

# Framing Futures for Visual Communication Design Research

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*Abstract: This paper posits opportunities to explore a critical space for visual communication design research. Through current education strategies being explored and tested we re-apply the typologies of the discipline through the lens of a critical practice in two distinct areas: first, as independent design investigation, process and research outcomes in its own right; and secondly, as meta-practice, enabling knowledge transfer and the facilitation of outcomes in trans-disciplinary research fields. We challenge assumptions of next-iteration practice as merely that of 'collaboration' and 'service'. The paper documents two case studies that have recently been implemented through teaching, learning and research strategies of the UTS Visual Communication Design degree in a university context.*

Keywords: Visual Communication Design, Critical Design in Visual Communication, Research Practices, Visual Communication Design in Trans-disciplinary Projects, Case Studies, Social Responsibility

## Introduction

**T**HIS PAPER POSITS opportunities for a critical approach to visual communication design research. These opportunities should be seen in light of the ongoing shift in design education at university level, away from the narrowly defined conservative model of preparing students for employment in a conventional design studio, and towards the reconsideration of visual communication design education as a more holistic, trans-disciplinary activity. As terms such as 'design thinking' and 'service design' begin to command cultural and economic credibility, this paper explores how visual communication design can be located in a contemporary research paradigm, redefining the practice/profession—and indeed language of design—by challenging assumptions of next-iteration practice as merely that of 'collaboration' and 'service'; where the reconsideration of visual communication design in the context of research is seen as the means through which to broaden the profession.

This fresh way of looking at the practice of visual communication design is explored through the examination and classification of two education design strategies. In these strategies the typologies of visual communication design are reframed in two distinct ways: firstly, as a set of independent design investigations and information processing activities which can be considered as a research outcome in their own right; secondly, as a core partner in a trans-disciplinary research team, enabling the production of new, critical knowledge, knowledge transfer and the facilitation of research outcomes in enquiries of scale and complexity. These two strategies will be unpacked through exemplar case studies within this paper.

The need to consider a research agenda in design education is becoming increasingly important in order to envision futures for both the discipline and larger societal needs. The following strategies are drawn from attempts to reconsider the teaching of visual communication design from this perspective. A key question posed is: how can we begin to think of visual communication design activities as central to research activity and outcome, as opposed to the conventional reading between research and design where the former is regarded as a mere preamble to the latter. Art and design theorists such as Christopher Frayling (2003) and Judith Mottram (2009) have discussed how art practice might be regarded as a research activity; similarly, Steve Scrivener (2000) and Dunne & Raby (2007) have observed how a technologically facilitated product design discipline might also work in the context of research. The latter design researchers specifically privilege the, "...shift from thinking about applications to implications [creating] a need for new roles, context and methods" (Dunne, Raby, 2007). This paper in turn looks specifically at the language of visual communication design in these terms.

These proposed visual communications design/research strategies also necessitate the re-thinking of visual communication design as a meta-practice or meta-level activity; a practice that is integrated into a research enquiry at the front end of research, beyond the typical 'reactive' documentation and presentation activities usually associated with visual communication design. In this meta-level enquiry the studio typologies of visual communication design are reframed through the lens of critical practice and research, wherein the visual communication designer can take a prominent role in helping to both frame and direct a research agenda. Through the creation of propositional scenarios and design interventions (for example), contributions can be made that employ the cogent application of visual language and a highly refined visual acuity. In this way the visual communicator can be regarded as a key investigator who utilises visual communication systems and approaches in the context of research to stimulate dialogue, elicit opinion and reveal insights. This meta-level approach to visual communication design allows for the practice to move from the traditional notion of a service provider where it is used to sell, persuade or communicate via the production of an aesthetic artifact, where others determine the overall research direction, and towards determining the boundaries of research, applying a critical mindset to a direct a line of enquiry.

Prompted by the recent financial crisis and the rise of sustainability issues around use and consumption, there is a need, or desire in some quarters to rethink visual communication design as more than just a commercial tool in the pay of the free market economy. In the following models of practice we are particularly interested in visual communication design not just as a research activity or meta-practice but one which is carried out in the context of social commentary, social change and social enquiry, a broad position that resonates with the current academic discussion towards future practices and discipline expertise. This approach which ties together critical practice and visual communication design necessitates a deep understanding of the 'cultural/semantic' readings associated with visual language and the ability to understand how design can effect/nuance the tone, quality, clarity and even perceptions of veracity within a research framework.

