RE-ANIMATING MODERNISM

PICTURE LANGUAGE, MUSEUM DISPLAY AND VISUAL REPRODUCTION

MICHELLE HENNING

A thesis submitted in partial fulfilment of the requirements of the University of Brighton for the degree of Doctor of Philosophy (by Published Works)

October 2015
Abstract

This work, six published essays and one book, contributes to the historical and theoretical understanding of nineteenth- and twentieth-century culture through two case studies: museums, understood in relation to the larger history of practices of collecting and display and to the development of media since the nineteenth century; and Otto Neurath, who was, among many things, a key member of the Vienna Circle and inventor of Isotype, one of the first systematic methods of what we might today term data visualization or information graphics. An introductory essay focusses on Modernism and materialism as two central themes and theoretical concerns that emerge in these writings. For the submission the writings are divided into two groups: A materialist Approach to Cultural History via Otto Neurath, and The Museum as Material and Media. The introductory essay explains and contextualises these groupings, showing how the writings included here develop a distinctive approach to cultural history and museum studies.
Table of Contents

Declaration of originality 1
Acknowledgments 3
List of publications included in the submission 5
List of illustrations 6

CRITICAL APPRAISAL

Introduction 9

1 Materialism and Modernism
Revisiting Modernism 13
New materialism 15
Media archaeology and memory 18
The agency of things 22
Affect and the senses 26

2 A Materialist Approach to Cultural History via Otto Neurath
The significance of Neurath's work 30
History, empathy and archive fever 34

3 The Museum as Material and Media
Media in museums and museums as media 39
The playful and post-photographic museum 42

Conclusion 44

Michelle Henning - Published works / papers available online 46
Works cited 48

PUBLICATIONS

A. – A Materialist Approach to Cultural History via Otto Neurath
“Neurath's Whale.” (2011) 85

B. – The Museum as Material and Media
“Legibility and Affect: Museums as New Media.” (2007). 124

Declaration of Originality

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signed  M. C. Neumann

Dated  23 March 2016
Acknowledgments

The writings included in this submission for a PhD by Published Works have been produced over the course of a decade, and the people to whom I am indebted are too many to list here. They include my publishers and editors, referees and reviewers, and my colleagues, particularly at the University of the West of England where I worked for most of this time. I would like simply to thank three of my past colleagues, Ben Highmore, Richard Hornsey and Gillian Swanson for their influence on the whole trajectory of my work. I would also like to thank colleagues at the University of Brighton for their support, particularly my supervisor Jeremy Aynsley for his kind and sensitive feedback and help.

None of this work would have been possible without the support and encouragement of John Parish. Our daughters, Honor and Hopey Parish have also influenced these writings in subtle and untraceable ways, mainly by making me happy.
List of Publications Included in the Submission

A. – A Materialist Approach to Cultural History via Otto Neurath


B. – The Museum as Material and Media


List of Illustrations


3. Isotype symbols for pasting onto charts. In the Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading. Photograph: Michelle Henning 2008.


5. Vienna Method Chart produced by the Vienna Mundaneum, 1933. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.


7. Interactivity in a Vienna method exhibition. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.


9. Otto Neurath letter to Hall the Printer. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.

10. Hall the Printer letter to Otto Neurath. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.
Figure 1. The Primate Hall, Natural History Museum, London. Photographed with permission by Michelle Henning as part of the research project Museum Taxidermy and the Management of Attention (2000).

Figure 2. The Akeley Hall of African Mammals, American Museum of Natural History, New York. Photographed with permission by Michelle Henning as part of the research project Museum Taxidermy and the Management of Attention (2000).
CRITICAL APPRAISAL

Introduction

The writings included in this submission for a PhD by Published Works bring together museum studies, media studies and cultural history, and are informed by traditions and perspectives developed in the fields of art history and design history. They are about visual culture and museums in an age dominated by electronic and photographic reproductive technologies, and particularly (though not exclusively) in the context of Modernist culture. I have explored these areas of enquiry through research while continuing to practise as an artist; both my theoretical perspective and my approach to archival research are influenced by this experience of making.

Sometimes, writing and image making were done in parallel as part of the same funded research project: for example, the photography that formed part of my British Academy-funded museums research (figs.1 and 2), and my AHRC-funded research on Otto Neurath and the Isotype Institute (fig. 3). At other times, visual work has been a different means of exploring some of the ideas presented here in written form, such as the materiality of the visual (fig. 4).

The writings included here were published over a period of ten years, and I had been publishing academic essays and chapters for a decade before that. The particular trajectory of this research was not guided by a long term research plan, but encouraged and shaped by a teaching career in cultural studies, as I explain in the acknowledgments and introduction of Museums, Media and Cultural Theory (included in this submission). It has also been given this specific form by the themes of conferences and books, commissions and requests from editors, as well as ongoing discussions with colleagues. In short, and largely unlike a conventional PhD, my work, and the approaches and interests it represents, developed organically and intuitively over a very long period. For this submission, then, I have selected writings that best exemplify these approaches and interests.
Figure 3. Isotype symbols for pasting onto charts. In the Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading. Photograph: Michelle Henning 2008.

Figure 4. Dirty Sunset, from the exhibition Everything is Twice (Bristol 2012). Photograph: Michelle Henning 2012.
This work contributes to the historical and theoretical understanding of nineteenth- and twentieth-century culture through two case studies: museums, understood in relation to the larger history of practices of collecting and display, and to the development of media since the nineteenth century; and Otto Neurath, who was among many things a key member of the Vienna Circle and inventor of Isotype, one of the first systematic methods of what today we call data visualization or information graphics (figure 5). Both case studies may initially appear peripheral to the study of Modernism as such, but my work aims to show that they have shaped the ways in which both Modernism and modernity have been understood as historical phenomena. In my writing, they offer a means to develop a specific and differently nuanced approach to cultural history with an emphasis on materiality, and everyday, sensory experience.

The significance of museums for Modernism is evident from the fact that they are places for experiencing Modernist art, which is primarily museum art (regardless of twentieth-century avant-garde attacks on the museum as mausoleum). For Modernists, museums and exhibitions were also test sites for all sorts of techniques for engaging and interacting with audiences, for combining different kinds of media and modes of communication, and for constructing immersive experiences that in some respects anticipate contemporary digital media forms. As I argue in Museums, Media and Cultural Theory and in “Legibility and Affect” (also included in this submission), in the context of the museum these emerge out of typically modern concerns such as El Lissitsky’s desire to jolt the viewer out of passivity and into historical agency. Modernism, I suggest, is also indebted to Romantic ideas of the autonomy of the artwork and the ability of objects to “speak” to us through handling. Modern ways of classifying objects overturned the older categories of the curiosity cabinet, but following the art historian Stephen Bann, I argue that there has been a return to aspects of curiosity culture, both in museum displays and in contemporary online culture.¹

My second case study, Neurath, was until recently a neglected historical figure. Both Neurath and Isotype were situated outside the formal institutions of design and academia: Neurath’s involvement in the 1919 Munich revolution barred him from

continuing a university career, and despite his connections with organisations like CIAM and the Bauhaus, Isotype was never part of a design movement or school. However, as I suggest in the essay “Living Life in Pictures” included in this submission, both Neurath and Isotype have served as key examples in arguments about Modernism’s philosophical and sociological underpinnings and in the critique of modern social and economic planning. For theorists and historians of Modernism, Neurath’s work acts as a bridge between philosophical positivism, rationalist planning and Modernist art and design. My interest is to do with how his practices, his published arguments, and his correspondence suggest different ways of thinking through these connections and how they might be useful for understanding the legacy of Romanticism in Modernism, as well as the relevance of Modernism today.

This introductory essay highlights the common themes in the writings included in the submission, with some reference to my other writings. Two major themes that run through this work, although they are not always theorised explicitly, are Modernism and

---

materialism, and I have chosen to focus on these here. The first section of this essay explains how these are articulated in my writing, beginning with the transformation of the everyday in Modernism; avant-garde exhibition experiments, and the ways in which Modernist practices anticipated, and help to produce, certain kinds of future. It goes on to discuss the emergence of “new materialism” in cultural and social theory; questions of affect and embodiment; theories that attribute a kind of agency to objects in ways that verge on animism and anthropomorphism; and finally, the idea of a materialist aesthetics. I have divided my writings into two groups: A Materialist Approach to Cultural History via Otto Neurath, and The Museum as Material and Media. The second and third sections of the essay explain and contextualise these groupings, showing how the writings included here develop a distinctive approach to cultural history and museum studies.

1 Materialism and Modernism

Revisiting Modernism

Modernism and modernity are ambiguous and contested terms within all the fields that I engage with. I use them along the lines suggested by David Harvey (1991), with modernity broadly describing a historical period of rapid social and technological change, but complicated by the fact that modernisation is geographically and temporally uneven. As I state, modernity alters “even those things we tend to view as permanent or eternal: the structure of memory, of the self, of experience”.3 Thanks in large part to Max Weber (1905), we tend to understand it in terms of technological progress, rationalisation and the disenchantment of the world. This characterisation has been challenged in recent writings.4 In my writing, I have two reasons for being particularly interested in the ways in which “enchantment” persists in modernity: because of how this unsettles ideas of straightforward or progressive historical development, and because of its implications for contemporary understandings of material objects.

Modernism is, in Harvey’s definition, “a troubled and fluctuating aesthetic response to conditions of modernity produced by a particular process of

3 Henning, Museums, Media and Cultural Theory, 2.
4 Weber’s influential essay “The Protestant Ethic and the Spirit of Capitalism” was first published in German in 1905, although it is only in the later editions that Weber uses the term Entzauberung (disenchantment). Recent critics include Bruno Latour in We Have Never Been Modern (Cambridge, MA: Harvard University Press, 1993), 115 and Jane Bennett in The Enchantment of Modern Life (Princeton: Princeton University Press, 2001), 57.
modernisation”. It is usually understood as the dramatic reinvention of formal and aesthetic language across the arts, but I describe it, in “The Pig in The Bath” (included here) as: “a collection of diverse attempts to shape and manage human consciousness and subjectivity through the remodelling and reinvention of everyday material things, and thereby of experience, perception and habit”. More than a set of aesthetic experiments that take place in an artistic sphere, Modernism includes transformations that impact on daily life, especially, but not exclusively, through Modernist design practices. In the early twentieth century, to commit to Modernism was to commit to the radical transformation of everyday life. To the historical avant-garde, remodelling and reinventing everyday material things meant altering human perception, habit, and bodily disposition. In “Legibility and Affect” I suggest that “the Modernist, rationalised thing was seen as the means by which a new political consciousness would be engendered”. Modernist exhibition designers saw great potential in the exhibition medium because of the way exhibitions choreograph visitors; pioneers such as Herbert Bayer and Frederick Kiesler saw themselves as producing new experimental forms of social space.

A dominant strand of Modernism is both future orientated and Utopian, anticipating technological and social changes that had not yet happened, as I suggest in “Legibility and Affect”. In these imagined futures, we can read the alternative potential of current media. Such future orientation can be found in the writings and exhibition experiments of Otto Neurath, as well as in the installations and exhibitions of the artistic avant-garde. I argue that the 1920s mark a “moment of possibility before the actualization of new media” that might, for example, allow us to think afresh about the current encounter between museums (particularly art museums) and computer based media.

There is a close connection between certain Modernist art and design practices, and social / philosophical developments such as Taylorism (the rationalisation of labour) and positivism. This can be seen in Neurath’s work and indeed, he has been

used to demonstrate the connection. However, in “Living Life in Pictures” I try to show how Neurath engaged with such things critically and sceptically: this is demonstrated by discussions between Neurath and his friend the designer Josef Frank, over examples such as Margarete Schütte-Lihotzky’s pioneering and Taylorised fitted kitchen (the Frankfurt kitchen of 1926), and by Neurath’s writings on Isotype, logical empiricism and his “Converse Taylor System”.

