance took the form of opposition to commercial activities designed to profit from the then budding, but burgeoning, personal computer industry at the cost of – at least in the case of the hackers who were developing the technologies – an open environment in which people assisted each other in advancing technology by giving their ideas and their work away both free of charge and free of legal restrictions. This theme of resistance to *something* continued in Chapter 8 in which we observed the very creation of the organization and then quite substantial organization change occurring as the direct result of resistant acts. A difference emerged, however, in that while resistance explicitly directed to outside forces was a key driver for the formation of the broader OSS movement, once our focus turned specifically to the Gentoo organization in Chapter 8 we observed acts of resistance taking a formative focus. Whilst OSS as a whole resisted *outside*, resistance within Gentoo was directed to issues and practices *internal* to Gentoo itself. By the time Chapter 8 was concluded it was clear that Gentoo is a product of resistance and that there are clear grounds to argue that Gentoo is, structurally, a bureaucracy that has become even more bureaucratic as the result of organizational growth and the of various acts of resistance that have occurred in the course of that growth.

With a structural case for a bureaucracy born of resistance established in Chapter 8, our attention turned in Chapter 9 to observe the way in which Gentoo leaders work, noting that the tenets of the bureaucratic form, particularly with respect to rules, policy and the power hierarchy, continue to be clearly observable in the organization.

Chapters 9 and 10 have considered the roles that individual members of Gentoo play by way of their own acts of resistance in shaping the organization and, insofar as is possible, have sought to examine the motives that lead – or more correctly that they say that lead – them to resist in the ways that they do. Chapter 9 considered how leaders are appointed within Gentoo and the work that they do as leaders. We observed that the selection process for Gentoo leaders is so meticulous that once an individual is elected to a position on the Gentoo Council they are assured of the widespread support of their constituents. Naturally a person who has been elected to office with such substantial support also has substantial authority within the organization and yet, surprisingly, those Gentoo members with the most power are at the greatest of pains to avoid exerting their authority even in situations where to do so would be entirely uncontroversial. Chapter 9 also begins to consider motive, in accordance with Courpasson and Clegg's (2012) proposal and the second research question that guides this study. The notion of the personal itch, already introduced in Chapter 8 and in Chapter 5, becomes an increasingly important factor in understanding this organization.

Chapter 10 continues to examine individual resistant acts and the accounts of motives that are offered with a new focus that continues to encompass many of the same people as those considered in Chapter 9, but now in context of non-leadership roles. Where Chapter 9 presented a picture of a collegial and forward-thinking organization in which everybody 'played nice' and achieved great things *together*, Chapter 10 in effect shows the contrasting and apparently incongruous dark side of Gentoo in which impassioned conflict is the apparent order of the day. With this 'dark side' revealed, the nature of the power hierarchy *vis-à-vis* the structural hierarchy becomes clearer in the sense that the power hierarchy is inverted and, at the same time, relationships become more complex, particularly in respect of the personal itch and the role it plays in terms of power and of motive. The question of motive becomes even more important while even more difficult to explicate. Chapter 10 closed with some proposals about the natures of motive and power, and I propose to explore those proposals in more depth forthwith.

Given that the empirical work to this point has been focused inwardly on the Gentoo organization itself, and that the third research question asks us to examine how the things we have learned about Gentoo can be generalized more broadly to the OSS movement at large, one ought to consolidate what has been learned about Gentoo before seeking to address that third question. This chapter has already taken on the tone of a conclusion and I propose to continue in that vein insofar as the first and second research questions are concerned in this the second-to-last chapter and then to revert back to a somewhat empirical mode for a relatively brief period of

time so as to consider external- to- Gentoo factors that have influenced Gentoo and will inform our broader understanding of the OSS movement.

To those ends, then, let us proceed to consolidate what we have learned about Gentoo as an organization. This in turn requires us to remember that organization, or at least bureaucracy, is dead!

11.2. The End of Organization

In Chapter 2 I reviewed Weber's somewhat accidental (Clegg 1994b) inception of the field of organization theory by way of his presentation of bureaucracy as a form of organization "*superior to any other form*" (Weber 1978). It seems odd that an approach to organizing that met with such high initial praise would subsequently become the focus of a great many scholars determined to foretell its end, but very soon after the time that Weber's works began to be translated into English, that is exactly what happened. Over the course of Chapter 2 a range of scholarly works were presented that set out to, at first, theorize about exactly what bureaucracy was but soon proceeded, in a long series of moves, to predict the end of bureaucracy. Not all of these – strictly speaking, none of these – were successful, of course and whilst numerous studies have refined Weber's original prescription, none managed to supplant it other than temporarily. An important example of this is the Aston Studies (Pugh et al. 1968) in which the notion of an ideal type of organization was rejected in favour of a taxonomy only for the type subsequently to be re-invoked by Pugh (1972a) when he replicated and found problems with the original research. Similarly, attempts to explain organization in purely instrumental terms (Donaldson 1985) fail because they do not consider the social (Pfeffer & Salancik 1978) or political and resistant (Clegg 1996a) features of organizations. These political features were prefigured by Marglin's (1974) argument that capitalists adopted bureaucracy in order to enhance their control of the labour process. Langton's (1984) enterprise to establish Wedgewood's pottery as an answer for the question of *why* organizations bureaucratize was summarily rejected for reasons similar to Marglin's (1974) by Perrow (1985), who argued that Wedgewood gained special privileges by virtue of his status as a member of an elite.

It is only relatively recently that the social aspects of organization have attracted scholarly attention but even so, predictions of the impending end of bureaucracy have continued. Touraine (1971) predicted an increase in the importance of social, cultural and political factors as the world moved to a post-industrial state and argued for a place for sociologists to, in effect, take over from economists in directing the future path of organizations. Heydebrand (1989) took a then novel approach by way of an anthropocentric view of organization and predicted, again wrongly, a reversion to small, decentralized and eclectic pre-bureaucratic forms. One way in which Heydebrand mis-stepped is in that the bureaucratic hierarchy is an effective way to maintain control when organizations grow larger as the Aston Studies foretold (though he did argue that organizations would shrink in size).

The development of post-industrial technologies – in particular those associated with communications and knowledge production – brought with them a raft of new predictions of bureaucratic decline. Whilst the apparently obstructive nature (Heydebrand 1989) of the pure bureaucratic form does not seem to have led to the decline in effectiveness and legitimacy that Heydebrand (1989) predicted, the possibility of embedding bureaucratic controls within technological systems (Sewell 1998) does provide an opportunity for bureaucracy to adapt to a reduced need for overt control. Where Sewell's (1998) prediction is one of the few of this era that seem to have held true, many others have not. Offe (1976) labels organizations in which, per Weber's (1978) original prescription, individuals who are promoted to higher roles gain increases in both status and authority as '*task-continuous status organizations*' and predicts that as advances in technology render technical skills more important than mere capacity for labour this linkage between role and status may disappear in a transition to what he labels a '*task-discontinuous status organization*' (Offe 1976). Much as the embedding of bureaucratic roles in technical systems, this is not a dissolution of bureaucracy, but an example of bureaucracy adapting with the advent of enabling technologies.

Project management, highlighted as yet another end to bureaucracy for its apparent dissolution of notions of authority, hierarchy and career (Heckscher 1994) in fact strengthens those very notions because project work is a temporary diversion that serves to advance the careers of individuals who work effectively within the larger organization of which the project is but a part (Clegg & Courpasson 2004). Similarly, the concept of virtual organizations, be they founded on a basis of extensive flexibility (Davidow & Malone 1992) or recognized for their dispensation with – disposal of – various physically tangible functions to replace them with equivalent electronic functionalities (Knights et al. 2007) are not post-bureaucratic organizations, they are merely examples of bureaucracy adapting to technological dilutions of ontology status (Baudrillard 1994) as technology has made those adaptations possible (Nohria & Berkley 1994).

In these ways bureaucracy has been mistakenly predicted to be dead, or at least dying, with some regularity. As an organizational equivalent for Schrödinger's cat (1935; Trimmer 1980), bureaucracy is *not* dead! ¹³⁸

138 Notwithstanding that Schrödinger's thought experiment, or 'intuition pump' as Dennett (2014) would call it, bears no real relevance to this work beyond metaphor, the true historical sources of theories so famous that they enter the lay vernacular is nonetheless interesting. Schrödinger wrote: "*One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following diabolical device (which must be secured against direct interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, so small, that perhaps in the course of one hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if*

11.3. How Then, Does Gentoo Organize?

The first research question that this study set out to address asked

1. *How does the Gentoo Linux Project organize, and to what extent have resistant acts from within the Gentoo Linux Project contributed to the form of organization that has been adopted?*

The simple answer to the question of organization is simple: Gentoo is a bureaucracy. I argue that this is an uncontroversial claim that is, on its face, supported by my recounting in the beginning sections of Chapter 8 of the documented formal structure of the organization.

As a starting point it ought to be noted that the constituting documents for the Gentoo organization explicitly state that the Gentoo Foundation “*decouples necessary bureaucracy from development*” (Vermeulen & Shields 2005), I suggest it is important to recognize that this is colloquial lay usage rather a theoretically considered notion of bureaucracy (Weber 1978). Even so, the fact that the authors of the constituting documents recognized a need for a separation of certain functions is important.

The Gentoo Council, leading body that I selected as being most interesting and relevant to this study, is also constituted by documents that set out its composition as well as its roles and responsibilities. Council comprises seven – a number which has not changed since its inception – members who are elected by developer (dev) members of Gentoo by a democratic process that, because it accounts by design not only for the preferences of electors but also for their disfavours, results in electoral outcomes that are widely accepted, rarely if ever challenged, as a result imbuing the successful candidates with substantial authority. Council is elected for a one-year term and sits not less than monthly. Council “*decides on global issues and policies*” and “*serves as an appeal court for disciplinary decisions*” (Gentoo 2010) though, practically, the role of appeal court is not one that I have seen executed in the course of my investigations.¹³⁹

meanwhile no atom has decayed. The first atomic decay would have poisoned it. The ψ -function of the entire system would express this by having in it the living and the dead cat (pardon the expression) mixed or smeared out in equal parts.” (Schrödinger 1935; translated by Trimmer 1980)

¹³⁹ Courts, be they courts of law or otherwise, do not always execute all of the functions that they have the power to apply. The High Court of Australia sits in a tall and bright, architecturally beautiful, authoritative but not foreboding building on the shores of Lake Burley Griffin in Canberra, Australia. Courtroom 3, the smallest and the only of the three courtrooms in the building with a jury box and a witness stand for the conduct of criminal trials is a physical example of a situation where a particular power has not been executed. Principally a Federal Constitutional court and a court of appeal, the High Court of Australia has original criminal jurisdiction only in respect of the crimes of treason and sedition. Court guides often explain to visiting members of the public that

Council has the remit to deal with a specific and defined range of matters and is loathe to exceed its formal authority. Council members are subject individually and collectively to a set of rules relating to regularity of conduct of and attendance at meetings and are subject individually to removal from office or collectively with dissolution of council if those rules are breached. Records of Council meetings and indeed of all communal discussions and deliberations are automatically and routinely recorded and stored permanently, usually publicly, for later review. In addition to full and verbatim transcripts of meetings, usual practice is for a Council member or other appointee to construct a summary of key discussions, decisions and other issues for each meeting, and for that summary to be made available alongside the full transcript.