### **Visual Communication and Criticality**

In the most robust sense, visual communication design is viewed as a 'change agent', a catalyst to new knowledge of artefacts, systems and ideas. The seductive rhetoric, however,

eschews design's traditional purview, determined by a limiting set of co-ordinates: as aesthetic play—a surface veneer in response to a series of externally assigned problems; as a practice conjoined with technologies of the moment to such a pitch that the act of designing is indistinguishable from the production tool itself; and—witheringly—dismissed as, “... little more than a handmaiden to market concerns” (Dilnot, 2008), with its practitioners, as Caplan suggests, no more than ‘exotic menials’ (Bierut, 2006). This devotion to private interests to the exclusion of a wider remit encompassing social and ecological concerns has given design a level of professional legitimacy, “... essentially a middle class profession that has delivered a comfortable life for middle class people, while also indulging the wealthy” (Margolin, 2004). But it has also foreclosed a discussion of what design *might* be, in contrast to merely, “... ‘drawing on its roles in the organization of production and in helping to stimulate consumption’, it is at once hand-in-glove with the intensifying creation of a fundamentally unsustainable world... [and] ‘is... a political neutralization that is at odds with the functioning of an open and democratic society’” (Dilnot, 2008).

However, this terrain has been punctuated over the past few decades—and with increasing insistence—by designers, historians and theorists who have posited deeper, far-reaching possibilities for a practice they deem to be a discipline. Broadly speaking, they locate it as a *critical* activity: hybrid and multi-dimensional, designing not only the artefact but also—significantly—‘the conditions of use’ (Drucker, McVarish, 2009), in respect to intentional societal change. This latter is often manifest through the constructing of systems to communicate complexity with clarity, and by ‘co-designing’,<sup>1</sup> services, products and environments for both public and private spheres. This approach locates design *within* society at an epochal time in history where multiple dynamics render 21st century definitions of all professions as of diminishing relevance, where re-invention is constant and fast-moving, distinctions between public and private spheres have blurred, communication is instant and democratized, and the fragility of economic systems have started to leverage other ideologies at the expense of capitalism.

But as Margolin argues, until recently there has been little enthusiasm for either dominant practice or education models to embrace alternatives, or at least, offer some resistance to the designer-as-service-provider (or economic snake oil) paradigm (2004). As he urges, any changes to practice must come from within the profession. The case studies within this paper attempt to address some of these concerns from an institutional setting. Where Dilnot sees a dearth of critical thinking in education, we see it as no longer fugitive in visual communication design research. Locating the critical as central to any visual communication design activity, however, is a charged process; it potentially signals a new organizing rubric for practice, one that ultimately questions and possibly dismantles existing practices that van Toorn and Dilnot find unconscionable.

<sup>1</sup> Co-design: A term, short for collaborative design, a community centred methodology that designers use to develop a partnership with a product or service's end users, in order to make their solution more effective. Source: UK Design Council. <http://www.designcouncil.org.uk/resources-and-events/Designers/Design-Glossary/>

## **Research through Visual Communication Enquiry: The Common Ground—a Contemporary Exploration of the ways we think about Land**

This case study is an example of our firstly defined strategy to combine visual communication design, research and criticality through a set of independent design investigations and the cogent application of visual language to a site of enquiry<sup>2</sup>. In this instance, two final year university undergraduate visual communication design students assumed roles as key investigators around a self-initiated site of research. This work was undertaken in the context of a graduating project wherein students are encouraged to challenge existing situations, values and practices through the process of visual communication design and to undertake a process of critical analysis, synthesis and reflective evaluation. As mentioned, these types of activities augment the conventional understanding of the role of the visual communicator to a refocused position, “as a tool to inquire, to research, to anticipate” (Drenttel, 2010). Within this framework, visual communication design can become a critical act through individual reflection. In pursuit of the prosecution of an idea, the students, Fuller and Gamble, “argue with visual means” (van Toorn, 1994), as “practical intellectuals”<sup>3</sup> determining the scope, all levels of content and ultimately the visual language, to give cadence to this self-initiated study.