New materialism
A central theoretical concern of the writings included in this submission is how to address the materiality of media and of displayed objects, without neglecting their symbolic or semiotic content. I reject the tendency in cultural studies and in museum studies to treat culture primarily as forms of symbolic and textual communication, rather than as something manifested in physical artefacts and spatial arrangements and daily experience. In many 1980s and ’90s studies of popular culture and media, for example, film would be discussed without reference to the technology of production, the projector or the furnished, architectural space of the cinema; television without reference to the living room; advertising without reference to the billboard, the magazine or the doctor's waiting room. As a corrective to this, some cultural studies scholars including myself, turned to writers such as Michel de Certeau and Raymond Williams, to focus on culture as lived, everyday practices, and to Walter Benjamin for his understanding of the impact of technological change on habit and sensory experience. In the writings included here, theorising media and museums in relation to everyday life or lived experience means paying attention to how the machinery or technology of displays engage us bodily, and the specific formal and material qualities of media. In “Legibility and Affect” I suggest that:

Insofar as cultural theory sees everything as mediated or discursively constructed, it is unable to register movement, matter, sensation. Media studies frequently leaves out one of the most interesting things about media: their affective pull,

their production of feelings that do not necessarily support the ideational content of a given text.¹²

For ways of attending to the materiality of culture, I turn to a wide range of writings from the linked fields of art history, design history and cultural history, but also to theoretical and philosophical texts. The approach I take in my writing could be described as new or neo-materialist.¹³ These two terms seem to be used interchangeably by recent writers, to label a range of theoretical and artistic practices which emphasise the materiality of representations, and of human experience, but also (often) attempt to move away from anthropocentrism, and which emerge out of a critique of social constructionism and discourse theory.¹⁴ In my own work I arrived at this through a scepticism towards the claims being made for a supposedly dematerialising and virtual digital culture in the early 1990s and through an engagement with Benjamin’s writings, as well as with cultural-historical and feminist writings that emphasised embodiment, affect and the senses.¹⁵ My interest is also shaped by my experience, as an artist, of working with visual technologies (both digital and analogue) and with raw materials. In Museums, Media and Cultural Theory I wanted to build on the critical, theoretically-informed tradition of museum studies by introducing a perspective that was materialist in this sense of attending to the affective, material and embodied aspects of museums, recognising “that museum objects are constituted by the museum and are, at the same time, material things.”¹⁶

The writings included here share the new materialist rejection of cultural materialism and social constructionism. In “The Pig in the Bath” I discuss the way

¹³ The feminist philosopher Rosi Braidotti traces the term “neo-materialism” back to the mid 1990s when it “emerges as a method, a conceptual frame and a political stand, which refuses the linguistic paradigm, stressing instead the concrete yet complex materiality of bodies immersed in social relations of power” – Braidotti in Rick Dolphijn and Iris van der Tuin, eds. New Materialisms: Interviews and Cartographies (Open Humanities Press, 2012), 21. It originates partly in feminist attempts to square a recognition of biological embodiment with the understanding that gender and sexual difference are culturally produced. It also develops in the context of science studies and ecocriticism, in the attempt to combine a scientific understanding of material reality with an acknowledgment of how this is woven together with humanly imposed meanings and narratives. For more on this see Serenella Iovino, and Serpil Oppermann, “Theorizing Material Ecocriticism: A Diptych,” in Interdisciplinary Studies in Literature and Environment 19, no. 3 (2012), 448.
¹⁴ See for instance Dolphijn and van der Tuin, New Materialisms.
¹⁶ Henning, Museums, Media and Cultural Theory, 2.
cultural materialism excludes matter by treating social existence as cultural text, so that subjectivity and consciousness, as well as knowledge of external reality are all understood as mediated ideologically and “the only spaces for opposition and for dissidence are found in textual ‘faultlines’".17 Against this I take the view that society and culture are constituted by behaviours, material things and cultural techniques that are not always guided by human intention or reducible to signs.18 I am interested in approaches that pay attention to “the frictions and lack of fit between physical, actual stuff and signification or ideology”.19

The various forms of new or neo- materialism are helpful in offering ways to think through the materiality of culture. At the same time, I am sceptical about the sharp distinction made by some writers, such as Iovino and Oppermann, between these and older materialisms.20 They tend to overlook the fact that (for example) Marxist historical materialism already understood nature and culture to be inextricable (viewing nature as part of human history) or that twentieth century versions of materialism (including Neurath’s “physicalism”) were already rooted in a rejection of a static model of a universe made up of matter, and already informed by relativity theory and quantum mechanics.21

Such arguments suggest that new materialism is distinctive in that it takes account

---

20 Iovino and Oppermann, “Theorising Material Ecocriticism,” 449-452. A renewed science does not necessarily make the difference they claim. Attacking materialism for its supposedly mechanistic view of humankind, Karl Popper acknowledged that “the universe now appears to be not a collection of things but an interacting set of events or processes” – Karl Popper and John Eccles, The Self and Its Brain: An Argument for Interactionism (New York: Springer International 1977), 7. Yet for Popper, materialists who took this into account did not cease to be mechanistic but instead conceived of people as “electrochemical machines”. Popper may not have been right to see materialism as inevitably mechanistic but I think he was correct insofar as changing the scientific basis did not alter the fundamental manoeuvre of the materialist, which is to root culture, thought, spirit and emotion in the physical world. When W.V. Quine wrote of himself as “a physical object sitting in a physical world” he used the science of his day, referring to light rays, and molecules bombarding him, and of tendencies inherent in his “original germ plasm” – W. V. Quine, “The Scope and Language of Science,” in The British Journal for the Philosophy of Science, Vol 8, no. 29 (1954), 1. But Quine's scientific references could be updated without damage to his argument, even if philosophical materialism characteristically exhibits “strong deference to the current content of science in matters of opinion about what there is” – van Fraassen, Bas C. The Empirical Stance (New Haven: Yale University Press, 2002), 59.
21 Einstein was an acquaintance of Neurath, who quoted him in his writings on “physicalism,” a version of philosophical materialism referring primarily to scientific language, to the question of how to make verifiable statements about the world, avoiding metaphysical claims that could not be empirically tested.
of the dynamic, complex and emergent vision of nature and the human body in contemporary science. In my view, this underestimates the value of the turn to older, even pre-modern concepts in the new materialist approaches. Materialism is made new not only by engaging with current science but also by re-addressing historical ideas and practices as a means to challenge or reflect on current ones. In the essay “With and Without Walls”, included in this submission, I discuss competing ideas about the materiality of artworks and photographs in the early twentieth century, with a view to reconsidering the ways in which aesthetic experience, and the practice of taking photographs in art museums, are currently understood and discussed. In “Isotype and Elephants”, I look at how 1940s writers attended to the materiality of signs via Egyptian hieroglyphics, Chinese symbols, cave drawings, and modern statistical symbols such as Isotype. What is at stake is not the accuracy of their understandings of Egyptian or Chinese history (or the history of Orientalism), but how they use these for thinking about language, writing and pictures as material practices of communication, and by extension for understanding the symbolic as physical and affective.

**Media archaeology and memory**
This historical concern situates my writing close to media archaeology, an approach that shares the anti-humanism of new materialism, in the sense that humans are not the primary focus of interest, and technologies and media networks take centre stage. As with new materialism, media archaeology proposes that these non-human things have agency. Media archaeologists such as Siegfried Zielinski and Friedrich Kittler characteristically focus on hardware, on media objects, which moves their work away from media studies’ traditional focus on the interpretations of specific media texts. Unlike previous media studies scholars, media archaeologists are more interested in the technical and formal impact of media than in their textual content. As I wrote in the introduction to my edited collection *Museum Media*, much like the revival of interest in Marshall McLuhan’s media theory in recent years, media archaeology is intended “as a corrective to analyses that treat media technologies as mere platforms for content”. Media archaeologists are interested in how to take account of the material specificity of media, and media archaeology fits within the new materialist paradigm in this respect.

---

22 Siegert describes German media theory as linked to “a revolt against the hermeneutical tradition of textual interpretation and the sociological tradition of communication. Siegert, *Cultural Techniques*, 5.
As with new materialism, “media archaeology” is a contested term, and different media theorists make different claims for it. At one extreme, just as new materialism can be deferential to current science, media archaeology could be said to defer to technology. Some media archaeology (particularly influenced by Kittler) is strongly technologically determinist and anti-humanist, an orientation is sometimes expressed in the adoption of a cybernetic / computing discourse (input-output, processing, coding, hardware-software, channel) to describe cultural and human processes. These information metaphors have consequences in terms of what forms of knowledge and enquiry they validate, as Paul Dourish and Melissa Mazmanian have argued. Kittler, in particular, used such metaphors knowingly, to disallow or rule out an older conception of a sovereign human subject, which he exposed as a product of one “discourse network”. But this media theory also broadens the definitions of both media and technology: index cards, writing slates, and pianos belong to an expanded category of media as “technologies of knowledge”. Bernhard Siegert has explained how shifting the idea of media away from the limiting concept of “mass media” was partly the result of information theory, which switched attention away from messages to channels of communication and to the “cultural techniques” through which signals are differentiated from noise and communication is established.

In my own writing, I share the media-archaeological interest in broadening the definition of media, in outmoded media forms, in challenging ideas of technological progress, and in the storage, memory and processing aspects of media. Media archaeologists interrogate past, outmoded media, but unlike conventional media historians they are not seeking the roots or origins of current media (Kittler’s late work excepted), so much as the paths not taken. Unlike the Anglo-American media studies tradition, they are less interested in media messages than in the practices or techniques

26 For example in Friedrich Kittler, Discourse Networks 1800/1900 (Stanford: Stanford University Press, 1992). For some, Kittler’s influence has also meant a shift away from a cultural studies model of media, implying also a rejection of the political commitment of cultural studies, by replacing the interest in the collective activities of people with an interest in the transformative role of technologies. However, these two things are not necessarily exclusive: the challenge is to understand human cultural activity in tandem with changed and transformative techniques and technologies.
27 Siegert, Cultural Techniques, 19-32.
that make such messages communicable at all.29 In relation to Neurath, museums and media, particularly photography, I seek out the Utopian elements of the past, in which we can glimpse other possible futures. I am asking: how might we conceive of the present differently, in the light of past exhibition experiments, technological developments, and techniques of communication and design?30 But also – what kinds of experience and understanding are made possible by a given method or technique of display?

German media theory, in particular, has transformed the discourse of media studies, shifting focus on to questions of time and temporality, and drawing attention to the memory function of media. Memory is a theme explored in *Museums, Media and Cultural Theory* because it relates to concepts of history and heritage, and a key issue in museum studies is the interrelationship between individual memory and testimony, shared cultural memory, and official histories.31 Media archaeology recognises the importance of storage as a function of media, while older forms of media studies tend to prioritise broadcast or transmission. This orientation towards memory, storage and hardware is particularly relevant to my work, which is not concerned with broadcast media but with media and communication technologies as a part of everyday experience.

In my 2015 interview with German media archaeologist Wolfgang Ernst, I suggested that Ernst’s writing on museums and history was particularly useful to museum studies because he conceives of media as machinic “techniques of remembering”32 Ernst links the storage and display capacities of the museum to data processing.33 He also suggests how photography, film and video, and electronic

---

29 In German media theory, from the 1980s, “the focus was less what was represented in the media, or how and why it was represented, or why it was represented in one way rather than another. In contrast to content analysis or the semantics of representation, German media theory shifted the focus from the representation of meaning to the conditions of representations [in]… an attempt to overcome French theory’s fixation on discourse by turning discourse from its philosophical or archaeological head onto its historical and technological feet.” Siegert, *Cultural Techniques*, 2-3.


databases all challenge the discourses and practices of history underpinning museums. Against the older conception of history as a fixed narrative, or of storage as a permanent state, media-memory offers a model that is active and mobile. Like human memory, digital memory degenerates: as Wendy Chun says, computer memory appears as permanent storage only because it is “constantly refreshed.”

In Freudian psychoanalysis, memories are deeply rooted in the unconscious, recurring in consciousness as (often misleading) fragments. Sigmund Freud’s use of metaphors such as the “mystic writing pad” suggests that this theory is a product of the developing media age in which he lived. In his account, consciousness appears to be something like a constantly refreshed input and transmission system, and the unconscious is processor and storage. Thomas Elsaesser even suggests that Freud, “comes close to specifying the machine requirements for an input / processing / output system.” In my early writing, I used Freud’s argument, in “Beyond the Pleasure Principle” (1920), that consciousness is a “protective shield”, together with Benjamin’s rereading of it, to explore nineteenth and early twentieth-century ideas of femininity and urban experience. More recently I have returned to it to think about media memory. If, as Benjamin suggests, consciousness aims to “parry the shocks” of modernity, then media too might be thought in terms of not just what they store, but what they push away or exclude. Media, in this analogy, might be thought of as a prosthetic means to parry shocks, allowing for the safe processing of stimuli.

Electronic media and museums are active and material, not passive carriers of data or content. As I argue in *Museums, Media and Cultural Theory*, museum objects are not simply stored and displayed, inserted into narratives and given new meanings, depending on the exhibition context. Rather, they are produced as new kinds of things, possessing certain museum-specific qualities, and yet not entirely controlled by the

---

34 Wendy Hui Kyong Chun, “The Enduring Ephemeral, or the Future is a Memory,” in *Media Archaeology: Approaches, Applications and Implications*, edited by Erkki Huhtamo and Jussi Parikka (Berkeley: University of California Press, 2011) 197. Chun argues, “Memory is an active process not static. A memory must be held in order to keep it from moving of fading,” 195.


37 Michelle Henning, “Museums, Media Archaeology and the Image,” paper given at *Archaeologies of Media and Film*, University of Bradford / National Media Museum, 4 September 2014.
museum being able to “act” in ways unanticipated by curators. Visitors “trained” in various kinds of media, bring various modes of attention and perception to the museum, but art museums, in particular, address a much older Romantic conception of communion with the art object, itself rooted in an animist understanding of objects as able to return the gaze or speak to the soul.  