Gentoo divides its work into a large number of – in the order of 187 – functional departments called ‘projects’. Gentoo projects are arranged in a shallow, but visible, hierarchy whereby about fifteen top-level projects delegate certain responsibilities – typically functional responsibilities – to smaller subordinate projects.

Gentoo has a system of rules and policy. Beyond the various constituting documents that I have just mentioned, a formal system that is in effect a legislative process exists for the creation and alteration of new rules and policy. Any member may write a ‘Gentoo Linux Enhancement Proposal’ (a ‘GLEP’) that in an initial ‘Draft’ state is akin to a bill in the Westminster parliamentary system and submit it to the organization at large for debate and refinement. Once formally voted upon the proposal is still called a GLEP but its status changes from ‘Draft’ to one of several other states such as ‘Accepted’ or ‘Rejected’. The precise mechanism is less important here than the fact of its existence.

11.4. Bureaucracy Reborn

On the basis of this collection of factors we can substantiate the claim that Gentoo is a bureaucracy.

Notwithstanding that the use of ‘bureaucracy’ in constituting the Gentoo Foundation is merely colloquial, the fact that the statement evidences recognition of the need for structure and division of function demonstrates the rationalism that “*has been the compulsory point of departure for any analysis of modern organization*” (Courpasson & Reed 2004) and as the basis for Weber’s (1978) ‘rational-legal authority’ type.

The constituting documents that define the form and function of the Foundation and Council and, perhaps to a lesser extent the Social Contract (Robbins 2003) document which contains the ‘Gentoo Philosophy’, which I have suggested appears to be a somewhat *post hoc* and rhetorical

because the only matter of this type – a case of treason – that the Court has heard in its history pre-dates the current building, the jury box has never been used.

treatise, form the basis of a system of rules and policy. These in conjunction with the GLEP process for proposing, debating and enacting new rules and policies and with the practice of keeping detailed records of meetings, deliberations and decisions combine to make up the rationalized system of rules and norms that Weber (1978) prescribed as being central to the ‘rational-legal authority’ type.

Certain individual Gentoo members take on or are appointed to functional roles by virtue of which they attain positional authority that they execute, or are at least authorized to execute, within the scope of their role. Collective voluntary recognition of and concurrence with the system structure, roles and authority on the part of Gentoo members legitimizes the power relationship and thus establishes domination.

Additionally, the open, democratic and defensible nature of the process by which individuals are elected to Council strengthens the positional authority of Council members. Whilst there are elements of traditional and charismatic authority to this process, a point which is also relevant to the ‘benevolent dictatorship’ form of organizing common to several other OSS projects that I consider later in this Chapter, I argue that the authority conferred by way of the election process is predominately legally rational and thus bureaucratic.

Finally, the division of activities into a functional, albeit shallow, hierarchy wherein individuals work on tasks within a specified scope and with authority over particular parts of Gentoo according to their location within the hierarchy are consistent with Weber’s (1978) prescription for bureaucracy.

What we see, therefore, is an organization that both represents itself and conducts itself in terms that attend to all of the key criteria by which Weber defines ‘bureaucracy’. As we proceed to consider resistant acts and the roles and apparent motives of individuals with Gentoo, further evidence emerges, particularly in terms of power and structure. It is fair to argue at this point, however, that the overarching answer to the question “*how does the Gentoo Linux Project organize?*” is “*they bureaucratize*”. With this claim made, attention now turns to the role that resistance has played in establishing Gentoo as a bureaucracy. The move to claim that the organization is a ‘bureaucracy’ already might seem bold or slightly premature because I have not yet examined the ways in which Gentoo is *not* bureaucratic and so in advance of considering the role of resistance in forming Gentoo, it is pertinent to consider the features of the organization that divert from or are inconsistent with Weber’s ‘rational-legal authority’ type.

11.5. Choosing My Religion

Whilst, as I have shown, Gentoo has sufficiently many features that are wholly consistent with the bureaucratic type that Weber set out in his “*Economy and Society*” (1978), there are also a number of ways in which Gentoo does not coincide with his prescription.

An obvious point of departure is in Weber's observation that "[o]fficials, employees and workers attached to the administrative staff do not themselves own the non-human means of production and administration" (1978, p.219); the 'ownership of the means of production' that occupied so much of Marx's attention (Simon 1994). Weber includes administrative staff as a category distinct from other 'professional' (Mintzberg 1983) staff in saying that administrators "*should be completely separated from ownership of the means of production*" (p.218) and thus leaves open the possibility that other groups may have some ownership of perhaps professional tools and such. Though there isn't really a firm divide between 'administration' and 'professional' at Gentoo, we might ask what exactly the *means of production* are in this case. Gentoo is almost entirely virtual in the sense that Knights, Noble, Vurdubakis and Willmott (2007) describe, having 'disposed' (ibid) of almost all physical artefacts, though I hasten to add that I am not arguing here for Knights' et al theory of 'virtual organization', rather my point is that there are very few tangible means of production to assign to anyone. The professional tools that programmers and administrators use are computers, an active Internet connection and perhaps a collection of reference books.¹⁴⁰ These tools will be owned or funded by the individuals, by their individual employers or by the universities they attend. Precisely who owns the means of production is less important, I argue, than the knowledge that Gentoo does *not* own them. Gentoo does own some equipment, the reader will remember that a function of the Gentoo Foundation is to oversee ownership and maintenance of some computer equipment to support web sites, mailing lists, forums, chat-rooms and a software library; however, in comparison with the vast amount of computer equipment owned and used by Gentoo members it cannot be argued that Gentoo owns the means of production in any substantive way. If, however, we choose to define 'administration' at Gentoo in terms of those technical functions – communications, library storage etcetera – then it can be said that the means of production for administrative functions *are* owned by Gentoo and in that way the departure from Weber's prescription is somewhat lessened.

Bearers of certain high offices at Gentoo – the members of the Foundation board and the Council for example – are elected, not appointed, though this may be to draw a more precise distinction than is necessary. Weber (1978) provides for a system of appointment of officeholders in setting out his criteria for bureaucracy, but at the same time he extends his notion of rule-boundedness beyond officials to "*for instance, for the elected president of a state*" (p.217). He subsequently observes that incumbent officials have no capacity for "*appropriation of... official position*" (p.219) and so it seems clear that for Weber appointment and dismissal may occur by either appointment or election. With that said, I argue therefore that the practice of electing officials to

140 In recent years the need for reference books has been supplanted by vast troves of reference materials freely accessible on the World Wide Web. Authorship of these reference materials is a recognized and important type of OSS work; Gentoo has a 'documentation' project devoted to that task.

office-bearing roles at Gentoo is entirely consistent with and not a departure at all from Weber's prescription. The fact that individuals hold offices is more important than the way in which they are appointed.

Division of labour is another point at which Gentoo appears to depart from the classic Weberian (1978) bureaucracy, though not so much in the sense that labour is divided but rather in the way in which individuals take on particular roles within the divisions. I have shown that Gentoo's form of organization matches bureaucracy in that a hierarchy exists and that roles, responsibilities and authority is afforded by way of that hierarchy. The difference is in terms of appointments. Where Weber intimates a selection and appointment process based on ability or qualification, saying "[i]t is thus normally true that only a person who has demonstrated an adequate technical training is qualified to be a member of the administrative staff of such an organized group" (p.218), individuals who work at Gentoo are largely self-appointed in that being volunteers (Breach 2008a), Gentoo members choose to join the organization and choose the role or roles that they adopt themselves. The apparent freedom is qualified, however. First, as Raymond observes, OSS is highly meritocratic and "*its culture only accepts the most talented 5% or so*" (2001, p.58), so if Raymond is correct then it can be argued that there is a kind of *de facto* selection process in that members who attempt to self-appoint to certain roles may not be accepted by their peers if their work is not of a sufficient standard. Second, as Gentoo grew in size various mechanisms to assess would-be contributor's capacity to do the work were put in place. In the interview transcript I have cited in the section in chapter 10 titled "*Watching the Defectives*", interviewee 'shane' relates the simple meritocratic process that pre-restructure Gentoo used to appoint developers – but even so, evaluation of a couple of initial contributions is in itself a type of assessment of capability – and intimates that the larger post-restructure Gentoo 'now' has a more formal process in place. That process requires, in summary, that would-be developers answer a 'quiz' that tests their knowledge of various rules and technical structures within Gentoo to assure that understand the systems well enough to avoid causing inadvertent disruptions. When these factors are considered it becomes clear that Gentoo does not deviate from Weber's prescription in terms of division and appointment of labour at all. What appears initially to be a self-selection process is in fact an assessed process precisely as Weber defined.

Remembering that, in denying the usefulness of an ideal type, Pugh, Hickson, Hinings and Turner (1968) argued "*organizations may be bureaucratic in any of a number of ways*", I have raised here a number of ways in which Gentoo appears to depart from Weber's bureaucracy. Under closer scrutiny, however, none of them amount to more than minor deviations. Certain features, such as for example the process of assessing new developers that is more a matter of convenience than necessity because the organization has the technical capacity to assure that mistakes and even malicious attempts to damage the Gentoo product are easily reverted, or the relative shallowness of the organization hierarchy and the relationship with owners of the means of production, are subtle compared to equivalent features in other more conventional

organizations. I argue that subtlety of presence of certain bureaucratic features is not a factor, however.

The changes in relative presence or important of certain bureaucratic features is not an abandonment of bureaucracy and does not construct some ‘post-bureaucratic’ form, rather it represents a series of adaptations on the part of bureaucracy, as predicted by Heydebrand (1989) and Touraine (1971) and observed in project organizations by Clegg and Courpasson (2004), *precisely as technology made it possible, appropriate or necessary for those adaptations to occur*. Fundamentally, all of the key features that Weber (1978) identified as being present in a bureaucracy are present in Gentoo and it is on that basis that this organization is a bureaucratic organization. This is not a case of ‘*Losing My Religion*’¹⁴¹, but rather of *choosing* my religion to the mutual benefit of all concerned as opportunities arose. The question is no longer “*what form of organization*” but “*what type of bureaucracy?*”. To answer that we must consider the latter part of the first research question, that relating to formative resistant acts.