### **Contexts, Research Methods and Typologies**

The land is a highly charged and contestable subject in Australia, a rich source of internally driven narratives where a sense of ‘place’ has been historically framed—and often—as fugitive. The great southern continent has been, “... at once a blank slate—*terre nullius*—waiting to be filled, and a unique unknowable place occupied by people speaking languages never before heard... for the last two centuries, Australia has been defined by what it is not: not in the northern hemisphere, not densely settled, not lush and fertile from coast to coast, not constrained by the limits of class, nor by a densely documented or revolutionary history” (Schultz, 2008). It is against a landscape of fluctuating ambiguities about Australians’ place on the land that the following piece of social enquiry design was framed: it “explores the emotional and spiritual bonds between people and land, asking how a physical domain can ultimately provide the foundation for one’s inner core” (Fuller, Gamble, 2010).

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<sup>2</sup> The following case studies feature the design work and selected outputs from the University of Technology, Sydney (UTS) Visual Communication Design undergraduate programme over the 2009/10 academic years.

<sup>3</sup> The term ‘practical intellectual’, as coined by Jan van Toorn, positions the designer as one who produces “... counter-images and counter-proposals, substantial criticisms and real alternatives that disclose the hegemony and solutions of the established order.” (van Toorn, 1994). He sees designers’ present role as purveyors of private interests at the expense of the public good, “...under pressure from neo-liberalism and the power relationships of the free market.” (ibid)



Figure 1: Cover and contents page of The Common Ground.  
*Designers: Madelin Fuller & Arielle Gamble*

In Fuller and Gamble’s visual communication design research, the site of enquiry was framed from a personal desire to reveal contemporary notions of place. Using a set of visual communication design conventions the pair attempt to give insight into the ontological mindset of modern day Australians and their relationship to the land. In a piece of ethnographic research Fuller and Gamble carefully ‘designed’ a zine-style booklet that used a ‘grunge’ aesthetic to undermine the typical authoritarian qualities of the standard questionnaire/survey.

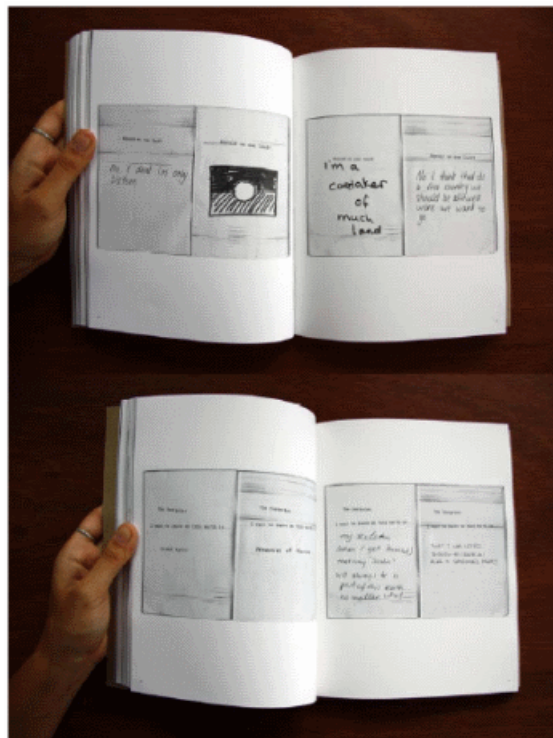


Figure 2: The Common Ground ‘zine’ facsimiles.  
*Designers: Madelin Fuller & Arielle Gamble*

The zine was the vehicle through which data was collected; this device carried the designers’ research strategy. It was a deliberate decision, and one that could only come from a design perspective: “Our methodology was the zine... the whole purpose behind it was exactly almost the opposite of challenging people, it was about opening up discussion... we felt that whole discussion [about land] is so loaded that everyone cuts off and won’t even talk about it. We found that... by framing it the way we did, by using this idea of a zine, which you can open and close, a kind of personal space, we created a safe space for people to have that discussion, not to confront them, but to open it up. We felt that this was the way we’d get the most honest answers; there was nothing to prove. When we first sat down, writing out our questions... when we saw them lined up one after the other... it was like being hit over the head with a bat again and again... we realised it was such a confronting way to present a person with all these questions, so being designers we developed a zine... An open and close book with multiple pages, each page with a question on it, which was very personal, it wasn’t confronting, it was intimate. It was there for you to fill in and have fun with and it was also made from cheap photocopy paper. It wasn’t precious. You could do whatever you wanted with it. I think... that’s what helped shape peoples’ responses in such a huge way, more than an online survey or a spoken interview, that we could create that intimate connection with total strangers. It was about the medium as much as the questions, the medium shaping the way people responded to the questions... with the sequence of questions, there was a lot of thought that went to make it that simple” (ibid).