The agency of things
Some of my recent research considers how such a Romantic animism persists in Modernism. In “The Pig in the Bath”, I introduced this idea through Neurath’s references to the mine and to Egyptian hieroglyphics, but it also recurs in a different way in my various discussions of Benjamin’s concept of aura and the autonomy of art, for example in “With and Without Walls”. At stake here is the question of whether accounts of “disenchantment” in modernity are persuasive and also to what extent rationalism, functionalism and positivism really do free themselves from an older, almost magical understanding of the power of objects (artefacts and technologies, but also plants, rocks and so on) to communicate and to act. In Modernist design for example, the attempt to retrain the senses and produce new habits or a new way of life through new environments and furnishings suggests both subject-like objects and object-like human subjects. The Marxist concepts of alienation and reification suggest a similar blurring of subject and object in modernity, while the desire for a “picture language” (such as Isotype) that bypasses the ambiguous mediation inherent in speech and writing seems to be rooted in the notion of a “pure” language of things, which is also found in Early German Romanticism.

Some Romantics, such as the poet Novalis, or the educator Friedrich Froebel, developed their animist vision of the world through mineralogy. They saw human consciousness and spirit as bound up in sensuous, physical nature. While modernity is dominated by a vision of nature as so much raw stuff for human exploitation, the Romantic consciousness that developed in the context of the early stages of industrialisation envisaged an animate universe in which humans and nature were much

more interconnected. As Esther Leslie explains, some Early German Romantic philosophy “posits that nature external to us, as embodied in plants, the rocks, the stars, is the possessor of subjectivity and agency”.  

40 In *Museums, Media and Cultural Theory* and in conference papers, I have looked at the work of Friedrich Froebel (1782-1852), who became a pioneer of what would later be termed “learning through play” as a result of his work with minerals in the Berlin Mineralogical Museum. His pedagogical system was predicated on the ability of apparently inert matter to speak to a child through tactile as well as visual exploration: reason, aesthetic sensibility and the capacity for representation and mimesis, could all be developed by the under-7s by playing with Froebel’s carefully designed “gifts”, which included various sets of wooden building blocks (fig. 6), peas and sticks, and cut paper shapes.  

41 In this mystical Romantic conception, humans are connected to the rest of nature through empathy and mimesis,

---

and nature is neither static nor mute, though it speaks in a language no longer understood.\textsuperscript{42}

As I have argued, contemporary accounts of the agency of things do not go so far as to subscribe to animism, but range from straightforward if detailed accounts of the ways in which material circumstance shapes human history, to more complex accounts of the entangled relationships between people, creatures and material objects.\textsuperscript{43} I use three of these accounts in my work: by Bruno Latour, Bill Brown, and Arjun Appadurai. Latour’s argument that modern science produces “quasi-objects” and “quasi-subjects” (terms taken from Michel Serres) challenges subject-object distinctions and suggests a world in which the lines between the things we conceive of as nature, and the things we conceive of as human, are very blurred.\textsuperscript{44} Together with Lorraine Daston and Peter Galison’s work on scientific objectivity, and Philip Fisher’s writing on art, Latour’s writing offers ways of understanding the identity of things as being produced and embedded through practices, procedures and protocols. In the essay “Neurath’s Whale”, I suggest that “in altering our access, orientation and interpretation, exhibitions alter the properties of objects” but also “The whale exhibit’s communicative aspect is part of its materiality, not a superimposed layer that we can peel off and replace at whim”.\textsuperscript{45}

A second influential set of ideas about the agency of things can be found in Bill Brown's “Thing Theory” (2001). Perceptions of the material world as animate and alive are significant for Brown because they point to the moment when things cease to become objects for us, and become things in themselves. Via Heidegger, Brown draws attention to the resistant and awkward nature of materials that both limits and facilitates what people can do. Even museum objects, which, as I have argued, are heavily constructed and circumscribed by the museum's practices and techniques, are refuseniks

\textsuperscript{42} “In such a vision, all is alive, historical and subject to change and movement. History is in nature, and nature an animated unity” – Leslie, Synthetic Worlds, 13.


\textsuperscript{44} Bruno Latour, We have Never Been Modern (Cambridge: Harvard University Press, 1993); Serres, Michel, The Parasite (Baltimore: Johns Hopkins University Press, 1982).

rejecting their “designated roles” and resisting “the attempt to make of them coherent narratives or to marshal them for the purposes of moulding good citizens”. 46

The third account of animate things that I use is from anthropology. Anthropological theories regarding the “social life of things” position objects as the central subject of historical or anthropological narrative. They treat things as if they are animate or alive, in order to effect a shift in perspective, tracing “object biographies” for what they can reveal about human societies. 47 Liveliness here is metaphoric: anthropologists such as Ivan Kopytoff and Appadurai find it to be a useful methodological assumption, an “as if” which allows interesting and productive anthropological enquiry. 48 However, the cultural historian Ivan Gaskell argues that “to use a thing as though it were alive is not the same ontologically as for it to be alive” and that both “life” and “things” are unstable concepts that are not settled even within a Western philosophical or scientific framework. 49 Sometimes this “as if” wobbles, and the distinctions between dead matter and human sociality and vitality fall apart. The theorist most attuned to this is perhaps Benjamin who combines (amongst other things) Marxist historical materialism with an early German Romantic sense of the empathetic relations of objects and subjects that survives in broken traces, in modernity. 50

These ways of thinking about material things inform both my understanding of museums and of Modernism, particularly in two essays included in this submission: “The Pig in the Bath” and “Legibility and Affect”. In “Legibility and Affect”, I draw on Boris Arvatov’s essay “Everyday Life and the Culture of the Thing” (1925) to suggest a connection between his understanding of mass production under capitalism, and the avant-garde reinvention of the exhibition according to a Modernist understanding of the agency of material objects. 51 As Brown summarises, “the modern separation of inanimate objects and people is challenged by the avant-garde, who worked to deny the

46 Henning, Museums, Media and Cultural Theory, 2.
49 Gaskell also points out that “the assumption that a capacity for exercising agency is a characteristic of life remains questionable”. See Ivan Gaskell, “The Life of Things” in Henning, ed., Museum Media, 168 and 186.
distinction between subjects and objects, people and things”. From the Russian Constructivists’ socialist objects discussed in Brown’s essay to Josef Albers’ notion of a chair as an object that “embraces” a person, Modernist things are lively things even while Modernists are accused (not least by Neurath) of ignoring the ways in which people actually live in their attempts to use objects to shape a “new way of life”.

In “The Pig in The Bath”, I explore Neurath's perception of modern and Modernist functional things, in the context of debates around social planning and modernisation. The discussion between Neurath and British town councillors involves things and animals (pigs, coal, bed-bugs) used by the councillors as tropes to represent the filthiness of slum-dwellers (“the kind of people who keep coal in the bath”). Neurath’s insistence on treating them as actual entities challenges the social hygiene discourse and is connected to a Modernist design approach in which things have their proper places that they can be assigned by good design. Though less moralistic, this represses the awkward, unruly aspects of things: pigs, coal, bed bugs and the tenants themselves tend to pop up where they are not wanted, refusing a neat order of things. Contrast this with the view of things as obdurate, kept orderly only through the great effort invested via interpretation and culture. Human beings are surrounded by unruly things, often of their own creation, and Neurath’s variety of Modernism both suppresses and exposes the agency of these things.

**Affect and the senses**

My interest in the instability of subject-object distinctions is connected to a concern with modes of attention, from certain kinds of aesthetic contemplation (discussed in “With and Without Walls”), to the kinds of fascinated awestruck looking associated with sights that are unclassifiable, astonishing or difficult to absorb. Ways of articulating the kinds of pleasure and forms of attention associated with the uncontainability of things can be found in the Early Modern period when modern scientific classificatory systems are still in the process of being established. Gillian Swanson writes of “the pleasure in the curious as a pleasure in something which is outside intelligibility”; Harriet Ritvo talks about the meanings of the “nondescript”: historically not something that is hard to describe because bland, but something

---

unaccountable for in the current classification system. Wonder is institutionalised in the Wunderkammer but distinct from curiosity in that it stops one in one’s tracks, and it too is provoked by encounters with things that cannot (yet) be tidily classified. While film theory has made much of the gaze, there are other, more explicitly embodied ways of looking such as gawping, gawking or rubbernecking.

Ideas of embodied looking also emerge in the history of forms of attention and apperception. I am particularly indebted to Jonathan Crary for the way in which he theorises attention as a problem that has to be “managed” in modernity. In my research on taxidermy and in *Museums, Media and Cultural Theory*, I used this idea to consider how public museums have always had to negotiate the problem of what forms of attention are proper to them, and have historically worked to discourage those forms of attention more associated with popular entertainment. Critical accounts of the museum have understood this attention management as part of the ‘disciplinary’ function of the museum (the production of docile citizens) but have underplayed the extent to which museums share the techniques of popular spectacle, and how this might mean they invite (perhaps inadvertently) ‘improper’ kinds of attention.

Attention has also been explored using theories of affect. In “Legibility and Affect” I discuss the remediation of the museum in terms of its “affective impact”. Following Brian Massumi (2002), who describes affect in terms of an “intensity” of sensations, in my essay I am not much concerned with the particular emotional content of the museum visitor’s experience. According to Ruth Leys, affect theorists such as Massumi, who focus on intensity rather than content, end up indifferent towards the

---

57 Henning, Museums, Media and Cultural Theory, 53-58.
58 The “affective turn” in the humanities, influenced by the work of Deleuze and Guattari, broadly describes an attempt to move beyond semiotic theories of representation and to attend to sensation and movement. Affect theory also connects the humanities to psychological theories of the emotions – see for example Eve Kosofsky Sedgwick and Adam Frank, “Shame in the Cybernetic Fold: Reading Silvan Tomkins,” *Critical Inquiry*, vol. 21, no. 2 (Winter 1995).
specific content or meaning of a given work of art, piece of media and so on. Similar criticism could be made of media-archaeological writings in which meaning and social impact can become indistinguishable from one another, and the meaning of a technology becomes its role in shaping behaviour and transforming ways of thinking. However, indifference to content does not necessarily follow: I turned to affect theory as a means to complement an interpretative approach, alongside broadly phenomenological accounts of the orientation or disposition of subjects towards objects. Leys argues that affect theory replaces interpretation with audience response. I disagree. In all the writings included here, I treat the meaning of the museum object (such as a whale model) or indeed any cultural artefact as inseparable from the embodied experience of viewers, but also as irreducible to that experience, just as it is not reducible to the intentions of the artist or museum. Even the feeling of being in the presence of (for instance) the whale will be historically specific and dependent on prior experience and disposition.

Benjamin too, was interested in the question of how technologies shape consciousness, for example how the way that the newspaper separates and compartmentalises information shapes knowledge and understanding, but his approach could not be described as indifferent towards content. Benjamin regarded sensory experience as technologically altered in modernity. He suggested that in the modern period it was becoming increasingly hard to make experiences – the things that happen to us – into any kind of deeply embedded and practical understanding, that is, into experience as such (this connects with the earlier point about “parrying the shocks” of modernity). This is the consequence, he suggests, of a period of rapid and accelerating social and technological change, which exposes individuals to an onslaught of stimuli, while at the same time they are unable to establish a stable, unchanging position from which to view the world. Key here is the recognition that change in the material conditions of existence entails change in sensory experience, which in turn might entail change in the ways in which the body itself operates. Similarly, socio-historical

62 Leys “The Turn to Affect,” 451, footnote 31.
analyses of sensory experience in technological modernity are concerned with the historical transformation of bodily practices and affects that we tend to regard as eternal and biologically fixed.65

In “With and Without Walls” and “Legibility and Affect”, the question of affect is closely connected to questions of aesthetic experience, because aesthetics is always a matter of sensibility and sensuality as well as interpretation. The art museum vacillates between treating art objects as documents, staging posts in an art historical narrative, and objects of secularised communion.66 In this context, aesthetic experience appears as serious and ideally silent contemplation. The distinction between this and pleasurable “play” is central to what Jacques Rancière terms the “distribution of the sensible” in which taste, sensibilities, and aesthetic experience are all elements of a larger social parcelling-out of what it is possible to think, feel and experience, across social hierarchies.67 For Rancière, the politics of the aesthetic necessitates the redistribution of the sensible. For Benjamin, play is the suppressed other half of aesthetic contemplation.68 The space for play (“Spielraum”) refers not just to play in the sense of pleasure and entertainment but also a certain elasticity or “give”. This is connected to circulation and mobility, the uncontainability of images, which can move between bodies and media. Such ideas are broached by Hans Belting in his writings on embodied images and by Michel Foucault in his dream of a “new age of curiosity” that would involve “multiplying the channels” of communication and in his account of the nineteenth century “play of images” that involved a joyful circulation of visual material.69

---

66 Henning, Museums, Media and Cultural Theory, 15-17.
67 Jacques Rancière, The Emancipated Spectator (London: Verso, 2009). This idea is compatible with the German media theory discussed earlier insofar as the distribution of the sensible might be understood as a media-technical as well as cultural process.
2 A Materialist Approach to Cultural History via Otto Neurath

The significance of Neurath's work
Four of the writings included in this submission are centrally focussed on the work of Otto Neurath. I have titled this cluster of writings A Materialist Approach to Cultural History via Otto Neurath because these essays are also developing, through the archival engagement with Neurath, my method of writing and research. I became interested in Neurath’s work through the small amount of writing on him in museum studies. He was, among many other things a pioneer of a kind of museum practice which embraced early media, with collections of statistical charts, maps, photographs and models, all produced specifically for the museum in the 1920s and early ’30s. Collapsible modular display systems allowed the museum collections to circulate as exhibitions, while technical innovations (film and slide shows, spotlighting, interactive and hands-on displays) pioneered new ways to entice and engage with audiences, alongside what we might now term “outreach” and educational projects. The role of the “transformer”, pioneered by Marie Reidemeister (who later became his wife, Marie Neurath), was to mediate between researchers and designers, transforming data into legible visual form.
This approach to museum practice became influential again in the 1970s, when it influenced the new exhibition policies and practices of the Natural History Museum in London.70

Much more recently, Otto and Marie Neurath's visual method of Isotype (earlier known as the Vienna Method of Picture Statistics) has become fashionable in graphic design circles, and the subject of numerous books and exhibitions over the last decade.71 This renewed interest is partly to do with the visual elegance of the individual symbols, attributable to the artist Gerd Arntz.72 A number of exhibitions and publications have emphasised the visual qualities of the individual symbols at the expense of the larger method, paying less attention to their specificity for use in statistical presentations and the ways the symbols are organised within the larger Isotype charts.73 But another factor in the recent surge of interest is the increased role pictograms and visual symbols play in our daily lives (and in the design briefs of graphic artists) due to the rise of the visual interface in computing, which we use on laptops, phones, tablets, and now watches, as well as the increased internationalisation of products and markets (think of Ikea's visual instruction leaflets – see also fig. 8).