11.6. Resisting Organization

The remainder of the first research question asks “*to what extent have resistant acts from within the Gentoo Linux Project contributed to the form of organization that has been adopted?*”.

Again, if I may, I shall offer a simple answer:

Gentoo as an organization was formed out of an act of resistance on the part of its founder and was subsequently re-formed into the bureaucratic organization that it is today as a result of a continuing stream of resistant acts on the part of various interested parties.

That simple answer lays the foundation for the claim then that the simple answer to the question of what type of bureaucracy Gentoo manifests as:

Gentoo is a polyarchic bureaucracy of the type proposed by Courpasson and Clegg (2012).

Naturally, both of these claims require explication.

11.7. Gentoo’s Genesis

Robbins states that the driver for his decision to form Epoch Linux was his desire to attend to a personal itch. The nature of the itch for him was that he wanted a Linux operating system that had the capacity to be customized by the end user to a great extent in ways similar to that which the FreeBSD¹⁴² operating system is customisable. At the same time, however, Robbins makes it clear by way of one of the bridge-burning memoirs I discussed in Chapter 10 (noting that the historical antecedents to the formation of Gentoo are presented in Chapter 8), that he had been

¹⁴¹ (R.E.M. 1991)

already working with a group of others on Stampede Linux and took the decision to leave due to what he saw as irreconcilable conflicts with a group of ‘freaks’ and “*severe managerial problems*” that rendered his continuing engagement untenable.

Robbins’ actions in departing Stampede Linux and creating Epoch Linux, which he renamed to Gentoo Linux as soon it was clear that it would be successful, were acts of resistance. In part the action was resistance as refusal (Fleming & Spicer 2007) - the simple refusal on Robbins’ part to be subordinate to the demands of the Stampede Linux members with whom he so vehemently disagreed. This is simple and overt resistance, a response to the Dahlian (1957) first face of power wherein A coerces B to do something that A would not otherwise do, in which B’s attempt to coerce A fails because A refuses to comply (Fleming & Spicer 2007). In the OSS context where participants are volunteers (Breach 2008a) and are free to withdraw their contributions of effort as they see fit, this simple and overt form of resistance is universally available to members of OSS projects and often employed by those who have reached their ‘tipping point’ (Ng 2017).

Some members limit their resistance to refusal and quietly leave with a kind of succinct “*so long and thanks for all the fish*” (Adams 2001, p.138) kind of message that may even go unnoticed by most. This resistance is effective in that it immediately denies the organization the benefit of the departing member’s contributions but, at the same time, the approach has little rhetorical force. The example of developer ‘FRLinux’ requesting responses from the leadership twice then simply and quietly saying ‘goodbye’ that I gave in the section titled ‘Continuing Pressure’ in Chapter 8 is such a case.

Others, however, use resistance as voice (Fleming & Spicer 2007), an approximate opposite to the manipulative attempts to control what issues are included and excluded from decision-making arenas identified by Bachrach and Baratz (1962). In this form and as the name given by Fleming and Spicer (2007) suggests, resistance seeks to give voice or to return voice to issues that those in positions of power would seek to suppress. Robbins’ use of a series of memoirs

142 Remembering that the BSD (Berkeley Software Distribution, named for the University of California campus where it began) operating systems (FreeBSD, NetBSD, OpenBSD, Apple Computer’s Mac OS-X, and others) as Unix-like operating systems that are outwardly very similar to Linux operating systems. The BSDs have a different history and some deep internal technical differences, most notably that they are based on a different kernel with different internal logics and they use the BSD License rather than the GNU Public License. Whilst the BSDs are widely regarded as being of excellent quality, reliability and security, Linux is vastly more popular. Somehow the Tux the penguin is more widely loved than the cute little daemon, Beastie, that is the BSD mascot! (A ‘daemon’ is a particular type of computer program designed to run in the background hidden from users. The BSD mascot, actually a ‘demon’, is so named as a phonetic play on ‘daemon’, and ‘Beastie’ is a slurred pronunciation of ‘BSD’!)

posted in public and outside the sphere of control of those he labelled poor managers and freaks is resistance as voice. This resistance is loud and rhetorical and does not seek to be quiet. Whether or not it is effective remains a matter for those who notice and read the rhetorical material and is dependent on their efforts to impute motive to the rhetoric and on the extent to which they agree.

It is difficult to ascertain whether the rhetorical facets of Robbins' resistance were effective. Certainly they provide the personal opportunity for a temporary carnivalesque inversions (Iswolsky 1984) that grant him the opportunity to let off steam (Rhodes 2001b), but in my investigations I have not seen any subsequent indications that others are aware of – though they most likely are – or particularly agree with Robbins' account of his motives. The mere fact of Gentoo's existence, however, by way of Robbins' resistance in the form of simple refusal to comply and the subsequent establishment of Epoch Linux is evidence of the effectiveness of those actions.

Robbins' use of rhetoric was not limited to bridge-burning memoirs, though. He also employed what I have labelled genesis memoirs in setting out the basis for Gentoo culture. In the Gentoo Philosophy (Robbins 2003), for example, he centralizes the 'user' as the focal beneficiary of Gentoo's collective efforts. We might interpret this as another simple exercise of resistance by his refusal to adopt what he sees as privileging of other parties in his prior experiences with Stampede Linux and such. At the same time, however, it can be seen as a dominative "*supreme and most insidious exercise of power*" (Lukes 1974, p.24) – and an apparently effective one at that – designed to shape Gentoo culture towards a privileging of the user, and additionally a Foucauldian "*ritual of truth*" (1995, p.194) that like Barker's (1993) organizational imposition of values productive (Digeser 1992) of an identity for Gentoo members with an accompanying 'truth' to the effect of a subjectified "*As a Gentoo member, I regard the user as most important*".

In these ways Robbins resists by creating not only a new organization but also a new discourse with the user centrally privileged. This consideration of genesis does not on its own answer the question of the role of resistance in forming Gentoo. While it addresses the way in which Gentoo was created and took on its initial form, the organization has moved on from that initial form and so the role of resistance in effecting that change was important in the movement.

11.8. Shaping Gentoo

"The biggest concern for any organization should be when their most passionate people become quiet." (McClure 2016)

The first research question, the "*extent*" to which "*resistant acts from within the Gentoo Linux Project*" have "*contributed to the form of organization that has been adopted*" is more thoroughly explicated by way of the accounts of events that occurred antecedent to the

restructure by which Gentoo adopted its present organization form. It is in this context that the true adherence of Gentoo to what Courpasson and Clegg (2012) called ‘polyarchic bureaucracy’ can be seen.

I have recounted the example of developer ‘FRLinux’ and her quiet departure from Gentoo after her requests for information on a proposed change process weren’t addressed in the preceding section. That event warrants further consideration. I must first point out that there is an element of assumption in my interpretation that the developer’s decision to leave Gentoo is linked to the requests for information on the progress of efforts to restructure Gentoo that she made immediately beforehand; strictly speaking the evidence does not confirm this. Nonetheless, even if my interpretations of her motives are incorrect, the fact of a quiet non-complaining departure is important.

In an organization like Gentoo where capacity and willingness to exert effort on the part of individual contributors is perhaps the most economically valuable asset at hand, it is important for managers and leaders to notice and to react appropriately when threats to this asset become apparent. To their credit, the Gentoo leadership did notice rising dissent and acted, if reluctantly, to address the concerns of members in a way that seems to have satisfied the expectations of the membership. Whether or not the leadership acted with appropriate haste is, to some extent, a moot question; the fact of Gentoo’s growth and continued existence post-restructure would seem to indicate that even if the leadership were initially both reluctant and slow to act, the actions that they did take were effective.

Other instances of resistance, as we saw in Chapter 8, also had direct and explicit affects on the way in which Gentoo is organized. The example of the ‘mis-step’, as it was labelled by an interviewee in the section titled “*Sleeping with the Enemy*” in Chapter 8 is instructive because it served as the catalyst for a range of resistant acts that ultimately forced the leadership to restructure Gentoo.

In a preceding section in this Chapter I observed that ownership of the means of production at Gentoo appears to be somewhat inconsistent with Weber’s (1978) classic model of bureaucracy and then concluded that since Gentoo owns, as an organization, a small amount of equipment that is used for administrative functions, Gentoo is compatible with Weberian bureaucracy in terms of ownership. This issue takes on a different character when it is re-examined from a resistance perspective, however. In the ‘mis-step’ situation in which a few senior members of Gentoo developed programs and sought to enter into commercial arrangements in secret, claiming later that their motives were genuine and that they had planned to divulge details once success seemed likely, one of the key issues that seemed to offend those who spoke out against the activity was that Gentoo-owned computer servers had been co-opted and used for the secret ‘Gentoo Games’ program. This offers an interesting perspective in that it was senior members of the organization that made the decision to use the Gentoo-owned equipment yet it was the

broadier membership that objected to the way in which these ‘means of production’ were co-opted. What we begin to see here is an example of a degree of inversion in the power structure of the organization in that the members at the top of the hierarchy are not free to do as they please without the possibility of recriminations from those who are seated at lower points in the organization’s role hierarchy.

As I showed in Chapter 8, once the covert effort to create Gentoo Games had been revealed, many Gentoo members took umbrage at a covert activity taking place in what they considered to be an open organization and that they, as volunteers, consider that they have a right to know and so began to ask questions. A member’s questions about how donations to the Gentoo Foundation were used prompted a debate about financial issues, whether it was necessary for Gentoo to have an income at all and, if so, how that income should be accrued and how it should be accounted for and spent. The financial debate led to calls for Gentoo to become, formally and legally, a not-for-profit organization with appropriate legal registrations put in place and then, from that, members’ attention spread to issues of management, control and management.

During these debates, one of the key approaches that members took with their resistance was to simply ask pertinent and pointed questions in public settings such that management were essentially forced to respond and to take action. We can see these actions as instances of resistance as voice (Fleming & Spicer 2007) by individual organization members raising issues that they regard as important. We have seen instances in which leaders ‘responded’ by not responding; realising perhaps that to acknowledge the dissent would, in a sense, grant some credence to that dissent. This approach, as we have seen, did not have any notable suppressive effect and the dissenting voices became, if anything, louder.

A further leadership response was to give cursory justifications for their conduct and to attempt to portray a calm ‘business as usual’ future for their organization. We can see this, perhaps, as an attempt to continue to deny credibility to the dissenting voices by barely acknowledging them, and as an attempt to re-take control of the decision-making arena (Bachrach & Baratz 1963) by diverting the narrative to ‘safe’ topics that they hoped would be uncontroversial. The record shows, however, that this approach was also unsuccessful. Ultimately, the level of resistance by way of dissenting voices, and of refusal in the form of at least one known quiet departure – we can not tell if there were other departures that were entirely *silent* rather than merely quiet – rose to a level where it was difficult to ignore and certainly impossible to suppress. Ultimately the leadership’s hand was forced when another Gentoo member announced his intention to fork the Gentoo project and to initiate the Zynot Linux project, taking valuable Gentoo members and their efforts with him.