Figure 3: The Common Ground - ‘zine’ facsimile and stack of completed ‘zines’.  
*Designers: Madelin Fuller & Arielle Gamble*

Neither seeking to define a direction too quickly nor key respondents to what was relevant, questions were loose, inviting responses in any form preferred, written or drawn and included questions such as, “if home is where the heart is, where is your heart?”, “the footprint I want to leave on this earth is...”, “but where I really want to be is... and here’s a picture of it...”.

### **Visualising Research**

After an extensive process of data collection that involved travelling through a substantial part of Australia and interacting with a large number of individuals and communities, Fuller and Gamble began to consider how they might respond to their findings. The designers were conscious of the move to visual form: “I think we struggled quite a bit at first. And then we really had to sit down and cut loose new ideas about what we really wanted to talk about”

(ibid). Framing and re-framing was a constant design device at the forefront of the project; it led the designers to search for broader lines of enquiry when they needed to move back and forth from a narrow focus to a more inclusive space in order to understand their respondents' world views: "And then when we had gathered hundreds of zines, and when we spent time going to communities and photographing them, then we took it back home and tried to interpret that in a design way" (ibid). Framing ultimately became the driver through which to tell individual stories about land: spiritual and emotional bonds; as a malleable form and our impact upon it; as a resource; of something we can attain: as something of beauty. Indeed, the findings in the facsimiles of selected zines were incorporated into the final output, a book.



Figure 4: The Common Ground - visual essay spreads.

*Designers: Madelin Fuller & Arielle Gamble*

The final output—a book detailing conversations initiated and collected through travelling across four states—Western Australia, South Australia, New South Wales and Queensland—is an example of the designer as a facilitator of stories. Both designers were aware that their goal was to reflect the significance of peoples' experiences primarily through the visual, punctuated with personal narratives and editorial text. Images were not 'doctored', rather, "We found we could not actually over-design anything as an answer, it was best to create a hierarchy that worked that was interesting and accessible to all. Even simple design elements, such as typographic treatments, colours on a page, something so simple, sometimes felt like they were impeding on what they [participants] were trying to say. So we were really conscious as designers to strip everything back and communicate something without judging it, without the persuasion factor" (ibid).

By engaging in visual communication design through the twin lenses of research and critical practice Fuller and Gamble were able to produce a reflective piece of social enquiry which carefully utilised the conventions of visual communication—photography, text and image, layout, visual narrative and so on—to reveal the voices from within their research. In this case the notion of visual communication design as a meta-practice is exemplified through a variety of research activities including: data collecting; formative and summative design making; documentation; and reflection and presentation. All are aspects of a visual communication design practice used to open dialogue, reveal opinions and insights.

### **Visual Communication in Trans-disciplinary Research: Harvest**

This second case study deals with the role that visual communication design can play in a trans-disciplinary research team. Trans-disciplinary collaboration in contemporary design is considered to be the most complex in a range of emerging hybrid practices. Like its counterparts (multi-, inter- and cross-disciplinary) it shares characteristics of fluidity in tangible/intangible outcomes, though is directed to enquiry of real-world issues. The trans-disciplinary houses multiple disciplines, which share “a theoretical understanding and an agreed upon interpretation of knowledge” yielding a “newly unified whole” (Dykes et al, 2009).

This pilot project is located in the public university environment, one mandated to develop systematic and rigorous research enquiries as well as being committed to developing new knowledge. It is an ideal place to test formal hypotheses as well as develop insights into research methods—including collaborative structures of working—that may ultimately inform future industry practices. Academia is experienced in cushioning the effects of risk associated with innovative research that the market may be reluctant or unable to absorb (Allen et al, 2009).

#### **Background**

A University of Technology Sydney (UTS) Challenge Grant—an internal scheme designed to seed collaborative, innovative and practical research—provided integral funding to the Institute for Sustainable Futures (ISF) for a 2-year trans-disciplinary action research project, *Transitioning to Sustainable Sanitation Futures*. Spanning 2010-2011, the project also aligns with the University’s Strategic Plan (2009) and its City Campus Masterplan (2009), both committed to holistic sustainability goals.

