

On the Design

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Floating Images

In scholarly publications, images – such as photographs, illustrations, graphs and charts – are used to visually communicate complex data or key ideas in a succinct way. However, where linguistic expression can aspire to *monosemy* – the articulation of specific and unambiguous meanings, images are *polysemic* – visual expression cannot explicitly make propositions or express abstract ideas. In other words, images are always ambiguous and open to multiple possible interpretations. Therefore, authors write captions to “pin” an intended meaning or interpretation to a image.

Roland Barthes proposes that captions “anchor” images within written texts, “to fix the floating signifiers in such a way as to counter the terror of uncertain signs.”¹ This convention is so successful that, according to Elizabeth Chaplin, readers barely register captions as verbal instructions on how to read the image; instead, upon “reading” an image and its caption simultaneously, readers perceive “an image whose meaning is clear (whose meaning is ‘given’).”² Submitting to the author’s authority on how to interpret images in scholarly texts means that readers often overlook the fact that images also present arguments, and arrive before us loaded with the interpretive bias of the original image maker, as well as the biases embedded in an author’s caption.

Working against this convention of captioning, we consciously avoided pinning specific meaning to the illustrated plates in this book, by captioning them with quotations from the chapter instead of explanatory descriptions, hinting at rather than dictating an interpretation of the image. Unlike conventional academic figures, these images aim to complexify rather than simplify the written text. With this complexity, we invite the readers to experience fluidity of meanings obtained from images.

There are two types of images that appear within this book – *figures* supplied by authors and *illustrated plates* created by designers Katie Dean and Zoë Sadokierski. They both perform different functions in relation to the written text.

Figures in the book are either reproductions of cultural material which authors reference in their research (such as natural history illustrations, maps, photographs) or data visualizations created to summarize or demonstrate specific aspects of the research (such as charts, graphs and diagrams). Author-supplied figures are scattered throughout chapters and presented in a simple frame, such as this:

[Designer’s Method Fig. 1]

The second type of image in the book are *illustrated plates*, which appear at the start of each chapter, such as this:

[Designer’s Method Fig. 1]

¹ Roland Barthes, *Image – Music – Text*, trans. S. Heath, (New York: Hill and Wang, New York, 1977) p. 39.

² Elizabeth Chaplin, ‘The convention of captioning: W.G. Sebald and the release of the captive image’, *Visual Studies*, vol. 21, no. 1, 2006. pp. 42–53.

These plates have been digitally collaged from archival material relevant to the chapter, supplied by authors and sourced by the editors and designers. Rather than providing visual evidence or visual summaries of a particular aspect of the written text, these images are visual provocations; they are deliberately complex, ambiguous and often surprising, inviting readers to critique the way the archival material is visually represented in scholarly publishing, and the inherent bias embedded in the process of creating images. In this way, the plates function like editorial illustrations, inviting contemplation on a theme, problem or object central to the written text rather than illustrating a specific point.

Ideally, readers of this book who revisit an illustrated plate after reading the chapter may find, through reflection and deliberation, fresh interpretations of both the image and the written text. Readers must work through the assembled visual elements of the plate, in the same way that the authors (and editors, and designers) have worked through collections of material culture, to make sense of these complex phenomena.

Below, we frame collage as a critical image-making process and describe how our image-making practice for this book involved collaboration with the editors and authors, to provide insight into how images are created with particular bias and intentions, and to help guide curious readers toward thresholds of interpretation³ for the illustrated plates in this book.

Collage as critical image-making

The digitisation and open-access sharing of archival images from the collections of museums, libraries and galleries has resulted in historical images flooding digital platforms such as stock libraries, Flickr, Pinterest and the cultural institutions' own websites. Often released under Creative Commons (CC) licenses⁴, it is possible to download, share and print high resolution images onto everything from coffee cups to websites and commercially published books, without seeking permission or paying a fee. Although free to use, many CC licenses stipulate that the original source should be clearly credited. However, this cultural material is often used without such attribution, which uproots the images from the context of their production and original distribution. Any indication that this material was produced by people with particular cultural bias, in particular historical circumstances, is lost in the ether.

In addition to simply sharing and printing images, many artists and designers are 'remixing' archival material – collaging new images from fragments of existing images.⁵ Some frame this as a *critical practice*⁶ – using image making to think through ways to use this digital proliferation of material, but also to surface questions around potential issues with doing so. Curator and historian Louise Anemaat acknowledges “...digitisation has given us the ability to unlock new lines of investigation,” enabling us to trace the history of cultural

³ Gérard Genette describes paratextual devices which surround and present an author's 'primary text' to the reader, including the title, frontmatter, critical reviews and illustrations, as providing 'thresholds of interpretation' for that text.