Neurath also offers a way into thinking differently about Modernism and modernity. I mentioned in the introduction to this critical appraisal that Neurath and Isotype are central to a contemporary understanding of modernity, and crucial to several discussions or characterisations of Modernism, even while they remain marginal and obscure. Indeed, Neurath appears to have been a key target in some of major (and very different) critiques of modern society and culture: Adorno and Horkheimer’s classic work of critical theory, *Dialectic of Enlightenment* (1944) includes passages indirectly targeting Neurath’s logical positivism, and builds on the earlier dispute between

72 Individual symbols designed by Arntz are showcased and downloadable from the Gerd Arntz web archive set up by Ed Annink, who died in 2012. Arntz’s son, Peter Arntz (1924-2009) also helped to promote and disseminate his father’s work in the early 2000s – alongside the Municipal Museum of The Hague, administrator of the Gerd Arntz archive. See http://www.gerdarntz.org/content/more-info
73 For example the exhibition *Lovely Language* (Centraal Museum Utrecht 2007).
During my research in Neurath’s various archives, I became much more aware of signs and symbols on my journeys to and from the archives.
Horkheimer and Neurath over questions to do with the idea of a measurable standard of living or quality of life; in Hayek’s *Road to Serfdom* (1944), adopted since the 1980s as a founding text of neoliberalism, Neurath is the principal target as a key proponent of economic and social planning.

In the 1980s, art and design theorists and practitioners revisited and challenged Modernist aesthetics and their social and philosophical implications, and they turned to Isotype as a case in point. The University of Reading, which holds the Otto and Marie Neurath Isotype Collection, produced an exhibition *Graphic Communication through Isotype* in 1975, which toured to Vienna, Linz and Gras, accompanied by a catalogue. The archive also produced facsimile versions of some of Neurath’s writings on Isotype.⁷⁴ Artists and design theorists were fascinated by the clean, pared-down aesthetic of Isotype, and how it revealed (in their view) the positivist rationalism at the heart of Modernism. As I discuss in “Living Life in Pictures”, the artist and theorist Victor Burgin (1986), the design theorist Ellen Lupton (1986), and Bruno Latour and Peter Wiebel in their exhibition *Making Things Public* (2005) represent Isotype as both a pinnacle of Modernist communication or graphic design and as something irredeemably associated with a discredited positivism and with the development of a disciplinary society (for Burgin). Another seminal text on Modernism, Peter Wollen’s “Cinema, Americanism, the Robot” (1988) also picked up on the renewed interest in Isotype, using it to demonstrate the relationship between philosophical positivism, the spread of scientific rationalism and Taylorism, and the development of a Modernist machine aesthetic. Peter Galison, in his essay “Aufbau/Bauhaus: Logical Positivism and Architectural Modernism” (1990), explored Neurath’s connections with the Bauhaus to make a case for the connection between functionalism in design and the philosophy of the Vienna Circle. These essays are discussed in more depth in “Living Life in Pictures”, which is an attempt to specify more precisely the connections between Isotype practice and Neurath’s politics and philosophy.

As these writings suggest, Neurath is best known for his invention of Isotype, and his philosophy (or anti-philosophy) of logical positivism, although he preferred the term “logical empiricism”. In philosophy, economics and social science a small number of writers have revived his philosophical work, suggesting that it is less crude than usually portrayed, setting out the difference between his arguments and those of other members

---

of the Vienna circle (notably Rudolf Carnap), and using his work in economic theory to challenge aspects of contemporary neoliberalism. One task of my writing on Neurath has been to bring aspects of this revised understanding to bear on Isotype and its place in Modernism.

**History, empathy and archive fever**
In “Living Life In Pictures”, I highlight some concepts from Neurath’s writings, particularly the early critiques of Taylorism and pseudo-rationalism, to show that Neurath was not, as he tends to be portrayed, a straightforward rationalist and functionalist. But I follow Wollen, Lupton and Galison in viewing Neurath as a key and a fascinating figure for the historiography of Modernism. Although neither an artist or designer, Neurath had close if not always harmonious associations with some of the most influential Modernist artists, designers and architects, as well as with the key scientific and philosophical figures of his time, and was closely involved in Modernist social planning both in Vienna and in Britain (as discussed in the essays included here). Indeed, through his personal contacts and involvements he links together different aspects of modern European society and culture, science and arts that are often treated in isolation and even as entirely separate and unrelated.

My writing on Neurath and Isotype also addresses the question of how modern theories of design and communication relate to older, premodern ideas and particularly how the materialist, anti-metaphysical philosophy of Neurath (and the “left Vienna Circle”) involves an understanding of material objects as shaping and determining human habits and consciousness. These arguments, introduced in “Living Life in Pictures” and in “Neurath’s Whale”, were developed further recently in a paper I gave at the University of Vienna, where I considered several things discussed by Neurath in the 1940s – tennis courts, fireplaces, and chairs, and Neurath’s ideas about social

---


Several of the publications included here were the results of an AHRC (Arts and Humanities Research Council) funded project called Re-animating the Modernist Symbol (2007). This project allowed me to research the archives of Otto and Marie Neurath and the Isotype Institute. I was interested in the extent to which these Isotype symbols could also be understood as hieroglyphics that retained aspects of Romantic thinking about the agency and autonomy of things and the empathetic relations of subjects and objects. My intuition was that despite the huge differences in their work, Adorno’s characterisation of Benjamin’s essay “The Paris of the Second Empire in Baudelaire” (1938) as standing at “the crossroads of magic and positivism” could also apply, slightly differently, to Neurath and to Isotype as a modern form of hieroglyphics.\footnote{Theodor Adorno, letter to Benjamin, 10 November 1938. In Henri Lonitz, ed., Theodor W. Adorno and Walter Benjamin: The Complete Correspondence 1928–1940 (Cambridge, Polity Press 1999), 283. On hieroglyphics in Romanticism, see Leslie, Synthetic Worlds (2005) 38-44.}

In the early 1940s in Britain, hieroglyphics and picture languages were discussed in relation to the problems of international communication in an anticipated postwar, postcolonial context. Addressing this context, the essay “Isotype and Elephants” compares the language-like qualities of Neurath’s own drawings and Isotype. In that essay, I am concerned first with exploring Neurath’s claim that Isotype might be considered a “picture language” and what exactly that might mean; and second, with testing out a method for evaluating, theorising and contextualising historical and archival material by situating it within the intellectual debates from the same period. Theories of Ancient Egyptian hieroglyphs and Chinese script that were operative in wartime Britain, or in 1920s and ’30s Vienna, may be viewed as inaccurate today, but for my purposes their importance is that they constituted a context for Isotype that is more specific and precise than the broader ideas about Modernism or positivism that have been used to contextualise Isotype in cultural history. The policy of using Neurath's own contemporaries and acquaintances as my key theorists avoids the risk of
Figure 9. Otto Neurath letter to Hall the Printer. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.

Figure 10. Hall the Printer letter to Otto Neurath. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.
ahistorical projection and allows for something like immanent critique, if immanent critique is understood in its most basic way as a critique that derives its standards from its object – or in this case from the intellectual and cultural environment of the object of study.78

My first experience of in-depth archival research was during this project on Neurath, at the Otto and Marie Neurath Isotype Collection, in the Department of Typography and Graphic Communication at the University of Reading. I also visited several European archives in which Otto and Marie Neurath’s documents and collections are held. The amount of material in the archives, both in English and German, is daunting. Initially I approached this material as I might approach making an artwork, looking for chance connections and things that jumped out at me as curious or significant. At Reading the correspondence was organised by name where the correspondents were well known (or known to the archivist at the time) and then by year where the correspondents were not. I chose to go through the unnamed correspondents (writing in English between 1940 and 1945). I was particularly struck by the number of women included in these files, who had been or would go on to become, significant and influential figures. But also, in this correspondence, Neurath’s humour, compassion and likeability come across, and with that the extent of his lived, progressive politics (his automatic assumption of equality regardless of gender, education, age or social class). Through reading the archive I discovered the possibilities inherent in the telling of detailed histories and close, first-hand reading of visual material, but also the complexity of empathy in historical research.

Empathy, or “Einfühlung” (one-feeling) – appears to bridge historical distance. Influenced by Berthold Brecht, Benjamin tended to view it negatively as the act of imagination through which the historicist travels to the past, unable to recognise her own role in constructing the past while at the same time preventing the past from having any bearing on the present.79 I use the term not just to express liking or sympathising

78 This is a simplified notion of immanent critique – for a discussion the complexity of immanent critique in the Marxist and Frankfurt School traditions see Titus Stahl’s paper “What is Immanent Critique?” (November 21, 2013). Available at SSRN: http://ssrn.com/abstract=2357957 or http://dx.doi.org/10.2139/ssrn.2357957
with a historical figure but in the historical sense of a feeling of continuity between the self (as a perceiving subject) and the object (in Romanticism, the natural world, but here, historical materials). In this older sense, deriving from Robert Vischer, empathy is part of aesthetic experience that implies a closing down of distance and a loss of self through immersion in the object.80 Feelings of empathy in historical research are complicated by the fact that research produces its own objects. As Carolyn Steedman argues in her book *Dust*, “the hard and clear advice from psycho-analysis” is that we are searching for lost objects which cannot be found: “This is not to say that nothing is found, but that thing is always something else, a creation of the search itself and the time the search took”.81

The problem is not that we empathise with something of our own construction, but that empathy, as part of the process of construction, involves self-projection. As Steedman argues, archival research may be a minority pursuit but it is nevertheless the product of a desire that is emblematically modern, “expressive of the more general fever to know and to have the past”. There is “the assumption that nothing goes away; that the past has deposited all of its traces, somewhere, somehow”.82 Indeed, according to Steedman, archival methods of historical research are linked to the nineteenth-century desire to close the “gap between the thing and its image” – that is, to nineteenth-century realism, to positivism and to the dream of unmediated representation, which one media technology after another seemed to promise. In this context, empathy plays a role in bringing the past closer and makes it seem knowable and unmediated. It risks losing the sense of rupture and historical strangeness that Michel Foucault, for example, was so keen to preserve. In the early twentieth century empathy became feminised, associated with uncritical absorption and identification with the mass media, and set against avant-garde techniques of alienation and estrangement.83 Yet as with the notion of feminine passivity, which I discussed in some of my earliest writing, and as with Benjamin’s reading of distraction, empathy is interestingly ambivalent.84 Like the wonder produced

---

82 Ibid., 75 76.
83 See Juliet Koss, “On the Limits of Empathy.” *The Art Bulletin* 88, no. 1 (March 2006). Also, Benjamin’s position of empathy, understood in relation to mass audiences, as well as in relation to Romanticism, is as ambivalent as his discussions of distraction and of aura, and closely connected to these.
84 On passivity and distraction see Henning, “Don’t Touch Me (I’m Electric)".
in early colonial encounters with the other, empathy is risky, it opens the possibility of “going native” in history, undercutting the primacy of the present by refusing to keep the past and its unrealised promises, at a safe distance.85