It is the second pilot of its kind in Australia to explore the use of urine diversion (UD) toilets in an institutional environment<sup>4</sup>. With a research agenda as ambitious as it is wide-ranging, the project seeks to explore various factors determining the successful uptake of UD as a socio-technical innovation in wastewater management; while waterborne sanitation using flushing toilets and sewer networks has transformed public health outcomes since the 19<sup>th</sup> century, its cost and resource-intensive qualities are viewed in contemporary society as unsustainable, resulting in the need for alternate sustainable models (Fam et al, 2009). Hence, existing sanitation systems are to be challenged by retrofitting a block of toilets on the city campus of UTS in order to capture, treat and re-purpose urine in agricultural trials. Additionally, diverting urine away from the sewage stream reduces the cost of wastewater management by removing nitrogen, phosphorus and potassium, all harmful elements to aquatic environ-

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<sup>4</sup> The first is Murdoch University, Western Australia, with a larger scale project using waterless urinals.



ments (Abey Suriya et al, 2010). And further, the project signals the significance of an emerging issue: phosphorus (P) rock reserves—a vital resource required by all living matter—which are reaching peak levels, depleting to an extent that serious shortfalls are predicted by the end of this century (Cordell et al, 2009).

### **Partners, Research Cycles and Project Strands**

The project has embedded practice-based learning for undergraduate, post-graduate and early career researchers into its overall strategy. Investigator partners bringing research and practice-led expertise are drawn from Sustainable Futures, Engineering, Project Management, Law, Agriculture and Visual Communication Design academics from three Sydney universities, together with strategic government partners: NSW Department of Health, Sydney Water, and the City of Sydney; and industry partners: the Nursery and Garden Industry Australia. Providing additional funding, critical feedback and key personnel for capital works is the UTS Facilities Management Unit.

The project is proceeding in three distinct cycles: investigation (first half of 2010); design and commissioning (second half of 2010); and operation and evaluation (2011). It is anticipated that opportunities beyond 2011 will provide further long-term research. This paper is written at the intersection of Stages 2 and 3.



Figure 5: Action research approach incorporating research strands

Each investigator is embedded in at least one of five research-active strands:

- **Technology strand:** investigating all aspects of hardware, installation and operation of agricultural trials.
- **Visual communication strand:** identifying and facilitating a range of possible design interventions using appropriate mechanisms to collect data, as well as inform, educate, and engage stakeholders. The ability to upscale from the pilot is also in play as a design strategy.
- **Stakeholder engagement strand:** monitoring knowledge and attitudes—staff, students, visitors and maintenance staff—and where interventions might be appropriate to shift understanding.
- **Regulatory/institutions strand:** understanding the barriers and opportunities in the current regulatory environment, identifying legislation needed for urine diversion and storage as well as its potential impacts.

- **Integration strand:** has an overview role to ensure co-ordination of all strands' work in a 'whole-of-systems' approach.

### ***The Role of Visual Communication Design***

Situated throughout the arc of the trial, visual communication design is positioned as a core constituent in this large, complex project. Inclusion at the beginning of the pilot relocates design immediately from its traditional back-end problem-solving mode (form-giving/production) to the front-end strategic space where unframed problems need to be identified and clarified. This 'fuzzy front-end' (FFE) has its own protocols, privileging open-ended exploration for longer periods in order to form propositions and forge interconnections amongst seemingly disparate partners. Its relocation affirms visual communication's strengths as both facilitator and user-centred specialist to negotiate any potential transitions of behaviour, opening up spaces to re-evaluate habits so commonplace that they are routinely discounted, and hence avoid scrutiny. In previous Institute for Sustainable Futures (ISF) pilots at UTS, confining design's role to an operational task had often led to disconnected materials, devoid of a nuanced understanding of subject matter required to engage its audiences effectively (Lopes et al, 2010).

This overall thrust aligns and replicates current thinking in visual communication design education where 'designing' means more than the finite artefact but is also perceived as a strategic and facilitation activity: designing 'the conditions of use' (Drucker, McVarish, 2009), with 'designers and researchers working collectively to be the creators of scaffolds upon which everyday people can express their creativity' (Sanders, 2008). It moves the discipline to a more critical and reflexive space, one engaging deeply with societal issues as well as developing insights into the nature of the trans-disciplinary relationship.