Welch’s move from Gentoo to Zynot was similar in terms of resistance to Robbins’ earlier decision to begin Epoch Linux. Robbins did not fork Stampede Linux to create Epoch; both of them constituted acts of resistance as refusal to comply with the *status quo* and both had loud

rhetorical aspects designed to establish an identity of membership with particular characters. For Robbins this was the privileging of the user while for Welch it was a sense of reliability and productivity. There are also elements, particularly in the case of the fork to Zynot, in which the instigator Welch sought to direct the narrative to focus on the things seen as wrong with Gentoo so as to provide further rhetorical justification for his dangerous – in the sense that forking is somewhat taboo – action.

After the Zynot fork had been announced, Robbins responded quickly and angrily in, again, a mode that seemed designed to grant as little credence as possible to the opposing view whilst strongly opposing the bases on which the fork was promoted. Even so, Robbins hand was as I have said, forced; he and his fellow leaders were aware of the looming risks to Gentoo's future as a result of the fact that people were beginning to leave and that if Robbins and his senior team did not act, many more would likely leave and so restructure would be inevitable.

Gentoo was subsequently, as I have shown, restructured from a small flat organization owned and run by a so-called 'Benevolent Dictator' into an open organization with a clear bureaucratic form. The role that resistance played in driving Gentoo to its present form was, as we have seen, central and almost singular. Gentoo is interesting as an organization because it is resistance that made Gentoo what it is today.

11.9. Re-shaping Gentoo

As we saw in Chapter 4, Courpasson and Clegg (2012) take Dahl's (1961) notion of polyarchy in which certain types of internal dissent are likely to supplant managerial directives rather than being regulated, draw in Tannenbaum's (1961) view whereby this polyarchic overthrow is permitted where it is first, justified in terms of standing "*rhetorics of performance, service or cost*" (Courpasson & Clegg 2012, p.58) and second, does not threaten established power structures and offer polyarchic bureaucracy as, importantly, a "*refinement of the conventional Weberian bureaucratic form*" (p.74). It is important to note that Courpasson and Clegg (ibid) use 'refinement', not 'replacement'. As an organization Gentoo matches Courpasson and Clegg's polyarchic bureaucracy save for one important distinction: where, drawing on Tannenbaum (1961), Courpasson and Clegg place limits on the extent to which 'dissent' or resistance will be permitted by the organization, the limits for resistance at Gentoo are at least far wider and, in a situation where a substantial portion of the organizations' membership are in agreement – implying that the goal for the resistance is broadly acceptable to the membership – then there may be no limits to resistance at all. It might be considered that this 'no limits' variation to polyarchic bureaucracy means that Gentoo is not a polyarchic bureaucracy at all, but given the extent to which the organization otherwise fits with the theory, this is a leap I am unwilling to take. Gentoo is constructed in the form of a polyarchic bureaucracy that is itself a refinement – though not necessarily an improvement – on the polyarchic bureaucracy that Courpasson and Clegg (2012) set out.

It can be said that, at this point, the first research question is well addressed. Noting in particular that the Gentoo leaderships' capitulation to the demands of members regarding restructure resolved the immediate issue but that it in no way brought an end to resistance at Gentoo, we must expect that these answers with respect to mode of organization and to resistance within Gentoo will continue to be refined. An appropriate next step to take at this point is to turn to consider the roles that individual Gentoo members play in effecting change at Gentoo via resistance and the reasons for their decisions to do so.

11.10. After You... No, Please, After You...

The preceding sections in this chapter have already observed the structural nature of Gentoo and the ways in which individuals attain particular roles in the hierarchy. A point that warrants expansion is that of the seemingly considerable authority attained by members of the leadership by way of the widespread approval afforded by the robust voting mechanisms that precede their appointments and, of course, the surprising extent of their reluctance actually to exert their authority.

The way in which this reluctance to exert authority became apparent, the reader will remember, was by the assertion by an interviewee that his role as a member of Council was '*giving feedback*'. It seemed odd: hence, I investigated further, found the same types of behaviours in other members – of Council and elsewhere – and also arrived at the finding that this notion of giving feedback was shared or at least to some extent agreed upon and that the extent to which individual members at all levels would behave congenially, deferentially and with reluctance to exert authority seemed to go well beyond that of the few who had explicitly discussed such notions amongst themselves.

In Chapter 9 I theorized about the reasons for this reluctance to exert authority and arrived at the position that, pending further investigation, a key reason for the care with which leaders acted resided in the notion that effort and the ability to contribute effort is the most valuable economic commodity within Gentoo. The high value status of effort is premised on the knowledge that there is always more work to be done – arguably more work than there are people to do it – and that the people who do the work are almost invariably volunteers who have 'power to', as I have shown in the preceding sections in this Chapter, withdraw their effort at any time. Whilst I have not seen evidence to suggest that leaders at Gentoo are responsible for meeting specified productivity goals as they might be in a commercial context, they certainly share a sense of an imperative to keep the project moving forward and so they must do all that they can to ensure that work is done, effort is contributed and that those able to contribute are sufficiently satisfied socially and environmentally to continue to do so. This is, for example, why Robbins and his leadership team were in effect forced to act to restructure Gentoo once the cacophony of dissent that they faced was followed by an announced fork of Gentoo; forking has the immediate effect of removing contributions of effort from the project and, in the circumstance that they faced,

further dissent would likely further denude Gentoo of valuable contributions of effort with the possible outcome that the project might be severely debilitated or might even collapse.

Another reason for the careful conduct of leaders seems to lie in the notion of the personal itch, which is perhaps, one of the most interesting and important features of this organization.

11.11. The Itch is Resistance

Noting that Raymond's seminal '*The Cathedral and the Bazaar*' (2001) essay in which he introduced the notion of the personal itch pre-dates Gentoo by some three years, the itch was well known by the time Robbins had established Gentoo.¹⁴³ Raymond presented two different approaches to the development of computer software: the 'cathedral' model in which proprietary software was developed in secret in commercial organizations and release when completed, and the 'bazaar' model whereby software was developed in the 'open' in public view on the Internet. Raymond used, as have I, Stallman's inception of the GNU Software Project (see the section so titled in Chapter 5) as a key example, to characterize the decision to participate in OSS as a kind of opposing response to commercial and proprietary approaches to computer software production. In presenting his version of the well-known narrative about Stallman's frustration with the licensing restrictions set by the printer manufacturer and his decision to commit to OSS as a result, Raymond does not use the word 'resistance' – he is a computer scientist and an anthropologist, not an organization theorist – but he does make it clear that Stallman's attendance to his own personal itch was an act of resistance.

11.12. The Itch is not Resistance

As we have proceeded the personal itch has experienced something of a theoretically rough ride. Cited almost universally by individuals as their explanation for choosing to participate in Gentoo, the itch loses its value as a true explicate of motive precisely because everyone uses the same explanation. In this way the itch becomes more like a standard known-good explanation that individuals use because of its position of acceptability within the shared vocabulary of motive (Mills 1940) and because it is rhetorically useful rather than because it is a genuine expression of reasons (Hopper 1993).

Subsequently, the itch regains its relevance when it becomes clear that while each individual consistently describes their motive for participating in Gentoo as being "*to scratch my own*

¹⁴³ This citation is for a collection of essays in a published book form. Raymond originally delivered the first essay – *The Cathedral and the Bazaar* – as a paper at the 'Linux Kongress' conference in May 1999 and again by invitation at the Perl Conference (aka 'O'Reilly Open Source Convention') for computer programmers later in the same year.

personal itch”, each has a unique underlying explanation of the precise technical nature of their own itch. In this way, the itch becomes a tool for *categorization* of motive rather than *explication* of motive and so while it appears *prima facie* to be a universal expression selected from a shared vocabulary, it is in reality a kind of universally accepted abbreviation that can be expanded upon in unique terms if it becomes necessary to do so. Practically, the itch is a cultural meme of the type I set out in Chapter 5 because it goes beyond a simple selection from a vocabulary of motive to also function as a shared understanding, a key knowledge in the OSS discourse and a foundation for establishment and expression of identity. Though the notion of self does not fit within the notion of meme as I have set it out, the personal itch plays a key role in forming individuals’ sense of self as well and so it plays a key role in the ‘explosion’ subsequent to the ‘tipping point’ (Ng 2017) that I highlighted in Chapter 10. In addition to all of this, the itch, in its capacity as an explicated motive, is dynamic.

11.13. The Itch is not What it Was Yesterday

A second reason for the itch to regain its relevance after its apparent neutering by virtue of its ubiquity is that the itch is not stagnant and unchanging. We saw in Chapter 9 that while the initial personal itch that triggers initial participation in Gentoo is invariably a technical one it transforms over time, perhaps as the initial itch has been ‘scratched’ or satisfied, into a more socially oriented version of the itch where the focus becomes the ‘user’ such individuals serve their new need by serving the needs of others rather than of their own explicit technical need.

Exactly why this shift in the focus of the itch occurs is a multi-faceted question. Individuals join Gentoo, do technical work premised on addressing their own technical needs but in the process of doing so others also begin to rely on the work that they do. The gift economy comes in to play such that, as Rehn (2001), and Mauss (1966) before him, observed, reputation is built by gifting. At Gentoo, and OSS generally, the gift is a contribution of a piece of software or some other written document, or provision of technical support in chat rooms and on forums, or service on Council or the Foundation, or some other tangible outcome from contribution of effort. Raymond (2001) tells us that peer repute is the only substantive measure of reputation and so, naturally, members will do whatever they need to do to build and maintain repute. Practically this means a strong commitment to continuing maintenance of software that individuals have written, congenial conduct, and a careful maintenance of personal workload so as to assure that reputation is protected by offering and agreeing commit effort only when they are sure they can fulfil the commitment.

Politically, maintenance of reputation requires conduct and expression that is consistent with community norms. This means that expression of motive will occur in terms that are as close as possible to the actor’s understanding of what the community will regard as acceptable. Established cultural memes such as the openness of the organization, the personal itch and the centrality of the user at Gentoo assist individuals in constructing expressions of motive because

the memes encompass the shared vocabulary of motive, the common discourse and the identities that accompany those understandings.