3 The Museum as Material and Media

Media in museums and museums as media
In the introduction to my 2006 book I explain that I am trying to “assemble a materialist study of the museum as media-form”.86 I used the term “assemble” because I was piecing it together, from studies in a wide range of disciplines and through a wide range of examples. Although several museum studies books could be called materialist studies of one kind or another, none tried to treat the museum as a form of media at the same time. I would make a distinction between treating the museum as if it is a form of media and classifying museums as media. In a strong and obvious sense, museums are not media: they are not electronic (usually), and as well as circulating representations, they circulate objects, in a way that does not hold true of other media. Treating museums as media can be very productive, because it allows us to ask interesting questions of them and how they operate but it could also overlook the most distinctive quality about them: their mobilising of “originals”, of the “things themselves”. Yet media too are insistently material, even as they appear to us to have a dematerialising effect. This idea of the museum as a house of originals is in fact a very recent one, and coincides with the rise of high-quality reproduction techniques. We see and value the special quality of museums, that sets them apart in a media-saturated world, only by contrast or juxtaposition with reproductive media; and public museums, which in their modern form emerge at the same time as technological media, produce or at least heighten the distinction as they reject reproductions.87

In the introduction to my edited collection Museum Media (not included here), I argued that although it might seem to be a move away from politics to prioritise the relationship between museum and media over questions of narrative content, ideology and discipline, there is nevertheless a certain political necessity to addressing “questions
of the transformation of history and memory by new media; the ways in which media habits and expectations are imported into museums; and the insertion of museums into a wider commercial and corporate landscape.\textsuperscript{88} If the introduction of different media into exhibition spaces brings affective changes, contemporary museums and galleries also gain new kinds of authority by invoking, adapting and quoting media genres and formats through their exhibition design and programming.\textsuperscript{89} Additionally, as a number of writers on museums and media have started to observe, visitors are importing new behaviours into the museum, which have developed in conjunction with new media technologies. For example, Erkki Huhtamo has recently argued that museums are finding it increasingly difficult to uphold traditional prohibitions relating to touching objects, in a society increasingly acculturated to touch screens and push buttons.\textsuperscript{90}

Concerns about visitors bringing into the museum behaviours and ways of seeing that are associated with other media can be found in historical examples too: in the 1970s, museum professionals worried that visitors were becoming inattentive and attributed this to the negative influence of television.\textsuperscript{91} As I discuss in the introduction to Museum Media, the association of museums with contemporary entertainment media and technologies has often been regarded as a problem. In particular, interactive, participatory and “hands-on” exhibits “have often led to accusations that the museum is treading too closely to other nonserious popular contexts such as the circus, the dime museum, and the fairground.”\textsuperscript{92} The pioneering exhibition Cybernetic Serendipity at the ICA in London attracted just this kind of criticism as did the 1977 Human Biology exhibition at the Natural History Museum, London, which critics described as a “cheap disco,” a “lewd offal shop nightmare,” “tasteless,” and like a “fairground ‘tunnel of love’.”\textsuperscript{93} Kiesler and Bayer’s use of peepholes and other hands-on or interactive devices were met with similar disapproval: associated with Coney Island and “sidewalk

\begin{flushleft}
\textsuperscript{88} Henning, “Museum Media: An Introduction,” xxix.
\textsuperscript{90} Erkki Huhtamo, “Museums, Interactivity and the Tasks of ‘Exhibition Anthropology’” in Henning, ed., Museum Media.
\textsuperscript{91} Perks, “Transforming the Natural History Museum in London”.
\textsuperscript{93} On criticisms of Cybernetic Serendipity see Henning, Museums, Media and Cultural Theory, 88; on criticisms of Human Biology see Perks “Transforming the Natural History Museum in London,” 408.
\end{flushleft}
devices”. As David Goodman has pointed out, the museum is plagued with fears about populism and “dumbing down” that are linked to anxieties about the working class.

Our technologies provide models for the ways in which we imagine the world at any given time, and they transform the ways in which museums and exhibitions are organised. For example, in the age of decentralised, networked and mobile electronic media we tend to visualise connections between things and people in terms of networks. As I argued in a 2013 paper, network theory is not value free. It emphasises individuals and communication between them, while marginalising collectives and movements, and it highlights the importance of well-connected individuals. The network model also tends to reject history and chronology “in favour of an image of co-presence”. This model was adopted by the 2013 MoMA exhibition Inventing Abstraction: 1910-1925, curated by Leah Dickerman and Masha Chlenova, which used a network diagram to represent Modernism and structure the exhibition content. By contrast, when Alfred H. Barr wanted a model for Cubism and Abstract Art in 1935/36 he produced a scientifically-looking, evolutionary diagram that recalled the diagrams for switchboards and electronics. Here movements and styles were ranked hierarchically and everything ultimately pointed in the same direction (towards the present and towards abstraction).

Such changes are not merely changes in ways of conceptualising and organising museum objects, but part and parcel of the ways in which museums have reinvented themselves through a deep and long involvement with different kinds of electronic media. The contemporary museum is, as Haidee Wasson argues, no longer “a permanent, unmoving, physical structure but as a kind of tentacular hub for a range of circulating things and ways of presenting those things”. My interest in the role of media in the museum is not just about the use of television, cinema or networked devices within museum spaces, but includes forms of mediation and technologies that we might not necessarily consider media, and that facilitate new kinds of engagement with the museum. For example, in “Legibility and Affect”, I write about spotlighting,

---


95 Goodman, “Fear of Circuses”.


introduced to museums and exhibitions in the 1920s. Lighting has both a pragmatic function to enhance legibility by making it possible to continue the search for knowledge into the hours of darkness; but also a dramatic, spectacular function that is expressive and emotive, heightening the intensity of affect.

**The playful and post-photographic museum**

I set out to go beyond the existing museum-studies focus on questions of class, power and discipline, not because I think that this focus is mistaken, or that museums are not disciplinary institutions in the Foucauldian sense, but to draw attention to the limits of this function, to the contradictory aspects of museums and exhibitions. Some of the writings included here set out to compliment the emphasis on policing and discipline by photography and museum theorists such as Victor Burgin, Allan Sekula, John Tagg and Tony Bennett, by considering the playful and uncontrolled/sociable aspects of photography and “the madness of museums, the over-accumulation which militates against clarity, sense and orderliness”.

Play is discussed in my essay “With and Without Walls” as a way of rethinking the distribution of the sensible in relation to museums. Play is not simply to do with gaming, interactivity or participatory activities in museums, nor is it always loud, collective and “tumbling” (though it can be). The playful museum, augmented by digital, mobile and social media, might seem a more noisy, anarchic place. As mentioned earlier in this introduction, play has the double meaning of elasticity and flexibility, of opening up a certain freedom, a certain room to manoeuvre. It can be meditative and solitary. Steedman writes “Play has long been understood as a form of cultural experience that is, above all, to do with the capacity to be alone”. Using D.W. Winnicott, she theorises this in terms of the child’s capacity to withdraw and be alone, while in the presence of someone else. Museums are playful in this sense too then, not just because of their uncontrollability but because they offer social, public spaces in which freedom can be experienced in the form of solitary, imaginative play.

---

98 In some writing, “the very notion of mediation seems to imply policing” – Henning, “Legibility and Affect,” 42.
100 Steedman, *Dust*, 82.
Making the museum more playful in one sense might restrict its availability for play in this other sense.

Museum objects are revealing too, about the limitations or end points of ideology, the points at which classifications and categories cease to appear natural or eternal. As Lorraine Daston and Peter Galison have argued, scientific practices and procedures, appropriately followed, underwrite the authenticity and accuracy of scientific representations. However, in commodities, as Marx argues, the human labour is concealed. Museum objects sit uneasily between these two poles, neither wholly scientific objects nor exactly commodities, they conceal certain kinds of labour (such as the labour of the taxidermist) while reinstating and emphasising other kinds of labour - the scientist’s rigorous application of scientific methods.

For example, as I state in Museums, Media and Cultural Theory, museum displays tend to divert visitors away from any consideration of taxidermy as a technique by disallowing comparison between specimens and (in the habitat diorama) presenting it within the conventions of picturesque representation. Yet as taxidermy has become popularly understood as an odd and grotesque practice, museums have struggled to control the naturalism of their displays. Taxidermied animals expose the contradictions in the modern conception of a mute and passive nature, and undermine the separation of representation and referent. Taxidermied animals are lively-dead things, quasi-objects imbued with human meaning. As I show in “Neurath's Whale”, animal displays in museums are able to reveal the ways in which the nature / culture divide has been negotiated at different historical moments.

Animal displays are shaped by a mode of looking associated with photography. Realist taxidermy and the habitat diorama are both products of what Peter Walsh usefully terms “the post-photographic museum”. I also use this concept to open my chapter “With and Without Walls”. In that chapter I am concerned with the development of certain categories – originality, style and facture – that were used to distinguish art from photographs and that I claim, “were naturalized by the post-

102 Henning, Museums, Media and Cultural Theory, 139.
photographic museum”. It was only after photography that such categories became important to art and aesthetic experience, but they are presented as eternal or essential qualities. As I argue in that chapter, the photographic reproduction of art does not emerge as a distinctive and singular technique and museums had long been hospitable to reproductions and facsimiles of various kinds. Nevertheless, by the 1920s photography was being seen as a direct threat to the originality and aura of the art object.

Building on both Walsh’s concept and Belting’s account of the Romantic communion with art, and following Benjamin, I argue that in the post-photographic museum we see the gradual decline of a certain kind of aesthetic contemplation and a transformation in how original works of art are experienced. Photography does not simply insinuate itself in the place of art, as Benjamin suggested, it also increases the scope for play through its ability to render images mobile, reproducible, multiple. The photograph’s apparent lack of materiality, its flatness and the lack of any evident “handling” or texture, also helped raise the status of facture in art. And while by the 1940s it became possible to argue that photographers could have a distinctive style, the category of style too, became important in art through photography. Stylistic similarities were made perceptible through photography, because it allowed for new comparisons between objects. The fact that this is not read as photographic invention but as a set of properties of the objects themselves has much to do with our tendency to treat photographs as transparent windows on the world.

Conclusion
At stake in all my writing, including the writing submitted here, is a concern to explore and interrogate qualities and experiences that I have learnt to value through my experience of making art: wonder and curiosity, materials (their recalcitrance and their tactile appeal), solitary play, tacit and habitual knowledge, and the instability of memory. These are things which, I would argue, have historically been devalued through their various associations with certain social groups: with women, with children, with the uneducated, with manual labour, with the “primitive” and with

105 Ibid., 584-5.
106 I discuss this in my chapter, “Skins of the real: taxidermy and photography”. In Bryndis Snaebjörnsdóttir and Mark Wilson, Nanoq: Flat-out and Bluesome, Blackdog Press, 2006.
107 That is, in media-theoretical terms, to background the channel / material substrate and to filter out “noise”. See Siegert, Cultural Techniques 26-27.
animals, and with the elderly (in the case of unstable memory and forgetting). Additionally, I take a certain approach to writing history which derives from my reading of Walter Benjamin: that is, an attempt to retell the past in a way that does not point inexorably to the present but that is nevertheless oriented toward rethinking the present. Following Benjamin, I try to write about the past without losing sight of the fact that my interests, my readings, my ways of telling, all bear the traces of my own time. And, influenced by Foucault in particular, I try to write about modern and Modernist culture in a way that is empathetic but that does not assume familiarity, that retains a sense of the strangeness of past culture. If certain things return or are revived (such as curiosity culture, but also old media), they do so in new forms; and if things (ideas as well as technologies) become obsolete, this is due to specific social and cultural changes rather than any inevitable or inexorable march of time or progress.  

---

108 Many of the arguments and approaches discussed in this introductory essay are things that I am still pursuing and working through in my ongoing research and writing. For example, facture seems a promising concept for exploring the materiality of photographs, something that has been discussed in different ways by the photography and museums scholar Elizabeth Edwards (2012) and by philosophers such as Diarmuid Costello and Dawn Wilson (at the recent conference on the New Philosophy of Photography, Senate House, London, 13-14 Feb 2015). Play is another topic that is already the subject of much research, particularly in response to the growth of video and computer gaming. Researching museums in relation to media has developed my interest in aspects of media theory. Innis’ notion of the spatial or temporal bias of different media technologies might complement much more recent debates about the fungibility of digital media and the role of images in forms of sociability and the construction of imagined communities, as well as Belting’s reflections on the role of the human body as a medium in the circulation of images in An Anthropology of Images. In my current research I am trying to develop these various ideas into writing a new kind of history of photography in which the ability of photography to facilitate and accelerate the playful mobility of images is brought to the fore.


“Museums, Media Archaeology and the Image.” Paper Presented at *Archaeologies of Media and Film* conference at the University of Bradford / National Media Museum. 4 September 2014. Available online at: https://www.academia.edu/8252924/Museums_Media_Archaeology_and_the_Image (accessed August 30, 2015).


Works Cited


A. – A Materialist Approach to Cultural History via Otto Neurath

MATERIALS AND MATERIALISMS 2

The pig in the bath

New materialisms and cultural studies

Michelle Henning

On 24 July 1945 the Austrian logical positivist Otto Neurath, who had been closely involved in the economic and social projects of Red Vienna in the 1920s, visited the borough of Bilston near Wolverhampton, to advise councillors on their new housing scheme. Bilston was an ex-mining and industrial town with an unusually large slum population and overcrowding problem. Over the past century, the methods used to extract coal had destroyed the drainage of the coal seams, causing flooding and the closure of the mines by 1920. After the coal industry, iron production at Bilston went into decline and by 1945 it was dependent on a single steel works. But from 1943, under the direction of the town clerk, A.V. Williams, plans began to be made for Bilston’s regeneration, in anticipation of Britain’s wider postwar reconstruction.