Situated in two core 3<sup>rd</sup> year subjects of a 4-year degree—Information Design and Community Projects—the visual prototypes that follow are informed by deep engagement with social data and independent design research. Initially supported with detailed briefings and ongoing input from key investigators, students were operating within an unfamiliar framework of more open-ended, exploratory spaces through which to engage with contemporary issues. Visual communication design students were able to identify key issues to 'give voice' to the project: raising awareness to engage the university community/wider public, inviting community participation in the pilot; and explaining little known scientific aspects, for example, the forecasted depletion of reserves and animating debate and understanding about 'waste-as-a-resource'.

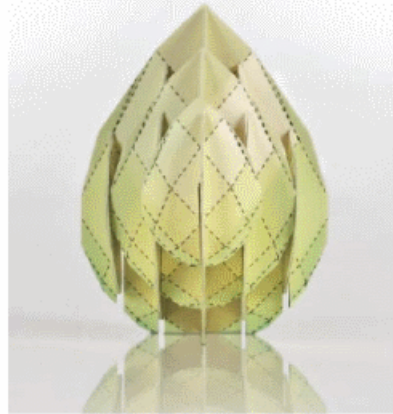
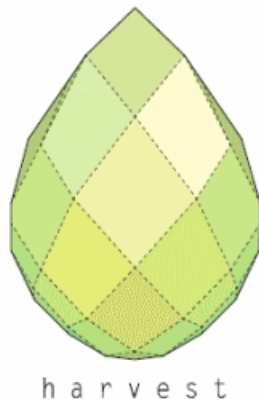
Additionally, students were asked to consider the following through which to frame their research in preparation to posing a visual argument, for example: how might we design an information system that encourages people to make informed decisions about waste and, on a broader plane, elicit answers from community leaders; how might people respond as citizens rather than consumers regarding the re-use and ownership of their waste; how do we engage with non-English speaking users, those needing different types of communication and who engage in different methods of toileting; how can we gather data concerning patterns and preferences in toilet use to better inform researchers and future iterations of UD toilet design.

Students were challenged to design their own working briefs in response to personal background research and expert briefings. As a result speculative outputs emerged in two broadly defined areas: designing *systems* and designing *understanding*. The former found

expression in an all-encompassing identity suite for the project, which provided structure for the latter, essentially, ‘front-of-house’ issues, designing the public face of the urine diversion trial. Also revealed in the first exploratory phase were ‘back-of-house’ issues that needed to be addressed, such as explaining retrofitting implications for technical staff. Several ‘back’ and ‘front-of-house’ materials are capable of up scaling to ongoing research beyond the trial.

**Designing Systems**

The following proposals envisaged that a flexible, dynamic suite of design responses—comprising a suite of overarching identity material; information visualization/communication strategies; a motion sensor data collection mechanism; a ‘counter clock’ installation—would provide ongoing visual recognition triggers to the university community for the duration of the trial. Through the re-framing of a taboo subject such as toileting, the designers moved from two visual symbols—phosphorus rock and a single droplet—to encapsulate in one image the transition in thinking from ‘waste-to-resource’.



*LOGO DEVELOPMENT*

The development of the logo combines and simplifies two visual symbols - phosphorus rock and a single droplet. Combined it creates a faceted, jewel-like logo that alludes to the precious nature of phosphorus without making unnecessary links to urine or human waste products



Figure 6: Harvest logotype in both 2D and 3D form and logo development process, Designers: Fivefold<sup>5</sup>

5. Fivefold Comprises Student Designers: Zakary Chenoweth, Tegan Ella Hendel, Corinne Inzitari, Jay Lee, and Lauren Mullen

The ‘counter clock’ installation displays quantitative feedback gathered from participants in the trial. It is designed to show the value of each individual contribution by calculating the number of trial participants against statistical equivalent in crops and plant yield.