⁴ See <https://creativecommons.org/licenses/> for a comprehensive overview of the various licenses individual creators, companies and institutions can apply to grant copyright permission for creative work. Creative Commons CC0 1.0 licenses in particular are used by many cultural institutions: “You can copy, modify, distribute and perform the work, even for commercial purposes, all without asking permission.”

⁵ See, for example, the Rijksstudio Award for remixing their collection in unexpected ways: www.rijksmuseum.nl/en/rijksstudio-award

⁶ Ramia Mazé provides a clear definition of critical practice in design in 'Critical of What', in M. Ericson, et al. (eds) *The Reader*. 2009.

images, to study and compare their stylistic variations, and to “...raise questions we might not have thought to ask, suggest possibilities we might not have considered.”⁷

The history of collage as a critical image-making process in Western art stems from early Modernism; the term was coined by Braque and Picasso from the French *coller*, or “to glue,” and has been used by avant-garde artists since the turn of the 20th Century.⁸ Performed with thought and skill, collage can produce complex and unsettling images. Collage can also draw attention to authorship, revealing the hand of the maker through unexpected cuts, connecting lines and juxtaposition – placing unexpected elements next to each other – that draw the viewer out of a state of passive viewing and into a stance of active, interpretive participant.

Through our own ongoing digital collage practices, we aim to unsettle viewers’ expectations of what a natural history illustration should look like, to prompt discussion around the way images are constructed and shared. By subverting familiar-looking natural history illustrations through collage techniques, we call attention to the fact that all images are fictions. A botanical specimen depicted with roots but not dirt, worms or other parts of the ecosystem it was pulled from is a fiction, a visual narrative that this specimen exists in white-backgrounded isolation. There is no evidence of the environment in which it was extracted, or the complex network of human and nonhuman actors involved in that extraction. Image makers choose what to include, but also what to omit, within the frame of the image. This example draws our attention to the fact that all representations of the natural world have been made by someone, or someones, with interpretive bias and following particular cultural and historical conventions for representing the natural world. Once this is understood, consciously questioning what has been omitted from images reveals the trace of the maker and context of an image’s creation; one of the key aims of the authors in this book.

However, in addition to critiquing what has been omitted and the conventions of representation related to the time and place of an image’s creation, considering compositional decisions including hierarchy of elements, color, size and graphic lines, also reveals traces of authorship and context, as discussed using examples of our image making process below.

Our image-making process

An initial set of questions underpinned our image-making process for *Natural Things*, based on regular conversations with the editors:

1. *How might we collage cultural materials together in ways which prompt viewers to consider the horror of human colonization, of exerting control over the natural world and indigenous peoples?*
2. *How might we draw attention to collection practices that isolate specimens from their environmental and cultural contexts?*
3. *How to capture the “absence” of representations in non-European archives? Through experimental image-making, can we bring hidden (silenced and mutilated) voices to the light?*

We follow a Research Through Design methodology, which recognises that questions and methods can emerge through design experimentation, and relies on Critical Documentation to

⁷ Louise Anematt, *Natural Curiosity: Unseen Art of the First Fleet*, (Sydney: University of New South Wales Press, 2014), 16-18.

⁸ Here, we refer to collage being used to produce socio-cultural and politically critical images. Historians trace the origins of collage more broadly as far back as 200B.C. in China, and many non-Western art practices involve collage as an image-making process.

capture and reflect upon insights that emerge through this design process in order to write about it later.⁹ For example, Dean wrote an email reflecting further on an image that was discussed during a collaborative working session:

I was reading about Ruysch's embalming jars last night and how he created decorative lids that reflected the life of the specimen contained within the jar. I think our approach is a similar type of visual construction that uses collage of separate elements to form a story around the natural object. I've also included some of Humboldt's maps to talk about how a comparative view can be created through collage, layering, juxtaposition, etc.

Here, a discussion about historical image making practices begins to inform our response to the questions we set ourselves at the start of the project. Below, accounts of creating images for two of the plates further explains the kinds of thinking-through-making and cross-disciplinary dialogue that underpin our critical practice.