The report of Neurath’s visit was written by Williams. According to Peter Larkham, who has studied the roles of the various people involved in the reconstruction of Bilston, Williams’s role was not just an administrative one – he had a great deal of influence in the planning process, and a keen interest in modernism (notably in Lewis Mumford’s writings). He involved various eminent experts in town planning: initially the architect and town planner T. Alwyn Lloyd was commissioned to draw up plans for the new housing, but Williams also commissioned the Viennese architect Ella Briggs, who built the Pestalozzihof in Vienna, and in 1946 invited the architect and academic Charles Reilly (known for his communal housing projects centring around a series of oval ‘greens’) to present his ideas to the Housing and Planning Committee.

On the occasion of Neurath’s visit, Williams wrote that the councillors expressed some worries about the removal of people from highly unsanitary conditions into new houses of modern design. There was a fear that the bathroom might be converted into the coal cellar, also that the disinfection officer would very shortly be fully occupied removing bed bugs from the new houses.

The town councillors felt that ‘some scheme of public re-education’ might be necessary if the tenants were to become ‘good tenants in clean, happy and healthy homes’ – that is, the rehousing was part of a larger reformist project. Against this, Neurath stressed most emphatically that people only put coals in the bath tub for some very good reason, e.g. an inadequate or highly inaccessible fuel storage place, or because the hot water system is so expensive that the hardship involved in using the bath for its proper purpose renders the amenity worthless.

Williams goes on to say:

Dr Neurath said that he received a report, in Vienna, that one of the tenants was keeping pigs in the bath. He paid a visit to the house. ‘Well, Dr. Neurath, last year I kept my pigs in the sty provided by the Town Council but there was no heating and the sty was so cold that all my pigs died; so now I keep them in the bath.’ In such a case a small heating plant installed in the pigsty would enable the bath to be used for its proper purpose.

The reference to coal in the bath is figurative as well as literal: coal in the bath is a vivid figure because coal is black and dirty, and (by 1945) not the most modern of fuels. By contrast, the bath is white, modern and functional. The act of keeping coal in the bath produces an inversion: wet becomes dry, clean becomes dirty, white becomes black. Thus coal in the

* This is a revised version of a paper presented to the Radical Philosophy conference, Materials and Materialisms, London, 12 May 2007. The two articles that follow also derive from talks at that event.
bath stands for larger anxieties about class and contamination, working as a synecdoche for the perceived flimminess and social perversity of an underserving poor, the 'great unwashed'. The anxieties expressed about such things in the postwar period would soon be given official voice in the developing discourse of the 'problem family' in public health and social services and among eugenacists. An influential 1944 article by R.C. Wofinden placed great emphasis on squalid living conditions as a means to identify problem families. Recently, Gillian Swanson has pointed to how this pathologized 'domestic failure', as a symptom more significant than ill health or unhappiness, and situated those families identified as socially maladjusted in a negative relation to modernity: they are a problem because of their failure to 'modernize domestic habits', and if their children are happy, it is read as a symptom of 'their adaptation to abnormal – primitive, regressive, anti-modern conditions'. The attitude that ex-slum-dwellers were 'the sort of people who kept coal in the bath' was widespread in Britain both before and after the war, and affected their treatment in shops and everyday life, as well as at the hands of well-meaning reformers and council officials. Added to this is the long tradition of social hygiene within town planning and housing management: rehousing was seen as a means to normalize and reform slum-dwellers and paupers – hence the 'disinfection officer' charged with removing bed bugs.

Responding to the councillors' worries, Neurath does not initially acknowledge that the councillors are concerned about more than just bathing arrangements. But the pig trumps coal, with its greater figurative associations of uncleanness, and its rural, premodern connotations. Neurath himself makes nothing explicitly of this figure, presenting it as a practical problem of function, and defending both alternative uses of baths as rational uses of facilities whose functions are impaired, through high water-heating bills or lack of appropriate facilities (the pigsty heater). Against the implication that the ex-slum-dwellers are inadequately prepared for modernist rational living, Neurath suggests that they are the functionalists, the rationalists, dealing with faulty technology, with economically impaired heating systems, inadequate coal storage, and badly designed pigsities. Against the tendency to treat modernism and planning as reformist instruments of government, Neurath posits his belief in the right of the tenants to self-determination and in modernism as a means to enable people to realize their own goals (and humanity). The priority is not to police or re-educate the tenants but to make functional the technologies and facilities necessary to give them access to modernist living. Williams also reports that Neurath proposed that the administration of the estate should be handed over to the tenants, and the different aspects of housing and social provision should be joined up in a rational system.

This reported conversation may be read on one level as the meeting of ideologies and discourses that construct their objects differently. The objects of this discourse could be construed as the tenants themselves and modernity (the issue: who has ownership over it?). On this reading, the other objects referred to – bed bugs, baths, coal, pigs and heating systems – would be mere ciphers. But they are not. This is also a discussion of the ordering and arrangement of these objects, of their 'proper' and 'improper' places, of their functioning. The discourse of social hygiene is one of decontamination and elimination: the tenants and their wayward things may contaminate the envisaged efficient and modern housing solution; through education, things will be returned to their proper places, or be excised altogether. Neurath opposes this with a discourse in which things are not dirty or clean, or places improper and proper, but in which everything belongs to a network, each thing interlinked in a system, and made operational through decentralized rational planning.

The mobilization of things
This discussion of pigs and coal tells us something about two differently modern perspectives on the relationships between people and material objects. One of the achievements of recent materialist approaches to cultural theory and cultural studies has been to shift attention to this: to rethink the social in terms of a set of relationships between people, creatures and material objects. This involves returning to, and readressing, both the philosophies that underpinned modern science and social policy and the philosophical and conceptual foundations of cultural studies itself. If, in its early forms, cultural studies moved away from the study of texts to lived and material practices, it has nevertheless long been dominated by an emphasis on signification, on everyday objects as texts. In cultural materialism, social reality has tended to be viewed as entirely circumscribed by ideology, within which subjectivity and consciousness are formed, and in which the only spaces for opposition and for dissidence are found in textual 'faultlines', as Alan Sinfield calls them – that is, in 'the conflict and contradiction that the social order inevitably produces within itself'.

Writers have responded to the overemphasis on
text and discourse, and the impasses of this version of cultural materialism, in various ways: sometimes through a re-emphasis on subjective agency, experience and identity; sometimes by a turn to affect theory as a means to reintroduce material actuality. New materialist approaches to cultural studies have developed from a number of directions: via engagements with phenomenology, with Walter Benjamin’s work on the ‘petrified objects’ of the late nineteenth century, with Heidegger’s theory of the thing, with Deleuze, and with actor-network theory (especially the work of Bruno Latour). These kinds of materialism are very varied and in some ways incompatible with one another. In some cases they involve a return to a positivism close to Neurath’s own, and to a pre-structuralist belief in the transparency of language. In other cases, they are premised on a critique of positivism. Where they abandon the emphasis on history and on language that characterizes earlier forms of cultural studies, they also lose the ability to reflect on their own methods and the means by which they encounter their objects. But at their most significant, they attend to the frictions and lack of fit between physical, actual stuff and signification or ideology, as well as the way ideology is distributed or disseminated through things. They suggest that, at its most successful, ideology cements itself at the level of felt experience, as a lived and incontestable reality. But this is also the ground of its failure, in those instances where the material and experiential refuse to line up and affirm it. This may not be because they are outside ideology or representation — things may carry remnants of older ideologies and older social orders, and as such expose the present as historically contingent. In recent materialist approaches to cultural studies, things are seen as having agency; they are not merely carriers of meaning, but socially shaping. Another way of putting this is that the social order is produced through the mobilization of things, and that things in turn help to produce it, and not always in predictable or humanly intended ways. Both modernism (as a broad cultural movement) and modernity appear in this light as a collection of diverse attempts to shape and manage human consciousness and subjectivity through the remodelling and reinvention of everyday material things, and thereby of experience, perception and habit.

This is evident in Neurath’s work. Neurath’s brief contribution to Bilston’s redevelopment in 1945 may seem — should seem — remarkable now, but this involvement in British postwar town planning was part of a wider set of practices, which in prewar Vienna had been explicitly interconnected. Neurath’s role in Red Vienna had been rooted in a socialist commitment to democratization, which meant the democratization of knowledge, as well as of housing and modern amenities. Although the Vienna circle is associated by some with a technocratic politics, Neurath prioritized self-government. In a 1942 essay, ‘International Planning for Freedom’, he argued against giving more credence to technological expertise than to the comfort and preferences of people:

Assume the scientists tell the English people that their fireplaces waste calories — of course they do so enormously. But the fireplaces as an element of our environment are not ‘happiness-neutral’ as it were.

Planning should proceed on the basis of scientific understanding, but must take into account human happiness. In keeping with this, Neurath returned to Bilston in November 1945 and set up a ‘clinic’ where for some weeks he ‘met and chatted with many of the inhabitants’. This was the beginning of a process of increasing the involvement of Bilston people in the new development, which was cut short by his sudden death in December.

Isotype

To communicate the ongoing transformation of Vienna under the socialist administration, Neurath had established and ran several museums (most famously the Gesellschaft- und Wirtschaftsmuseum in Vienna), devised encyclopaedia, and overseen photography projects, film screenings and travelling exhibitions. Working with a team of people, including the artist Gerda Arntz, and Marie Reidemeister (who later married him), Neurath invented communicative techniques and devices that were to outlive both Red Vienna and himself, and which have had far-reaching impacts. Most significant among these was the Isotype system of visual statistics, a system of symbols of figures and objects that were designed by Arntz and incorporated as charts and posters into different exhibitionary media. Isotypes represented quantitative information in ways that could be read by both literate and semi-literate populations. In the context of Neurath’s exhibition work, they were intended not as propaganda, but as ideologically empty statistics. Neurath and his colleagues were concerned not with a didactic one-way education of the working class, but with resurrecting the older sense of the museum as a site of gathering and debate. Isotypes were intended to enable informed discussion and decision-making among the working classes.

For Neurath these practices were part of a wider strategic means (involving museums, exhibitions,
documentary photography, and encyclopedia) to counter what he saw as a fundamentally bourgeois separation of scientific knowledge of things (positivism) from the spheres of the political and the lived. He gives the example of a whale exhibit. Rather than be exhibited in a natural history museum (a discrete and bounded context), a taxidermied whale or a whale skeleton could be the means by which people see their connections and dependencies — to and on other things (soap, corsets) and other people (northern fishermen). In Neurath's vision, a rational modernism combined with scientific Marxism has the capacity to sort through things, to network matters of fact in ways that make them meaningful. Marxism, he argued, could do this because it has the virtue of being a total system, an explanatory framework which can encompass everything — and which can be directly put into practice. Together science, Marxism and modernism offer a way to shake off the weight of Victorian historicism, the obsessive and encyclopedic over-accumulation of knowledge, and to reintegrate knowledge with lived experience. A socialist modernism, in design, exhibitions and other media, would empower working-class people as agents in the construction of their own society, a world of interlinked relationships between humans, animals and raw materials. By ordering the over-accumulated knowledge of the era, it would protect the working class from 'the often disorganized educational endeavour of bourgeois enlightenment, which from the outset sees in merely increasing knowledge something worth striving for as such'.

On the subject of bourgeois thought, Neurath argued,

> The wealth of scientific detail is no longer held together by a unitary approach, and in a certain sense it is left to chance whether a man thinks about some linguistic formations in Chinese or about a medieval text, about African beetles or about wind conditions at the North Pole.

Interestingly, this list is reminiscent of the one with which Bruno Latour introduces his book *We Have Never Been Modern*. Latour writes of the need to overcome the artificial separation of 'knowledge of things' from 'power and politics' by tracing networks of 'nature—culture'. Elsewhere, he states that 'Objects — taken as so many issues — bind all of us in ways that map out a public space profoundly different from what is usually recognized under the label of “the political”'. In many ways Neurath's vision seems similar to Latour's notion of things as 'matters of concern' around which diverse people assemble, and both actor-network theory and Neurath's Unified Science take the view that nothing lies outside a network of relations that encompasses people and creatures, nature and technology. However, Neurath's own positivist materialism, which he termed 'physicalism', differs from Latour's variety of materialism: indeed it is the object of Latour's critique. Latour sees 'nonhumans' as 'actants' with social agency, while he argues that scientific positivism makes things speak while simultaneously treating them as mute matter. Paradoxically, it rots its own authority in the thing — in 'matters of fact', in the laboratory, in 'natural forces' and the 'silent behaviour of objects', while at the same time denying these things agency.