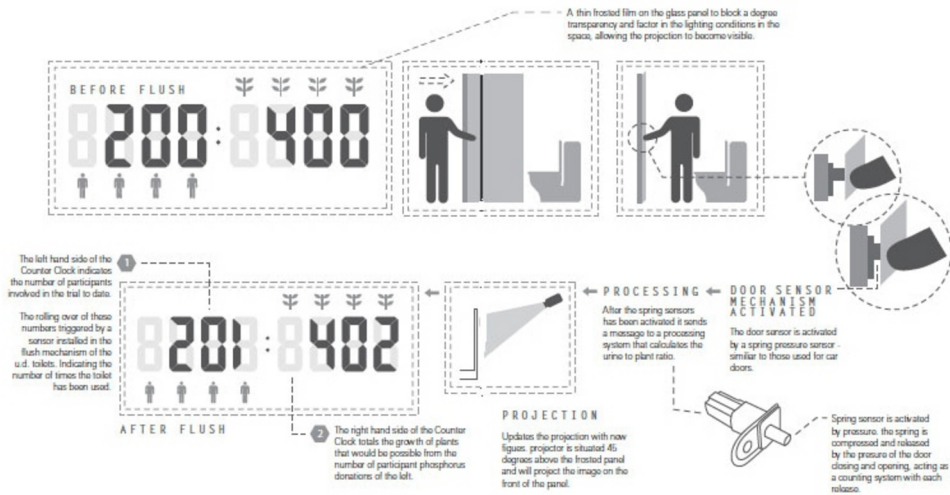


Figure 7: Harvest clock sensor schema. *Designers: Fivefold*



Figure 8: Harvest clock sensor *in situ* (prototype). *Designers: Fivefold*

The motion sensitive touchless survey is a screen-based installation activated by gesture rather than touch, allowing for the collection of quantitative data and research pertinent to the Harvest trial. A newly emerging form of interaction using sensors, cameras and processing in this instance, it is an ideal interface, eliminating concern of hygiene by a participant simply interacting with the screen from a distance. It would be located in the corridor directly outside the public bathroom areas.

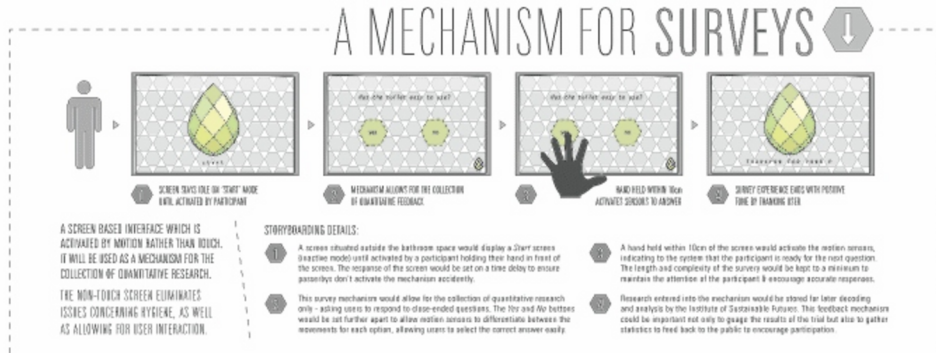
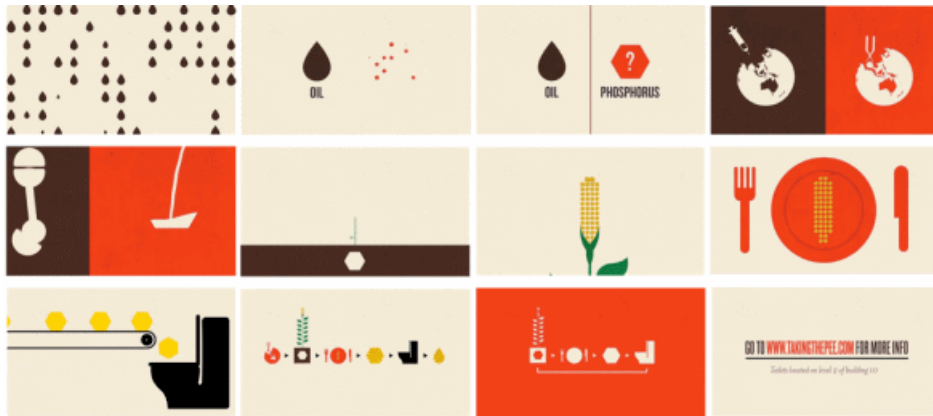


Figure 9: Harvest data collection motion sensor. *Designers: Fivefold*

### Designing Understanding

As in the first case study, a process of framing and re-framing of sensitive issues such as, in this instance, taboo aspects of toileting, resulted in materials that shifted thinking towards the collective rather than to the private good, and closer to a more inclusive approach in addressing public health issues. The development of sophisticated, contemporary visual languages across the range of work reduced any potential embarrassment by focussing on the public good, and with a sense of dignity. For example, ‘Thank you for your pee’, a simple phrase, replaced more elaborate concepts to tangibly ‘reward’ participants for donating their urine, shifting the act from a transaction to one of serving a larger purpose. It resonated because of its simplicity and honesty; users could engage with the issue unfettered by a bargaining mentality.