The shift, therefore, from expressing motive in terms of the personal itch to expressing motive in terms of service to the user is a move from one widely accepted meme to another equally accepted meme. A narrative of “*I came to address my own need but now I like to help others*” is comfortable and uncontroversial. It allows leaders to explain their reluctance to assert authority and its concomitant inversion of the power hierarchy and it allows developers to explain their continuing commitment as their notion of the itch matures. It also allows users to engage in debate with challenges such as “*doesn’t that make me more important than you?*” with an unusual version of their own authority because of the inversion that the ‘centrality of the user’ meme creates.¹⁴⁴

11.14. A Strange Inversion of Reasoning

There is a problem with this finding, however, and that is that while the ‘itch’ meme is, despite its apparent stumbles in previous Chapters, defensible and real, the claim that the focus of the itch transfers from a kind of self service – attending to one’s technical needs – to a kind of public service – attending to the user’s needs – is not defensible and not real; the cake is a lie.¹⁴⁵

The ‘centrality of the user’ meme fails its purpose as an expression of motive when we consider it from the perspective of the conflict examined in Chapter 10. When individual members conduct themselves carefully and congenially in instances of mild or inconsequential conflict, and then reverse their conduct entirely at the ‘tipping point’ that Ng (2017) identified after they reach the saturation of self caused by dissonance when the “*competent programmer who takes good care of his users*” sense of self is brought into conflict with the “*affable member of the community*” sense of self, they expose an otherwise hidden motive. Specifically, Hopper’s (1993) concern that sociologists may fail to properly assess motive by neglecting to compare expressed motives with demonstrated motives comes in to play. When individual Gentoo members commit visibly to the ‘centrality of the user’ meme only to withdraw their support when that commitment threatens their ability to maintain their reputation in the gift economy, the ‘centrality of the user’ is reduced to a rhetorical device selected from a vocabulary of motive for its known acceptability to the members of the organization who share that vocabulary and not as a genuine expression of motive or intent. Where Hopper (1993) identified apparently genuine expressions of motive followed by a reversion to vocabularies consistent with role when trouble struck, what we see here is the same thing only in reverse: individuals express commitment to the shared vocabulary

¹⁴⁴ See the section titled “*Doesn’t That Make Me More Important than You?*” in Chapter 10.

¹⁴⁵ An *Internet* meme, circa 2007, that means that a promised gift or benefit is being used to motivate without any plans to actually deliver it (McCoral & Tibbetts 2010).

until their status is threatened, then turn to what appears to be a more ‘real’ expression of motive and labels such as ‘freaks’, ‘poisons’ and ‘Zydiot’ are introduced to the debate.

The ‘centrality of the user’ meme is, I argue, an institutional myth of the kind that Meyer and Rowan (1977) see as an alternative or secondary source of organizational structures. When individual Gentoo members commit to the ‘centrality of the user’ meme only to withdraw their support under duress, they expose a decoupling of the rationalized structure that has formed around and in support of the myth (Meyer & Rowan 1977) and the day-to-day activities of the organization.

In this way, subscription to the ‘centrality of the user’ meme occurs because it is easy. As Mills (1940) explained, a need to consider and express motive only occurs when there is analytical crisis, and no analytical crisis occurs if one is able to explain one’s conduct to others and to oneself in terms that are known to be universally acceptable. In fact, the central source of reputation and therefore of sense of self – the Oneself that Ng (2014) describes – is the peer repute that is generated by making visible contributions of effort that are of good quality. Adherence to the ‘centrality of the user’ meme, for as long as it is tenable, bolsters the Oneself by way of the lack of analytical crisis and by the opportunity to express a positive and accepted motive when it becomes necessary to do so. The ‘centrality of the user’ is easily cast aside when it becomes productive of a sense of self that conflicts with the Oneself.

The ‘strange inversion’ in which the user is not in fact central, but rather serves to heighten the repute and the self esteem of those who express a motive of service to the user, brings with it an additional threat to invalidate the earlier finding of an inversion of the power hierarchy at Gentoo. This does not in fact occur, but the point must be considered nonetheless. By invalidating the ‘centrality of the user’ meme, the ‘depth’ - or rather the ‘height’ – of the inverted power hierarchy is lessened, while the inversion and the hierarchy remains. When we consider that the members whose resistance triggered the organizational restructure in Chapter 8 were developers and that the members who elect Council and to whom Council were seen to defer in Chapter 9 are also developers, the *effective* power hierarchy and the fact of its inversion remain unchanged.

With the questions of the roles that of individual members have played in shaping Gentoo and the accounts of motive that lead them to resist addressed, what remains is to take these findings and to consider them in the broader context of the OSS movement. I propose to address the third and final research question in the remainder of this chapter through a series of examples drawn from outside of Gentoo but within OSS so as to highlight some key similarities and some important differences.

11.15. Generalizing Gentoo

The third research question seeks to evaluate what we have learned about Gentoo so as to ascertain the generalizability of this knowledge beyond Gentoo to the OSS movement more generally. The question asks:

3. *How can an understanding of modes of organization and resistant practices within the Gentoo Linux Project more broadly inform our understanding of the Open Source Software movement?*

It is known, for example, that certain features of Gentoo were explicitly drawn from other OSS projects. The Linux Kernel project and the Python Programming Language project, for example, inform Gentoo, but Gentoo has not always followed these precisely. Other large OSS organizations such as the Ubuntu Linux project and the Mozilla Foundation – responsible for the Firefox web browser – are also able to offer useful insights organizationally. Culturally, OSS clearly influences Gentoo; the personal itch pre-dates Gentoo and much of what we have learned about the itch can be generalized. The same cannot be said for the ‘centrality of the user’ meme, however.

An important distinction for Gentoo can be seen in organizational terms by way of the notion of benevolent dictatorship.

11.16. Benevolent Dictators (For Life)

“Benevolent Dictator For Life” – almost invariably abbreviated to ‘BDFL’ – is a title given to, but rarely taken by, individuals who have a key leadership role at the top of the organization hierarchy in certain OSS projects. Not all – in fact relatively few – OSS projects have BDFLs; the title appears to be applied only to individuals who are highly experienced, widely well regarded and whose role in the organization the BDFL label accurately describes.

The label was first bestowed upon Guido van Rossum, – widely known as ‘GvR’ – the creator and first author of the Python programming language by the Python community after one attendee released minutes of an early planning meeting held in April 1995 that assigned roles to various members and conferred the title of “*first interim benevolent dictator-for-life*” (Manheimer in van Rossum 2008) upon van Rossum. The jocular title stayed and it quickly entered the Python vernacular.¹⁴⁶

¹⁴⁶ Incidentally, the Python programming language itself is named for the British comedy television series ‘Monty Python’s Flying Circus’ by van Rossum who described himself as ‘a big fan’ of the program.

The phrase ‘benevolent dictator’, without the ‘for life’ suffix, was popularized by Raymond’s (2001) *“Homesteading the Noosphere”* essay in 1999.¹⁴⁷ Raymond describes a *“benevolent-dictator organization”* (p.101) which typically evolves from an *“owner-maintainer organization”* (ibid) as the original founder attracts additional contributing participants and as the organization begins to grow. In Raymond’s analysis, a benevolent dictator retains the overarching right to make decisions that are binding on the organization as a whole, he – OSS is very much male dominated and I am not aware of any female benevolent dictators – bears customary obligations to share credit – reputation – for the work of the organization with its contributing members and to consult with co-contributors on key decisions.

Perhaps the best-known benevolent dictator is Linus Torvalds, though he expresses discomfort with the label saying *“I control the Linux kernel, the foundation of it all, because, so far, everybody connected with Linux trusts me more than they trust anyone else.”* (Torvalds & Diamond 2002, p.168). While he is disinclined to promote his own achievements as a leader, Torvald’s approach is widely regarded in the OSS as an exemplar for effective leadership. Known for a transparent approach in which he accepts and integrates contributions to the Linux kernel readily, Torvalds also has a reputation for being firm and blunt when it becomes necessary to do so. A dark side to Torvald’s reputation supported by numerous examples and his own acknowledgement portrays him as an uncouth and intimidating communicator who has contributed significantly to making the Linux kernel project a *“technically and personally brutal”* (Sharp 2015) environment in which to work. Abrasive personalities and combative environments are not uncommon in OSS: a founding member of the NetBSD project, Theo de Raadt, was asked to resign from the project by members of the NetBSD ‘core’ team as a result of *“Theo’s long history of rudeness towards and abuse of users and developers of NetBSD”* (Glass 1994). Described as *“difficult”* by Torvalds himself (Lyons 2005), de Raadt went on to establish OpenBSD, a BSD operating system with a strong reputation for being highly secure, in which he positioned himself as BDFL.

The reader will remember that Robbins denoted himself ‘Chief Architect’, though others often described him ‘benevolent dictator’.¹⁴⁸ Ultimately Gentoo dispensed with the central leadership role when it restructured, and so Gentoo has no benevolent dictator personage. Notably, Kulleen acknowledges the BDFL function in his ‘poisons’ series of essays, expressing the view that the *“BDFL model works, and when you have a smart person as the BDFL it works VERY well”* (2007b) and cites it as a key factor of the leadership structure of Ubuntu – another then-new Linux distribution – that led him to believe that Ubuntu would be successful. He goes on to say

147 *“Homesteading the Noosphere”* is the second essay in the series of essays published on the Internet by Raymond and collected together and published in the book titled *“The Cathedral and the Bazaar”* (2001)

148 In, for example, Bamford’s (2011) *“The Unofficial [sic] History of Gentoo and The Gentoo Foundation”*

“*But that is not going to happen with Gentoo*” (ibid), thus apparently acknowledging that Gentoo had already moved to a structure that would not accommodate a BDFL arrangement.

The value in the BDFL arrangement is in that in setting a senior leadership figure at the top of the organization hierarchy it provides a final arbiter for resolution of differences that helps to reduce potential for the decision-making paralysis that can be seen at Gentoo Council meetings from time to time. At the same time, the cultural requirements for shared reputation and for collaborative decision-making means that the BDFL is a dictator only in name and so none of the usual criticisms of dictatorships – centrality of decision making, abuse of power, opaqueness and such – are a problem for *benevolent* dictatorships. The role of reputation in the gift culture means that even an individual established as a BDFL must maintain their own reputation so as to avoid losing their authority. Whilst the election process at Gentoo assures widespread support and thus authority for Council members, as an appointed individual a BDFL lacks that foundation for authority and instead must rely in a reputation built on good work, good gifts and good relations. The fact that many BDFLs – notably Linus Torvalds as Linux kernel leader, Guido van Rossum as Python language leader and Larry wall as leader of the Perl language project – are not only creators of large and very widely known software projects with positional authority legitimized by an accepted right to occupy the role, but also have high profile public personas means that a substantial part of their authority is legitimated in charismatic (Weber 1978) terms.