Certainly, for Neurath, everything comes back to 'man', and the world of things presents itself as empirical data. The science of statistics developed as a means to sort through data in the Victorian era. Out of empire came a vast accumulation of facts and the development of an enormous bureaucracy to handle them. The International Statistics Congress of 1858 marked the rise of statistics as the language of science, and the beginning of the separation of 'information' from its muddy roots in the actual. Transformed into data, actuality seems to be stripped of its ideological content, and both statistics and 'scientific' Marxism were put to use in a task Latour sees as characteristically modern: 'Sorting out the kernels of science from...
the chaff of ideology. Neurath’s Isotypes are one such sorting system, intended to give abstract facts visible, concrete form.

In 2005, working with Peter Weibel, Latour exhibited a number of Isotype charts at the conclusion of the exhibition Making Things Public at the ZKM Centre for Art and Media in Karlsruhe. In the exhibition and the accompanying publication, Isotypes are represented as quintessentially modernist, having ‘clarity, transparency, obviousness of matters of fact’, as ‘pure objects bathing in the clear light of the modernist gaze’. They were included in the exhibition as a ‘counter-argument’ to Latour and Weibel’s vision of a new, non-modern combination of philosophy of science, politics and aesthetics, in which ‘things’ are assemblages, disputed states of affairs, and mediation (by ‘stuff’, by thingliness) is the necessary condition of representation, not something of which representation ought to be purged. Latour and Weibel use the Isotype system to stand for the larger modern tendency to treat things instrumentally, as objects which can be made to speak through positivism, as ‘facts’ and evidence. Isotype appears as typically modernist: because it stands for a modernist dream of communication without mediation, interference or noise, of a pure language. For other writers, notably Peter Wollen, who mentions it in his essay ‘Cinema, Americanism, the Robot’, Isotype, as a standardized system of interchangeable parts, seems to exemplify the ways in which a certain kind of modernism mirrored the car manufacturing system established by Henry Ford, and in doing so perhaps uncritically celebrated uniformity, mechanization and alienation. Isotype is read as an attempt at a functional and ideologically neutral system of interchangeable parts: a kind of visual Fordist Esperanto, representing a modernist privileging of objectivity over thingliness, and of rationalism, positivism and functionalism over metaphysics and the figurative.

Such a reading of Isotype, though plausible, seems to splice it too straightforwardly into existing pictures of modernism. If we see the Isotype system and Neurath’s practices as typical or exemplary of Fordist modernism, or as consistent with Neurath’s own philosophy of logical positivism, the sense of it as a specific material practice that is part of a larger set of material practices gets lost. Such accounts recognize that Isotypes are intended to be instrumental and transparent, but they tend to treat them as actually transparent expressions of a set of ideas. Other materialist accounts would suggest that language, even spoken language, itself is material, the most famous example being Marx and Engels’s description of language in The German Ideology as ‘agitiated layers of air’, which Neurath himself cited in his 1931 essay ‘Empirical Sociology’.

When Marx and Engels assert that ‘language is as old as consciousness, language is practical consciousness’ they are not arguing for the transparency of speech as an expression of consciousness, but for the non-existence of consciousness outside or prior to its material inscription. From a historical materialist perspective, language and consciousness are historically produced and transformed, so that in modernity they may gain specific features, and operate in ways quite different to those of pre-modern societies. Also, if we assume, as contemporary materialist cultural studies does, that things have agency, material resistance and affective pull, then the ‘picture language’ of Isotype must participate in this, and, like other things, it may prove resistant to the easy transmission of ideas and intentions. In other words, a theory of things needs to be able to handle the abstract and apparently immaterial ways in which we inscribe and represent things – symbols and signs and metaphors, hieroglyphs and Isotypes – as well as those things which are evidently thingy and substantial (tables, pebbles and so on).

From this perspective, Isotypes do certain kinds of work; they act, and not simply as the expressions of an articulated philosophy. Furthermore, the work that Isotypes do might not always be consistent with the intentions or philosophy of Neurath himself, nor with the broader social and cultural environment from which they emerge.

**Material symbols**

If we continue to consider Isotype as a ‘language’ in materialist terms, we might say it is made up of a series of concrete utterances, which can be combined and recombined, can cross media, be endlessly reproduced, and mobilized to constitute different statements. There are a number of social contexts to which we can refer to understand its emergence that are more specific than a generalized modernism, positivism or Fordism. One is the social and housing programmes of 1920s Vienna. Eve Blau has drawn attention to the similarities between the use of standardized parts in Isotype and the ‘extensive and unprecedented’ use of standardized parts in Red Vienna’s municipal building programme. Blau writes of the standardized windows, doors, balconies and courtyards as the ‘typological markers … of the new socialist housing’ through which the ‘discourse regarding architecture and politics in Vienna’ is disseminated. Through ‘a carefully conceived language of type’ both the built environment of the city and the symbols and charts of Neurath and
his colleagues were able to bypass the partisan press. In both Isotypes and buildings this meant a strong emphasis on legibility: for instance, a roof, whether sloped or flat had to be recognizable and visibly readable as such.

Yet, oddly, Isotypes are not necessarily as legible as older ways of visualizing statistics. Marija Dalbello and Anselm Sporerri have compared the representations of statistics in the Isotype charts with those in the popular almanacs published in the late-nineteenth-century Hapsburg empire. There, statistics were usually visualized in organically unified pictures, often as volumes rather than quantities. Dalbello and Sporerri argue that the standardization of parts in Isotype does not actually contribute much to its legibility, since it is easier and quicker visually to compare volumes (as we do with the older illustrations) than it is to count up little figures. However, Isotypes do have the advantage of mobility: in the Hapsburg almanacs, similar codes could be used from one picture to the next (codes of dress for the different nations, for example), but the same pictures cannot be disassembled and rearranged to produce different interpretations of the same data, nor do they allow comparisons across one set of illustrations to another. The blank spaces around the Isotype figures make this mobility possible. The same figures, representing the same things, can be reproduced across different charts and also across a range of media and social contexts. Eventually Isotypes were used on charts and posters, in films and in children's books, in Soviet schools and British propaganda. They informed the development of a whole range of icon systems still used today, on street signs and architecture, machinery and visual interfaces. And, it has been argued, they introduced a new mode of reading – a 'browsing technique' available equally to the literate and the non-literate.

By making the figures countable, Isotype appears to make itself accountable. On Adorno's account, the automobile industry conceals standardization by parodying the same as different through minor ornamental changes. But standardization also works as a guarantee, in industry, of uniform quality, and in Isotype, of objectivity or neutrality. At the same time, Isotypes, by being repeatable, combinable, able to be circulated and mass-reproduced without deterioration, make visible the similarities and connections between matters of fact. Similarity through standardization enables comparisons to be made between different statistical information.

In the buildings, Blau argues, the standardized repeated parts operate as signs communicating the use of each building, its place in the programme and in the history of Vienna. Crucially, she argues, the housing programme took the 'spatial patterns and markers of city and dwelling' of historical Vienna, previously 'resolutely denied the tenants of Vienna's outlying working-class tenements, and redistributed them, giving the workers ownership over the cultural symbols of Vienna'. Similarly the practices of Isotype redistribute a cultural symbolism – a visual aesthetic associated with modernism, efficiency and rationality – to the working class. Neurath once argued that functionalism in modernist design had become a matter of appearance rather than anything to do with improved usefulness. Nevertheless Isotypes themselves encode what it is to be modern (and rational, functional, efficient) in a set of visual appearances.

Isotypes are generally read as an attempt to rid communication of mediation, to elaborate a transparent language. Certainly Neurath himself was interested in finding a symbolic language that could present 'facts' across boundaries of literacy and spoken language. (He took an interest in, and wrote in, Ogden's Basic English.) In a definition of the Vienna Circle's scientific world-conception he wrote of

the search for a neutral system of formulae, for a symbolism free from the slag of historical languages; and also the search for a total system of concepts. Neatness and clarity are striven for, and dark distances and unfathomable depths rejected. In science there are no depths; there is surface everywhere: all experience forms a complex network, which cannot always be surveyed and can often be grasped only in parts. Everything is accessible to man and man is the measure of all things ... the scientific conception knows no unsolvable riddle.

The rhetoric is highly figurative. Here the rejection of mysticism and obscurantism, of theology and metaphysics, is couched as the elimination of slag (Schlacken), dark distances (dunkle Fernen), depths and riddles. The figure evoked, and rejected, is the mine – the mine, that is, as it operates as a figure and an institution in early German Romanticism. For the Jena Romantics, the mine (not the industrialized coal mine, but the mine of precious gems and gold) was a repository of living, growing riches, and they were fascinated with stories of the stones and metals growing back when a mine was closed. The mine represented the image of a world in which 'mind and matter are essentially identical'. The Jena Romantics viewed object and consciousness as interdependent, and organic and inorganic nature as animate. In the Romantic world-view of Novalis, for instance, nothing
is simply as it appears: nature speaks to us, but it speaks to us in riddles and codes, in hieroglyphs.  

Through the 'scientific world conception', even if everything cannot be grasped as a totality, it can all be known. In 1931, two years after the publication of the Vienna Circle manifesto, Neurath acknowledged the primitive, magical roots of this 'scientific attitude':

The scientific tendency to link everything with everything else, to regard nothing as indifferent, clearly already belonged to the age of magic ... unified science is the substitute for magic which also once encompassed the whole of life.

He also emphasized the closeness of the capitalism of his own time to the social organizations and modes of behaviour of so-called 'primitive' societies. But the scientific attitude is taken to differ from magic in its rigour, and from theology in its rejection of obscurantism and its insistence on empirical verification (for Neurath, metaphysics and theology are synonymous). While magical animism sees objects as subjects, positivism treats them as the raw material of data, as evidence. Against the Romantic vision of mysterious forces that link human beings with stones and crystals, Neurath proposed that everything that is not empirically accessible ought to 'vanish from science'. As the vehicle for the transmission of this data, language must be rid of the historical leftovers, the metaphysical 'slag' that renders it ambiguous and mystificatory. The picture language of Isotype appears as the antithesis of a Romantic world-view: in this language, coal miners are not the mystical figures of Romantic fiction but merely workers of coal, and the mine is merely one workplace among others.

Yet, Isotype is not as distanced from a magical, animist world-view as it first appears. In any attempt to transform actuality into facts and information, thingliness refuses to be banished and is felt as an interruption, as friction, as interference and noise. As Kafka wrote, 'Written kisses don't reach their destination, rather they are drunk on the way by the ghosts.' As an attempt to eliminate the ghosts of mediation, Isotype ends up proliferating them and demonstrates that the distance of positivism from Romantic animism is not so great. Aesthetically, Isotypes recall forms that have become associated with directness: prehistoric cave paintings, for instance, which Arntz was reportedly interested in, and silhouettes, a proto-photographic technique by which a shadow might be held, the image of a person directly imprinted. Neurath cites as inspiration Egyptian hieroglyphics and wall paintings – thought at one time to be a direct encoding of things and concepts, unmediated by spoken language. By Neurath's time, it was known that hieroglyphics are related to the spoken languages of Ancient Egypt, and can represent sounds (phonemes), words/concepts (logograms) and classes of words/concepts (determinatives). Nevertheless, mystical associations still clung to the notoriously difficult-to-decipher hieroglyph, and the term 'hieroglyph' has continued to be used to refer to enigmatic representations, and the idea of a visual language not subordinate to the verbal. If Neurath intends that his hieroglyphs will be eminently legible and if, for him, Egypt offers a model of clarity not mystery, he nevertheless shares the assumption of directness. If Isotype was to be unmediated and mobile, able to transcend cultural and linguistic boundaries, it would need to be dissociated from any existing verbal language. And if language is not to be thought in metaphysical terms, there can be no recourse to an abstract system (such as Saussure's langue) that exists outside/before its inscription and only in speakers' minds.
The same process, the same set of moves that attempt to rid the picture language of mediation, also reduces language to the utterance (parole). To succeed as modern hieroglyphs, Isotype must bypass verbal language altogether. And if it does not separate itself from spoken and written language, if for instance we note that Isotype is dependent for its rules of combination on the German language with its compound nouns (coal + worker = coal worker), then Isotype cannot transcend Babel, and cannot realize the dream of a universal language. Isotype reveals the proximity of positivism to Romantic animism: a world in which stones, fossils and stars 'speak' directly, as natural symbols, not brought to speech by ideology or culture. In their use of visual style to suggest directness, modernity and objectivity, in their ability to transform acts of reading and redistribute cultural capital, in their mobility that is nevertheless always a reinscription, Isotypes are far more than an attempt at a neutral, transparent language purged of metaphysics, or a visual expression of a scientific positivism. If, as Latour suggests, Isotypes represent the 'delineated' and 'discrete' objects of modernism, they do so in the form of material utterances, propositions and speech acts, and as things which speak in a language steeped in the slag of history, and the dark depths of the mine, riddled with metaphor and figuration.

Neurath's practices, from his exhibition work and the Isotype system to his involvement in planning, worked to put things (which withdraw from our awareness) to the foreground, to make them present and to show our dependence on them. But in doing so, these practices also expose things, not just as compliant matter, but working, as actors. Neurath reinstated material language in the form of the hieroglyph. If it seems odd to find traces of Romantic animism persisting in such an unlikely place, a place that seems at first sight to epitomize the modernist and positivist de-materialization of activity into information and 'pure objects', it is perhaps no more odd than finding a member of the Vienna Circle in Bilston.