TAKING THE PEE animation explaining the global phosphorus deficit and UTS urine diversion toilet trial

Figure 10: Animation explaining P deficit and UTS pilot trial. It can be viewed at: <http://vimeo.com/13365354>. Designer: Dylan McIntyre



Figure 11: ‘Thank you for your pee’ heat sensitive sticker, a still of ‘Closing the loop’ cycle, and *in situ* as motion sensor lightboxes in front of urinals. Designer: Jethro Lawrence



Figure 12: Graphics for toilet paper showing why mining of phosphorus needs to be reviewed (Based on ‘8 reasons why we need to rethink the management of phosphorus in the global food system’ by Dana Cordell). *Designer: Rebecca Lam*

### ***Reflections at the Half Way Mark of the Pilot Study***

This project is exploratory in nature, still in progress with outcomes unknown and extended research questions not yet fully in view. Design prototypes, too, are speculative, their subsequent take-up through to development and fabrication dependent on a range of technical variables.

Viewed through the lens of visual communication design, the research presents opportunities beyond the scope of the project to test designerly questions further, such as: what are the boundaries or limitations—if any—to the inclusion of a visual communication design strand at the ‘fuzzy front end’ in a trans-disciplinary research team? The rhetoric of inclusivity can often be mismatched with the recognition of expertise; how can the full dimension of design’s remit marry with contemporary constructs of participation? How—or has—this space fore-grounded a questioning and critical design process?

Apart from procedural issues (form) in support of infrastructure change, there is a philosophical dimension to the project beyond the practical (context): accepting the hypothesis that phosphorus resources will reach ‘peak’ levels within a century, who will own this liquid gold, this critical resource? Who *should* own it? Might design pose this question—in partnership with legal scholars—to stakeholders and a public educated in the practical aspects of the project but who need also to be invited to engage at a critical level?

In addition, how has locating students within this type of project impacted on their learning? Have their perceptions about their own agency been moved or challenged? Has the deliberate attempt to grow an altruistic, university community—through design—shifted students’ attitudes from one of service to one of perceiving design’s contexts on a broader socio-political

plane? Furthermore, does the suspension of the traditional client-provider relationship in favour of that of partner lead to more acutely framed issues from the designers perspective?

### **Summary: Visual Communication as a Meta-practice**

The aim of this paper has been to disclose the potential for inhabiting a critical research space in visual communication design through project work undertaken in a university context, and to posit legitimate, robust examples in strategy, scale and complexity. In doing so, these case studies add to the growing body of practice and literature determined to broaden design's remit from a narrowly drawn, ill-fitting profession— from a 21<sup>st</sup> century perspective—towards, as van Toorn mooted sixteen years ago, "...the reopening of the communicative possibilities of the profession to opposing positions and values i.e. the revival of a critical and reflective practice" (van Toorn, 1994). Although by no means exclusive in terms of approach, the work discussed here sets up a schema for visual communication design which embraces not just an integrated research agenda but which recognises the augmented role that visual communication design can play in addressing complex socio-economic concerns.

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Ian Gwilt is a Professor of Design and Visual Communication at Sheffield Hallam University. He holds a PhD from the College of Fine Arts at the University of New South Wales, examining the theory and practice of mixed-reality art. He also has an MA in Interactive Multimedia, conferred by the University of Balears (UIB) in Spain, and the Royal College of Art (RCA) London and a BA Hons in Communication Design from Manchester Metropolitan University. In addition to a number of years working in the field of visual communication design and visual communication design education he has shown interactive installations

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Jennifer lectures in Visual Communication Design at the University of Technology Sydney, teaching principally in the fields of information design, typography and illustration. She is also an Early Career Researcher (ECR) and co-leader of the Visual Communication strand in the UTS Challenge Grant project discussed in this paper, 'Sustainable Sanitation Futures'. Jennifer is currently completing a PhD—*Pro Bono Publico*—a thesis through which the potential of 'critical design' in visual communication practice and research is explored and challenged through the disciplinary frame of 'public design'. As a practitioner she has worked for Television New Zealand, and also for the Museum of New Zealand (Te Papa Tongarewa) where as a member of the initial core design team she designed a number of exhibitions, pan-museum signage and wayfinding systems. Additionally, Jennifer holds a music degree in performance/teaching (Voice) from the Sydney Conservatorium of Music.