Whilst the approach taken at Gentoo, of having all major decisions taken by a Council comprised of members who are, by the nature of the organization and the culture, reluctant to exert their authority is unquestionably transparent and democratic, the costs of this approach are that it leads to a kind of paralysis in which decision-making is democratized so broadly that some issues take a year or more to be resolved if they are resolved at all. An arbitration role in which a BDFL hears arguments then imposes a decision will allow the organization to proceed without paralysis and the open and collaborative nature of the approach means that the decision can be reviewed and altered if and when that becomes necessary. The pejorative character of the colloquial ‘*management by committee*’ idea, has been noted, earned perhaps by a standing reputation for dysfunction, such that even Semler’s (2001) well-known approach included a central senior role for a head of the organization into which individuals were rotated from time to time, suggesting that a central leading figure is considered an important role for organizational effectiveness.

All members, be they BDFLs, elected leaders, developers or other members share culturally the common ‘personal itch’ meme as the accepted, and real, explanation of their motive for joining OSS. The itch is present, as we have seen, well before and beyond Gentoo and so its acceptability is almost ubiquitous. In having such widespread acceptance, however, it takes on an additional character as a mechanism by which dominative and subjectifying exercises of power may take place. In this way, the itch becomes something that individuals may feel a need to resist.

11.17. Escaping the Itch

At about the same time as Stallman's galvanising experience with the printer manufacturer, Microsoft founder Gates' (1976) '*An Open Letter to Hobbyists*' sought to characterize the open sharing of software source code as theft. What this – and other similar moves to license and legally restrict sharing of computer software – achieved, in a rudimentary way, was the establishment of what has become a dominant discourse in which commercial production, licensing and sale of computer software is the 'true' and 'good' way and in which OSS is seen as "viral" (Mundie 2001) and "*a cancer*" (Ballmer in Newbart 2001) and is broadly treated as pathology.

The OSS movement is, of course, a reaction and a resistance to this discourse and the narratives are widely shared in a formal sense. For instance, Raymond (2001) has offered his; retold it in a video documentary (Moore 2003); it is promoted in an authorized biography (Williams 2002) of Stallman while I have offered my own version herein. There are, of course, many other such accounts and even more widely distributed in spoken and shared culture and artefacts on web sites, chat rooms, internet forums et al.

There is another perspective and that is that the itch itself, or certainly OSS more broadly, is a kind of totalising and subjectifying cultural meme. This is, from the perspective we are observing, the 'good' side is the other to the 'evil' that is the proprietary software industry *in this context*, but there is nothing to say that this particular meme is any less subjectifying or any less productive of identity than any other. The reader will remember that I acknowledged in Chapter 5 ¹⁴⁹ an interviewee who described parts of the historical account relating to the development of OSS as "*myth*"; another interviewee called the account that is widely promulgated by the Free Software Foundation (FSF) as "*the GNU lie*":

(9:05:39 PM) geoffb:	so... yet another different angle.... philosophy... folklore....
(9:05:46 PM) geoffb:	what do you know about it? how important do you think it is?
(9:06:57 PM) geoffb:	(of OSS I mean)
(9:07:09 PM) ken:	that's a wide question :)
(9:07:29 PM) geoffb:	yes, it is :-)
(9:08:31 PM) geoffb:	would you like me to narrow it down a bit, or would you like to answer it as it stands?
(9:09:06 PM) ken:	try to narrow it down
(9:09:16 PM) geoffb:	ok

¹⁴⁹ See the section in Chapter 5 titled "*On the Veracity of Historical Accounts*".

(9:10:26 PM) geoffb:	one 'canned' version of history might say "in the beginning there was RMS ¹⁵⁰ .. then came the FSF ¹⁵¹ , GNU, Linus ¹⁵² ..."
(9:11:19 PM) geoffb:	elsewhere there's ESR ¹⁵³ and the Cathedral and the Bazaar... and Perens ¹⁵⁴ et al and the OSS thing...
(9:11:22 PM) ken:	that's the GNU lie
(9:11:32 PM) ken:	in the beginning there was Public Domain
(9:11:38 PM) geoffb:	"the GNU lie" ?
(9:11:43 PM) ken:	and people just used and shared code as they liked
(9:11:54 PM) ken:	then the Lawyers came and made software licenses
(9:12:26 PM) ken:	people like Bill Gates supported this strange new idea and most things were proprietary
(9:13:16 PM) ken:	the universities continued to keep things free ... MIT ¹⁵⁵ and BSD ¹⁵⁶ license are the most well known
(9:13:26 PM) geoffb:	well, the "in the beginning" part was my words...
(9:13:35 PM) ken:	then in the early 80s RMS started the GNU things
(9:13:39 PM) geoffb:	does the RMS/FSF/GNU thing fit in after that?
(9:13:54 PM) ken:	and since then they've been trying to write the MIT/BSD/public domain part out of history
(9:14:29 PM) ken:	people were already using tons of free software before GNU came along :)

My goals here are first to remind the reader of the polyphonic nature of the Gentoo community and culture and that the accounts I present herein make no claim of totality; second – perhaps more importantly – I seek to demonstrate that OSS and Gentoo discourses are as much socially constructed and contestable as any other. I have shown the strength of the itch metaphor by its ubiquity and that as a result it goes largely uncontested. One might ask, then, whether the itch, the ‘GNU lie’, the predominance of the ‘user’ in Gentoo and the OSS imperative for openness are themselves rhetorical discourses that constitute the dominative exercises of power that Lukes (1974) presented. When considered in terms of what I have said about the apparently ‘false’

150 Richard M. Stallman, the (alleged) founder of Free Software and also of the GNU Project.

151 The Free Software Foundation.

152 Linus Torvalds, author and BDFL of the Linux Kernel.

153 Eric S. Raymond, author of *“The Cathedral and The Bazaar”* (2001).

154 Bruce Perens, co-founder (with ESR) of the Open Source Initiative, see the section in Chapter 5 titled “The Open Source Initiative”.

155 Massachusetts Institute of Technology.

156 Berkeley Systems Division, University of California Berkeley campus.

nature of the ‘user is central’ meme, with my argument that when the meme is expressed as a motive it is a manipulative and dominative use of power rather than a true motive, it is clear that they are and so it follows that some will feel inclined to resist them, too.

In my own investigations I had observed a number of organizations that appeared to be living on the ‘fringe’ of OSS in that they promoted themselves as being open source organizations and released software that was technically OSS, but did so in ways that made it difficult to use without a commercial arrangement. One interviewee worked for such an organization and was able to offer insight.

11.18. Is OSS Not What it Seems?

Brian: *“You are all individuals!”* ¹⁵⁷
 Crowd: *“YES! WE ARE ALL INDIVIDUALS!”*
 Brian: *“You are all different!”*
 Crowd: *“YES! WE ARE ALL DIFFERENT!”*
 Man: *“I’m not.”*
 (Jones 1979)

As I showed in Chapter 3, resistance to exercises of power that are cognitive in effect are also likely to be cognitive. How this manifests in the OSS context is similar to the examples I have already given of the ‘McShit’ tee shirt and the quiet internal dissent that ultimately make the resistor comfortable in their discordant situation and actually permit and persist the power they are ‘resisting’. One interviewee, a man who worked in a business that produced open source software on a commercial basis, held quite opposite views to the common narrative of freedom and volunteerism that I have recounted. Early in the interview he had given indications, as I have said, that he regarded the common OSS narrative as myth. He had also spoken of computer software that was technically licensed under the GPL but, in his view, was really still commercial software. I asked him to expand on this position:

(11:26:23 PM) geoffb:	so tell me your thoughts on the GPL but not really angle... what's going on there?
(11:26:38 PM) douglas:	The code is free, GPLed ¹⁵⁸ , anyone can come pick it up
(11:26:39 PM) douglas:	But they can't

¹⁵⁷ ‘Brian’ is a comedic caricature of Jesus of Nazareth portrayed as preaching impromptu to a crowd of devotees.

¹⁵⁸ Licensed under the GNU Public Licence

(11:27:01 PM) douglas:	It's so massive, and requires so much training, most everyone would just pay the company developing it to work with the code.
(11:27:14 PM) douglas:	It's really more a marketing thing, a kind of boast to clients.
(11:27:33 PM) geofffb:	"look at us, we're open" kind of thing
(11:27:36 PM) douglas:	Yep
(11:27:46 PM) douglas:	"here, this code we have, it's gpled, even if we disappear, you can still use it and modify it and etc!"
(11:27:57 PM) douglas:	But that's really a lie
(11:28:01 PM) geofffb:	<smirk>
(11:28:15 PM) douglas:	That's what I meant by "it's not really gpl"
(11:28:18 PM) douglas:	But it is
(11:28:37 PM) geofffb:	I've often wondered... looking at a lot of those projects
(11:28:58 PM) geofffb:	and it seems to happen a lot in projects that somehow work with 'creative' people
(11:29:29 PM) geofffb:	that...
(11:29:40 PM) geofffb:	they'll make something 'free' and 'open'... but... it just doesn't seem quite right...
(11:30:17 PM) douglas:	It's like that, yes.
(11:30:24 PM) geofffb:	yes, technically it's free, but... BUT...
(11:30:45 PM) douglas:	But without the company that made it backing it, it's not going anywhere.
(11:30:48 PM) douglas:	That said
(11:31:09 PM) douglas:	Most FOSS ¹⁵⁹ I've seen were commercially backed.
(11:31:28 PM) geofffb:	for example?
(11:31:34 PM) douglas:	Most people in linux.conf.au ¹⁶⁰ were hired by a major company or another
(11:31:43 PM) douglas:	MySQL ¹⁶¹ for instance, is dual licensed

This is an interesting perspective that is very different to the widely promulgated OSS narrative of openness, freedom and volunteerism. Notwithstanding Stallman's insistence that 'free' means

¹⁵⁹ Free and Open Source Software

¹⁶⁰ Linux Conference Australia, an annual conference for the Linux community in Australia.

¹⁶¹ MySQL is well known and very widely used database server software that is overseen by a corporate entity and offered with both OSS and commercial licenses so that corporate users who prefer a commercial arrangement have that option.

‘freedom’ in legal and licensing terms, the ‘free of charge’ or ‘free as in beer’ notion almost always accompanies OSS anyway. Companies that seek to gain reputational and marketing benefits by offering software that is technically but not practically free operate on a kind of exploitative fringe that many in the OSS movement would regard as unethical but that some, such as this interviewee, also regard as inevitable. Many large OSS organizations have paid employees. The Mozilla Foundation, for example, has more than one thousand people in its employ in support of its efforts to produce the Firefox web browser, the Thunderbird email client and related tools and has drawn revenues of as much as three hundred million US dollars annually mostly in payments from Google relating to advertising revenue gained by setting Firefox’ default search to Google. Another example is in the Canonical corporation that produces the excellent Ubuntu Linux distributions (of which there are several specialized variants), originally founded and funded on a philanthropic basis by Mark Shuttleworth in 2004 and now drawing income by way of a range of commercial activities and employing some seven hundred people.