Example 1: Pitcher plant

Visual strategies: Deliberate omissions, desaturation and subtle additions

For the pitcher plant collage, we slipped into choosing images based on aesthetic appeal (seduced by the beauty) and shape (whether the particular plant would work well as a repeating pattern in a border). For one draft, we mocked up a colorful border of vibrant, sensual pitcher plants using an Ernst Haeckel illustration. In conversation with author Elaine Ayers and the editors, we realized that using Haeckel's beautiful, intricate work is a problem for two reasons. First, continuing to promote well-known work, such as Haeckel's botanical illustrations, limits the diversity of historical material we see, perpetuating the idea that individual "champions" are responsible for history. Second, Haeckel deliberately reported false data in order to promote his theories, and according to some historians, promoted eugenics, a racist worldview. Further championing his work is to willfully overlook its complicated history. This problem was easily overcome by going back to a more considered selection process, working closely with Ayers to source and confirm appropriate images.

Another challenge in this plate was communicating the idea that through the colonial collection process, the specimens often ended up devoid of the color, vibrancy and "fleshiness" of the original plants – the very issue we describe in working with herbarium specimens in the Pollen chapter. For this plate, desaturating the plant in a gradient implies the "bleeding out" of liveliness of the living specimen.

The hidden rodent in the pitcher plant subtly plays out the idea of this as a "monstrous species," and hopefully presents a surprising discovery to the attentive viewer, to give a sense of the first encounters with these carnivorous plants by European botanists. Through ongoing conversations, Ayers understood that we needed visual material to collage into the borders; to replace the inappropriate Haeckel images, she suggested the snakes, which we would not have found on our own, but contribute a great deal to the final plate as a menacing visual metaphor for the dangers associated with hunting the pitcher plant specimens.

This account of our collaborative process speaks to the importance of ongoing, candid conversations as part of the image making process. Through cross disciplinary collaboration we become more informed, critical creative practitioners.

⁹ Zoë Sadokierski, 'Developing Critical Documentation Practices for Design Researchers', *Design Studies*, 69.

Example 2: Brain

Visual strategies: Subversion and visual humour

The “Brain” chapter describes embalmed brain specimens floating in jars, not just for study as biological organs but also representations of the abstract concepts of knowledge and intelligence. Communicating the variety of things that the brain, as an object, can represent as a single, flat image is difficult. The plate is an assemblage of elements: Gauss, with brain specimen illustrations floating around him to imply the non-physical things, such as knowledge and power.

The author-supplied images for this chapter presented an ethical challenge; we discussed our discomfort about the 1886 illustration of “Huxley’s Rule” which aimed to show a hierarchy of intelligences, placing the African female’s brain lower than the European male, and closer to the monkey and ape specimens. Despite being professional image-makers who understand that the construction of images directs what is communicated, we were initially so taken aback by the arguments presented through the diagram that we struggled to conceive an alternate, critical approach to visually communicate the subject. We aimed to disrupt how the image is read over and over again. In addition to subverting this conventional hierarchy by rearranging the placement of the brains, opening the top of Gauss’ head transforms his portrait into a surreal, Monty-Python-esque parody; a visual subversion of his authority. In our collage, Gauss’ “flip-top” head looks absurd, reflecting the farcical idea – to us, contemporary readers – that intelligence could be measured by examining the physical properties of a brain. Visual humor can be a powerful tool for destabilizing authority.

Concluding Remarks

A wonderful aspect of the design process was experiencing different ways to “come at” the visual material in this volume, expanding our perspective as designers with the expertise and perspectives of historians and cultural ecologists. The authors and editors were without exception generous and patient with us, nonexperts in their field, as we worked through the complexity of the material associated with their scholarship. The plates, each a product of fruitful conversations incorporating multiple perspectives, are designed to be “discursive tools” which challenge our expectations about natural history illustrations in scholarly texts. The new conversations and lines of inquiry these images might open up across disciplinary divides is exciting. Amy Friedlander argues that multidisciplinary collaboration in the digital humanities has the potential to prompt “creative cross fertilization of ideas and techniques” which can allow for new questions and ideas to be pursued.¹⁰ This volume embraces cross-fertilization as central to both its intervention in the history of science, and its presentation of that research through the visual material integrated within the written text.

¹⁰ Amy Friedlander, ‘Asking Questions and Building a Research Agenda for Digital Scholarship,’ in *Working Together or Apart: Promoting the Next Generation of Digital Scholarship: Report of a Workshop Cosponsored by the Council on Library and Information Resources and The National Endowment for the Humanities*, Washington, DC: Council on Library and Information Resources, 2009, 1-15.