Reputationally, organizations like Mozilla and Ubuntu are highly regarded and they are not seen as the type of exploitative ‘fringe’ OSS company that I have described here. They serve as key examples of a different kind of OSS whereby the extent to which notions of volunteerism and profit are very different to the dominant OSS narrative. Even though these types of organization have a large commercial component in that they have paid employees and they have large revenues, they do still enjoy the support of very large numbers of volunteer participants who engage on democratic and consultative terms consistent with those we have observed at Gentoo, and they exhibit the same, or similar bureaucratic features to those of Gentoo including collaborative decision-making bodies staffed by elected representatives, written constitutions and sets of rules and policies and even the inverted power structures remain.

As I have said, I have made a deliberate effort herein to examine Gentoo and OSS from an organization theory perspective and to distance this work from the innovation and ‘open source motivations’ literatures that also find OSS to be intriguing. In acknowledging these ‘commercial’ OSS organizations I am treading towards those literatures, though they are relevant to Gentoo in that, for example, the stated goals of the developer who initiated the move from Gentoo to Zynot Linux had a clear commercial character and the way in which the Gentoo leadership reacted to the fork is instructive. There are two distinct ways to create an OSS project; one might start a new project *ab initio*, or one might fork an exiting project and proceed in a direction different to the original. An attempt to establish a project that is OSS in name only may be easier with entirely new work, but endeavours to ‘close’ software projects that are based on OSS code – often for commercial gain – are not entirely uncommon. My intent in introducing these types of approaches here is to offer a perspective that supports the characterization of key OSS memes as things that might attract resistance. The interviewee whose words we have seen just now clearly – explicitly – regarded a portion of the dominant OSS narrative to be myth. In taking this

position he resists in a cognitive sense, but he does still contribute to the OSS movement when he uses and writes software and makes his contributions. There is resistance here, but it is of the less effective type of resistance that the critical theorists cited in Chapter 3 had bemoaned. It presents an important factor in OSS and that is that for many the ideology and the memes – the identities, the discourse and the vocabularies – that it produces are less important than the need to simply get the job – sometimes a paid job – done.

The idea of the benevolent dictatorship as a form of organization, recognition that cultural memes such as the ‘personal itch’ and the ‘centrality of the user’ are multi-faceted social constructs that are subject to the same analytical criteria as any other, and the possibility that the very idea of OSS itself is in some applications merely an adaptation – perhaps a cynical ones – of a capitalist economic mode are the key constructs that stand to assist in our understanding of the OSS movement by the ways that Gentoo is consistent, and inconsistent, with the broader movement.

11.19. Gentoo Generalized

What we see by expanding our view beyond Gentoo to the OSS movement more broadly is that while there are key similarities, particularly in the nature of the work that people do and the memes that structure their shared understandings of what they do, at the same time Gentoo is by no means an exemplar for some sort of standard type of organization that represents the OSS movement and nor does it necessarily demonstrate a ‘best’ way of organizing for OSS or for any organization.

We know from observing Gentoo and from the literature that organizations necessarily adopt increasingly complex structures as they grow in size. Gentoo clearly adopted a bureaucratic structure as it became necessary to do so, and an assessment of other similarly sized and larger OSS projects – such as the Linux Kernel, Python and Perl languages, and the Mozilla teams – shows equivalent adoptions of structure, rules and policy. In this way, the bureaucratic nature of Gentoo is generalizable: we can say that OSS organizations of a size where formal organization is necessary do adopt bureaucratic forms.

Because peer reputé – reputation – is the only substantive mechanism by which individuals gain status and that reputation is a driver for identity and sense of self, and a way to secure the cooperation of others, the conduct of individuals and groups is powerfully directed towards activities that build reputation and, for the most part, those activities are gift oriented: people give time and effort, contribute good quality software and documentation and assist other members by giving advice, time and effort.

Whilst a few of the very largest OSS projects have commercial characteristics that include substantial revenue streams and sometimes large numbers of paid employees, most OSS projects of sizes similar to and smaller than Gentoo are, like Gentoo, operated and staffed by volunteers with a minimal or non-existent income stream. In OSS organizations where most or all members are volunteers there is an imperative to engage members in the running, decision-making and rulemaking facets of the organization. Collaborative consultation is an absolute requirement for these sorts of organizations; the events leading up to the Gentoo restructure are a clear demonstration of the consequences of not attending to that requirement.

The fact of the gift economy and the imperative for collaborative cooperation means that such organizations must be open to and accepting of resistance. These bureaucracies are, therefore, polyarchic bureaucracies of the kind described by Courpasson and Clegg (2012). In addition, the imperative for collaborative decision-making and thus the extent to which resistance is accepted at Gentoo has the additional effect of inverting the power hierarchy. Gentoo exceeds Courpasson and Clegg's prescription for polyarchic bureaucracy, however, in as much as Gentoo permits acts of resistance well beyond the limitations – that resistance is productive and does not impinge on existing power structures – they proposed.

This exceeding of Courpasson and Clegg's limitations for resistance is a result of the Gentoo 'centrality of the user' meme. That construct sets an identity for users as 'important' and sense of 'service to the user' in all members. As an expression from a shared vocabulary of motive it presents an accepted and uncontroversial explication for action and activities surrounding the centralized user are important in the Gentoo discourse. This is problematic because it invokes a kind of extreme inversion of the power structure that leads to extreme levels of conflict, beyond those that are common throughout OSS by virtue of the power inversion. This excessive inversion means that Gentoo often suffers from dysfunction and paralysis of decision-making.

The Gentoo 'centrality of the user' meme is not broadly generalizable to OSS. Whilst Gentoo is not the only organization that takes such an approach, an adaptation of the polyarchic bureaucracy that has a BDFL as an elected or appointed but always approved centre of authoritative power at the head of the organization provides a kind of 'tie breaker' function that limits paralysis. For this reason, the placement of a "*monocratic ... supreme chief*" (Weber 1978, p.220) at the head of the organization, absent though it is from Gentoo, is an approach to be preferred. That the '*centrality of the user*' fails as an explication of motive for its inconsistency with actual practice (Hopper 1993) further supports the notion a top level decision-making role will assist in limiting dysfunction by limiting excesses of deference to the 'user'.

With the research questions addressed at this point, a further as yet unstated goal ought to be to consider how what we have learned about Gentoo and the OSS movement might inform

organization theory more broadly. The final chapter, Chapter 12, will attend to this goal and consider possibilities for future research to build on the findings of this study.

12. The Universe at the End of Organization

“‘... and the Universe’, continued the waiter, determined not to be deflected on his home stretch, ‘will explode later for your pleasure.’”
(Adams 1980, p.78)

12.1. Prolegomenon

In this work alone I have related the end of bureaucracy some five or six times, and the end of organization ‘as we know it’ several more. By the conclusion of my review of the development of the study of organizations in chapter two, I too declared us ready to travel back to our lives, perhaps so as to watch our universe end again. The end of a rather long journey seems an odd place to locate a “*critical or discursive introduction to a book*” (OED 2017) but one can place endings and beginnings wherever one prefers, as an author. Beginnings, middles and ends do not necessarily have to follow that sequence, albeit that it is usually advisable that they do so in the interests of narrative convention. However, these conventions can be challenged: in the second of a series of five comedic science fiction novels that he described as “*the increasingly inaccurately named trilogy*”, Douglas Adams’ characters find themselves at a cabaret venue, Milliways, that bills itself as “*The Restaurant at the End of the Universe*”. The peculiar twist in Adams’ tale is that the restaurant is not at the physical end but at the temporal end of the Universe. At the culmination of the evening’s entertainment at Milliways, guests are bathed in a “*monstrous, grisly light, a hideous light, a boiling, pestilential light, a light that would have disfigured hell*” (1980, p.93) as they watch the Universe end. At the conclusion of the show the guests travel back to wherever they came from in time to go on with their lives and the restaurant itself travels back just twenty-four hours so as to offer the same show again the next day.¹⁶² It seems perverse that the very worst that the most egregious sense of existential dread might conceive, the end of the Universe itself, might become a form of nightly entertainment but those who study organization have seen their universe end many times. As Adams observes, the ‘end’ is confronting for first-time viewers, but it quickly becomes routine for those who have seen it all before.

12.2. Going the Other Way

“*The guy's worth – he just got offered like 60 million dollars for his farm and turned it down, outside of Vegas. He didn't follow his passion. He stepped back and he watched where everybody was going, and he went the other way.*”
(Rowe 2008)

¹⁶² The Master of Ceremonies for the End of the Universe show himself has another gig at the *Big Bang Burger Bar* where he narrates the *beginning* of the Universe for breakfast guests every morning!

That sense of routine is what prompted the approach I have taken to this study. I said at the outset that I had no intention of making this a story about computers, computer programs or computer networks. Having worked with those things for most of my adult life and fatigued by reading so much research that characterized my 'routine' as unique and exciting and new, I could see little value in attempting to produce a study that purports to be ground breaking simply because the people aren't paid for their work, are distributed all around the world and communicate using computers. My decision to adopt Rehn's proposal that "*it would perhaps be wise to study them as something... normal. Just a different kind of normal*" (2001, p.25), has, I think, been fruitful.

What Rehn (2001) did was to watch what everybody else was doing, and go the other way. His approach has allowed me to ignore, save for some methodological explanations necessary to ensure that the reader is as comfortable with my universe as I am, most of the 'computer stuff' and to turn my attention to what is really interesting: the people and their universe and the form of organization that they, for better or for worse, have adopted. Had my focus been on the interestingness of the technology and with an air of excitement for the "*weird*", the "*exotic*" and the "*interesting to the average person*" (Rehn 2001, p.25) then it would have been much more difficult to turn up the 'for worse' side of this story. Certainly the approach that leaders take at Gentoo will fit the weird, exotic and interesting criteria, but the influence of the gift economy on their apparent motives for acting as they do, and the astonishing level of resistance and conflict that their approach to organizing seems to precipitate makes far more valuable insights possible.

12.3. Key Findings

Designed as it was to respond to the calls for future research set out by Courpasson and Clegg (2012) in their empirically backed presentation of a theory of polyarchic bureaucracy, this study set out to examine the Gentoo Linux project as an organization with a view to establishing first, precisely how Gentoo organized and the degree to which collective resistance contributed to the form of organization that Gentoo has adopted, and second, the role that individual member played in shaping Gentoo's approach to organizing by way of their resistance and their motives – or at least their expressed motives – for resisting as they have.

A sub-goal for this study have been to assess Courpasson and Clegg's (2012) proposition that rather than being subsumed by post-bureaucratic forms such as projects and virtual organizations bureaucracy has "*developed a refinement of the conventional Weberian bureaucratic form*" (ibid, p.74) and is *not* a replacement but a series of adaptations that have occurred, predominately, as new technological developments made them appropriate or necessary. A second sub-goal has been to assess Courpasson and Clegg's (2012) claim that resistance has not, as much of the contemporary literature would have us believe, been suppressed to the point where it is ineffectual but has instead become a valuable and effective tool that, appropriately managed, can help to identify adopt new approaches that improve organizational performance.

We can say with conviction that Courpasson and Clegg's (2012) theories are supported by the results of this research. Their theory of polyarchic bureaucracy does effectively account for the way in which the Gentoo Linux project organizes both in terms of Gentoo's form as an organization that almost completely matches Weber's (1978) prescription for bureaucracy and for the way in which resistance is both permitted and effective at Gentoo.

In fact, the findings demonstrate that Gentoo exceeds Courpasson and Clegg's (2012) view of polyarchic bureaucracy in that, contrary to their theory, Gentoo permits resistance of a character and extent that is effectively unconstrained. At Gentoo resistance may be directed at any issue and it may have the effect of altering the power structure of the organization.

Exceeding the founding theory for polyarchic bureaucracy is not necessarily desirable or organizationally effective, however. The level of 'extreme tolerance' that Gentoo has for resistance caused in part by its status as an organization operating within a broader gift economy and in part because of the 'centrality of the user' meme that was set in place by the organization founder, engenders collective and individual deference to other organization members – remembering that all Gentoo members are users in some way – that brings with it a level of organizational paralysis insofar as decision-making is concerned. Additionally, the 'extreme tolerance' for resistance precipitates levels of conflict that are both paralysing and economically damaging.

With these concerns in mind it seems that instead of interpreting Courpasson and Clegg's (2012) polyarchic bureaucracy as a theory that has fallen short of its potential in terms of its allowances for resistance, we should view it as a theory that has identified a level of resistance that allows organizations to benefit; first, in terms of access to innovations introduced by members that may not otherwise have been identified; second, from improved levels of employee commitment that result from genuine senses of engagement and responsibility and not from dominating and subjectifying applications of power. In identifying this 'appropriate' level of resistance, polyarchic bureaucracy as Courpasson and Clegg describe it, allows organizations to benefit tangibly without falling foul of the dysfunction that results if resistance is permitted without limitation.

Notably, in seeking to assess the generalizability of these findings to the broader OSS movement, we find that the lack of a single role at the top of the organization hierarchy with the power to make tie-breaking decisions and the 'centrality of the user' meme that leads to dysfunction are features of the Gentoo organization not replicated in the other large OSS organizations that were considered. Many of the other large OSS organizations, while adopting very similar structures to Gentoo and permitting resistance to a degree that establishes them as polyarchic bureaucracies, avoid heightened levels of dysfunction by installing a Weberian "*supreme chief*" (1978, p.220), often denoted as a '*benevolent dictator*' with the authority to take decision regarding organization direction when it becomes necessary to do so.

12.4. Contributing to Theory and Practice

The broader goal of this research has been to contribute to the organization literature particularly in respect of the literatures on organization forms and in respect of approaches to power and resistance.

The organization forms literature anticipates a decline of the bureaucratic form identified and specified by Weber (Weber 1978) and a concomitant rise in post bureaucratic forms, some of which dispense with key features of bureaucracy. In responding to Courpasson and Clegg's (2012) call for further research in respect of their assertion that bureaucracy is not dying but merely adapting, not being replaced but being refined, in Gentoo this study examined a somewhat unusual organization, albeit one that can reasonably be seen as an exemplar of a form of organization we are likely to see much more of as technology renders such organization possible and practical.

The thesis supports polyarchic bureaucracy theory in the context of the OSS movement.

Against much of the power, resistance and Critical Management Studies literatures, which anticipate a contemporary decline in acts of resistance as the effectiveness of dominative and subjectifying exercises of power relegates resistance to invisible and internalized cognitive efforts at 'blowing off steam'. These, it has been argued, achieve little more than granting actors a degree of personal comfort that has the ultimate effect of further subjugating them to the power they believe they are resisting. Again, Courpasson and Clegg (2012) propose a way out of this impotence for resistance by allowing a place for productive resistance that stands to benefit organizations. In responding also to their call for further research in respect of this view of resistance, the present study contributes not only by supporting the facets of polyarchic bureaucracy that permit and account for resistance but additionally contributes by demonstrating the consequences of permitting resistance to exceed the levels granted permission by their theory.

Practising managers may expect to benefit from this work by its confirmations of polyarchic bureaucracy theory and its demonstration of the requirement for resistance being allowed that is tuned to a level more consistent with that prescribed by Courpasson and Clegg (2012) so as to ensure that dysfunction – conflict and paralysis – is not experienced at the levels seen at Gentoo. The important point is not the presence of either resistance or non-resistance but how and in what ways resistance is expressed and managed in order to be productive. Practising managers will benefit from the knowledge that resistance can have a positive character that is beneficial to both the organization and its members and that, as an alternative to seeking to subvert and suppress resistance at every juncture, they can benefit by way of increased commitment and engagement on the part of employees and access to innovations that may not otherwise have become apparent.

Contemporary debate involving businesses and governments in many countries turns regularly to paradoxical questions of employment for citizens and the need for immigration policies that allow businesses to import suitable workers from abroad. The debates often feature arguments to the effect that one social group or another “*doesn’t want to work*” or that businesses “*can’t find people to do the jobs they are offering*”. The march of globalization is such that poorer countries are progressively becoming richer, and ultimately reliance on other countries for labour simply because it is cheaper to do so is an option that will no longer be available. The roles that we as managers create and the jobs that we offer will need to be jobs that someone wants to do if we are to have any hope at all of having the work that we need done, done. Attempts to use mechanisms of power such as teamwork, empowerment and identity construction may be effective ways to suppress and subjugate resistance, but they are clearly not ways to produce happy employees or to create jobs that people will do willingly. It is time, I argue, to drive employee commitment and engagement in an unusual way: by *listening* to them, and by permitting them to resist in constructive ways.

Whilst this study is complete, and successfully so, it also uncovers opportunities for further research to further develop what we have learned herein.

12.5. Future Research

There are three key directions in which I believe this work may be extended.

First, in Chapter 2 in the context of early evaluations of Weber’s (1978) bureaucracy carried out by the Aston School, I acknowledged a perspective offered by Child (1972b) in which political action is effectively embedded within organization forms. As this theory has been developed, considerations of political relationships not only between actors internal to organizations but also those occurring and developing as organizations interacting with other organizations (Child & Rodrigues 2012) have come into play. In concert with the organization forms literature on, for example, network organizations and networks of alliances, empirical studies of OSS organizations that examine the complex and imperative networks of relationships required to assemble all of the components necessary for large projects, such as Linux distributions, made up of hundreds if not thousands of individual pieces of software each developed externally and independently, offer important new insights into highly complex structures of inter-organizational relationships.

Second, given the sheer volume of asides, quips, quotes and references to humour that arise throughout this work, the reader will by now be fully aware that play is an element of organization that is interesting to this author! Remembering Stallman’s notion of the ‘hacker’ as a person who enjoys ‘playful cleverness’ and “*Playfully doing something difficult*” (2002), his continual references to hacking and play throughout his appearances on line, in print and in person, and the frequent presence of humour, inside jokes, memes – both cultural and Internet –

and the ever-present readiness for play that is characteristic of OSS communities, it seems that within OSS there is great scope for studies that examine the notion of play at work and perhaps connect it to the literature on humour in organizations such as, for example, work by Rhodes (2013, 2001a), Parker (2007), Boje et al (2005) and Linstead (1985).

Third and finally, there is a potential link to develop an understanding of the social and community aspects of OSS work. Whilst working on an earlier coursework degree and whilst undertaking the research on which earlier publications (Breach & Jenkins 2007; Breach 2008a, 2007) were based, I became aware of the theory of social capital (Putnam 2000) and its relevance to notions of community. Professor Jenny Onyx was kind enough to offer her insights (see, for example, Onyx & Leonard 2010; Onyx & Bullen 2000; Dale & Onyx 2010) on social capital. When I proposed that social capital was something that might exist in the communities of practice (Wenger 2000) and OSS projects on the Internet, she insisted that face-to-face human interactions and a tangible community were necessary prerequisites for the formation of social capital and that my proposal was therefore not possible. With great respect to Jenny, acknowledging that this is a conversation that took place some years ago and that we have not revisited, I disagree. On the evidence presented herein I see a range of factors in Internet communities and organizations that lead me to believe that social capital is present. There is scope, I believe, for research to examine whether social capital is built in the communities and organizations that produce OSS on the Internet and in which members rarely, if ever, meet face-to-face. Such ideas have increasing salience in the ways in which social media play an increasingly important role in electioneering, social movement mobilization and consumer campaigns.

With contributions explicated and proposals for future directions made, all that remains to be considered is the end of organization as we know it – and the Universe.

12.6. A Bureaucratic Big Bang

History has a strange way, being as multi-threaded as it is, of causing us to lose temporal perspective. When we consider that while Wedgwood's early experiments with transition from artisan work to industrialized production took place circa 1775 (Langton 1984), Weber did not publish his essays on *The Protestant Ethic and the Spirit of Capitalism* until a full two years after the Wright Brothers carried out their famous first flight in 1903, and F.W. Taylor's *The Principles of Scientific Management* was published even later, in 1911. Thus, the entire history of powered human flight is longer than the period of time that we have been thinking formally about management and organization. It is far too soon to be calling 'time' on organization!

Though it feels almost a break with tradition so say so, I will not declare the end of our universe of meaning. Instead, I will do at the end what I did at the beginning with, of course, what I think are some interesting new insights: I declare that bureaucracy is far from dead, and not likely to

die any time soon. What has happened, and what will continue to happen is that bureaucracy and the forms of organization that are based on it have adapted and changed as, fundamentally, technology has made it possible or necessary to do so. Allowing employees to demonstrate engagement and commitment by accepting and listening to their resistance will be an important part of this refinement of organization as we practice it.

If I may be permitted one last quote, I offer this from a man whose thoughts on blue collar work – dirty jobs if you like – are deeply insightful, clearly educated, and highly relevant:

“So, if I were running for anything – and I’m not – I would simply say that the jobs we hope to make and the jobs we hope to create aren’t going to stick unless they’re jobs that people want...” (Rowe 2008)

Then continue his approach in my own words:

... And I know that the point of what we do is to continually improve our understandings of work and organization in the hope that we might *“contribute to making the world a slightly better place”* (Parker 1999, p.41), but I also know that power and resistance aren’t opposites. They’re two sides of the same coin, just like leadership and conflict, like motivation and manipulation, like anagnorisis and peripeteia, like Gentoo Linux, which I hope to continue to watch grow and succeed...

“... and like my time that’s gone. It’s been great talking to you. And get back to work, will you?” (Rowe 2008)

Look Mum! It’s done! I did it!

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