Notes

1. Peter Larkham, 'People, Planning and Place: The Roles of Client and Consultants in Reconstructing Post-war Bilston and Dudley', Town Planning Review, vol. 77, no. 5, 2006, pp. 557–82. Neurath had been approached by one of the councilors, J.N. Smallshire, who had attended a lecture by him at the International Friendship League in Wolverhampton. Williams later directed the People's Development Corporation. Larkham attributes the failure of the plan at Bilston to the deaths of Neurath and Reilly and the departure of Williams. His research is based on the Minutes of the Development and Reconstruction Committee in Wolverhampton Archives and Local Study Collection and on Reilly's correspondence.


3. Ibid., p. 76.


6. The interest in Walter Benjamin's thought, for instance, may well be incompatible with a 'thing theory' rooted in Martin Heidegger's work, of which he was highly critical.


9. Also involved were Erwin Bernath and the architect Josef Frank.


16. Latour, We Have Never Been Modern, p. 35.

17. Ibid.


25. The criticisms of functionalism made by Neurath's colleague, the architect Josef Frank, are perhaps more interesting than Neurath's. He makes the case for ornament as supporting sustained looking, and sees anti-
ornamentalism as a stripped-down aesthetic belonging to a class that had passed through luxury, and forced this aesthetic onto a class that had not yet gained access to luxury and ornamentation, and whose working experience meant a very different relationship with their material surroundings. See Blau, The Architecture of Red Vienna, pp. 194–8.

26. Otto Neurath, ‘The Vienna Circle of the Scientific Conception of the World’, in Neurath and Cohen, Otto Neurath, p. 306. This is the Vienna Circle manifesto in which Neurath describes the group’s common position as a ‘scientific world-conception’ both free from and opposed to metaphysics (p. 304).


31. Neurath’s father, the economist Wilhelm Neurath, had written in 1880 of his own intellectual trajectory, moving from a religious (Mosaic) upbringing to become a materialist, aesthetic and communist as a young man, heavily influenced by Kant’s Critique of Pure Reason, as well as by Fichte, Herbart, Schelling and Hegel. By the time of Neurath’s birth he had formed a ‘pantheistic-conception of the world’ and found comfort in ‘mysticism as expressed in the German Middle Ages’. Wilhelm Neurath, ‘Autobiographical Sketch’, in Neurath and Cohen, Otto Neurath, pp. 2–4.

32. Though this doesn’t preclude the identification of invisible forces such as magnetism, electricity and so on, where they can be empirically shown to exist. See John O’Neill and Thomas Ubel, ‘Horkheimer and Neurath: Restarting a Disputed Debate’, European Journal of Philosophy, vol. 12, no. 1, 2004, pp. 75–105. The Neurath quotation is from ‘Empirical Sociology’, p. 325.


35. The thingliness of things is notoriously hard to deal with, since our only measure is often our own distance from them – we only deal with things in so far as they are things for a human subject – and this is arguably equally true for positivism, phenomenology and the Romantic theory of reflection. In other words it is not just a problem of science. For more on this in relation to Heidegger’s concept of the thing (Ding), see Graham Harman, ‘Heidegger on Objects and Things’, in Latour and Weibel, Making Things Public. As with Adorno, Harman defends metaphysics as necessary to any theory of the thing.
Living Life in Pictures: Isotype As Modernist Cultural Practice

Michelle Henning

Abstract The Vienna Method of Picture Statistics, also known as Isotype, has become a means for historians and theorists of modern culture to directly link visual modernism with modern social science and philosophy, specifically with logical positivism and Taylorism/Fordism. Isotype has been described in terms of Taylorist standardization, rationalism, ‘transparent construction’ and functionalism. By delineating the understanding of these terms held by Isotype’s inventor Otto Neurath and his friends and colleagues, and contextualising Isotype in relation to recent reassessments of Neurath’s other work, I suggest that Isotype participated in a modernism that was understood by its proponents in ways that were more plural, and pluralist, than we now give them credit.

Keywords Isotype; Otto Neurath; modernism; Josef Frank; Taylorism; Vienna; Gerd Arntz; statistics; functionalism

The 2005 exhibition Making Things Public at the ZKM Centre for Art and Media in Karlsruhe included several Isotype charts, graphic statistical posters dating from the 1920s and 1930s. In the context of this exhibition, curated by Bruno Latour and Peter Weibel, the charts presented a challenge to contemporary artists and designers to come up with equally elegant and compelling visual methods adequate to current political and social arrangements. For the curators, as for several commentators on Isotype, the charts both exemplified the modern emphasis on positivist science, ‘facts’ and statistical evidence, and typified a modernist dream of communication without mediation, interference or noise, of a pure language. Isotype is significant because it links this dream directly to positivism and connects modernism in design to Latour’s characterisation of modernity in politics and science. Since the 1980s, several texts on modernism and modernity have turned to Isotype to make similar connections. This is possible because of the ‘clean’ modernist graphic appearance of the charts, combined with their statistical content and the fact that Isotype’s inventor, Otto Neurath, was a founding member of the Vienna Circle and a renowned (or notorious) logical positivist. Isotype has slowly begun to be pivotal in an understanding of the modern as a coherent category that can encompass the sciences and the arts, and in which ideas of rationalism and functionalism and in particular, the rationalisation of working-class life and labour by Taylorism, form a dominant strand. This essay challenges this definition of the modern...
by suggesting that Isotype participated in a modernism that was more pluralist than we now give it credit. This is not to say that the reading of Isotype as a modernist representation of statistical facts is wrong, on the contrary. This argument suggests that we need a less narrow interpretative paradigm to understand the intersection of logical positivism, functionalist design and Taylorist rationalisation in Isotype. It aims to show some of the historical tensions at work in the views and practices of Neurath and his close friends and colleagues.

Neurath is largely forgotten now, but he was, in a sense, a ‘hub’ linking the artistic, scientific, philosophical and political avant-gardes in Europe and America. When he died in England in 1945 at the age of 63, he had been a sociologist and political economist, founder of the Unity of Science movement, and housing activist. Through his work in museums, social planning, and the housing and settlement movement of 1920s ‘Red Vienna’, and later through his work with CIAM (Les Congrès Internationaux d’Architecture Moderne), Neurath developed close connections with modernist architects and designers, including Josef Frank, El Lissitsky, Adolf Loos, Margarete Schütte-Lihotzky (the designer of the Frankfurt Kitchen), and the Bauhaus. Through the Vienna Circle, and unified science, he came into contact with the most important scientists, philosophers and mathematicians of his day, including the Frankfurt school, Albert Einstein and many others, while in Britain he was involved in the early planning of post-war reconstruction.

In the mid-1920s, Neurath and his collaborators developed the Vienna Method of Picture Statistics (renamed Isotype in 1935), at the museums he founded in Vienna, the Siedlungsmuseum (Museum of Estate Housing) and then the Gesellschafts-und Wirtschaftsmuseum (Museum of Society and Economy). The method was devised to make statistical information legible to a non-specialist public. Neurath subsequently established a number of organizations in various countries devoted to producing Isotype charts for exhibitions, films and publications. These branches were a means to disseminate the method in accordance with his internationalist vision, but also a means to provide him and his staff with safe havens in recognition of the looming dangers of Austro-fascism and National Socialism. The staff at the Gesellschafts-und Wirtschaftsmuseum (which opened in 1925) included researchers, who gathered statistics and read texts on an extraordinary range of subjects; artists working with, or under the direction of, Gerd Arntz; and the ‘transformer’ Marie Reidemeister, who mediated between researchers and artists by translating the research data into a visual layout. When the Austrian Fascists took Vienna in 1934, Neurath, Reidemeister and Arntz fled to The Hague, where they established the International Foundation for Visual Education. As the German army entered Holland in May 1940, Reidemeister and Neurath escaped to Britain. After a brief spell in internment, they married, and founded the Isotype institute in Oxford in 1942. As before, they employed a mix of artists and researchers, including many drawn from the émigré community. The

---


Neurath's generated content for charts, for exhibitions but also for books, where they accompanied images by Cecil Beaton, John Hinde, and John Heartfield. In Britain they adapted Isotype for animation in Ministry of Information films (such as *A Few Ounces A Day*) and Paul Rotha's epic *Land of Promise* (1945).

Marie Neurath continued the Isotype Institute for more than 30 years after Otto's death. In these years, their work in Vienna was largely forgotten. In the late 1970s and early 1980s, she worked with researchers and academics to publish his writings and tell the story of Isotype. She donated many of her and Otto's documents and publications to Reading University, which held an exhibition 'Graphic Communication through Isotype' in 1975. The catalogue of this exhibition was the first significant English language publication on Isotype since Neurath's death. A 1976 exhibition at the Gemeentemuseum in the Hague showed Arntz's political and information graphics, while in Neurath's native Vienna, an exhibition held at the Arbeiterkammer Wien in 1982 was accompanied by a catalogue by Friedrich Stadtler on Neurath and Arntz. In 1987 the exhibition 'Global Signage: Semiotics and the Language of International Pictures,' opened at the Her Lubalin Study Center at The Cooper Union, New York, curated by Ellen Lupton. The previous year, the artist Victor Burgin referred to it in the book accompanying his exhibition 'Office at Night' at the ICA in London. He brought it to the attention of the cultural historian Peter Wollen, who discussed Isotype in his essay 'Cinema, Americanism, the Robot' (1988) as an example of the ways modernist culture mirrored Henry Ford's car manufacturing system, and celebrated the uniformity and mechanisation which Europeans associated with the USA.

In 1990, Peter Galison published an essay entitled 'Aufbau/Bauhaus: Logical Positivism and Architectural Modernism', in which he linked Neurath's philosophical work and his Isotype practice with the Dessau Bauhaus's project of rational, functional design. Isotype has now also been recognised as a key development in the history of pictograms, and in the development of computing (database structures and icon-based interfaces), but as these examples show it has also gradually regained a place beyond the specialised world of graphic design and typography, in the larger narratives of modernist culture. In this context there appears to be general agreement with Lupton's assessment of Isotype as the visual equivalent of logical positivism and with this succinct description from Burgin: 'Heir to the dream of "pure vision", it expresses the desire to know in a simple act of seeing'.

The writing of Isotype into narratives of modernism, as an example that offered a direct link between positivist social science, and visual arts and design, coincided with a reassessment of Neurath's philosophical, social and economic arguments. While Isotype had been merely neglected in the post-war period, Neurath's work in these fields has been oversimplified, as a result of critiques during his lifetime and shortly afterwards (most famously by Max Horkheimer and Theodor Adorno, and, from a completely different political


perspective, by Friedrich Hayek in *Road to Serfdom* (1945), an influential critique of social planning). Recent writers have challenged in particular several related assumptions: one, that Neurath was an unthinking advocate of rationalist planning and technocratic politics; two, that his views were identical to those of his Vienna Circle associate, Rudolf Carnap; three, that his famous rejection of metaphysics amounts to a rejection of uncertainty and total faith in the power of science and analytical reason; four, that Neurath advocated an absolutely functional and transparent language. This more nuanced understanding of Neurath’s other practices might also complicate Isotype’s relation to Taylorist rationalisation and functionalism.

**TAYLORISM, FORDISM, AMERICANISM**

One way of reading Isotype is as part of the early twentieth-century modernist tendency towards rationalism, technophilia, and Americanism (i.e. the idealisation of the industrialised USA). Peter Wollen describes one of a number of charts produced by the *Gesellschafts-und Wirtschaftsmuseum* under Neurath’s direction:

The standard Isotype signs were combined into complex charts and diagrams in order to convey information visually with immediacy and clarity. Thus a chart showing automobile production in 1929 contrasts five identical silhouette workmen and fifty-five identical silhouette automobiles for the USA with eight workmen and only seven cars for Europe. The rows of standardized human figures are immediately reminiscent of the factory discipline under which the real workers worked on the assembly line as well as Carnap’s contemporary arithmetization of syntax. (The whole chart also graphically illustrates the impact of Fordism and the enormous European productivity lag that gave rise to the voluntaristic upsurge of Americanism).  

Several versions of this chart were made; the one Wollen describes is probably the one published in *International Picture Language* (1936). The cars are depicted in two grids below the lines of workers, the continents (America and Europe) signified by a strip of factory buildings and landmarks. An earlier, colour version of the same chart (fig. 1) makes it explicit that the figures refer to ‘North and South America’, not the USA.

Additional text explains that each human figure represents 100,000 workers employed in the car industry and that every car stands for 100,000 cars produced, so we can arrive at exact numbers through simple addition and multiplication. We can also conclude that every worker produces just under one car a month in America, and less than one a year in Europe. Even at a glance, we can see that productivity is much greater in America. The assembly line is represented in simplified graphic form behind the workers


44 NEW FORMATIONS
in America - a hint at a possible reason for the difference in productivity, but not one necessarily immediately noticed.\(^\text{12}\) The rows of standardised figures may be reminiscent of the factory discipline of Fordism, yet the American figures are no more standardised than the European. The standardisation of letters and numbers through the development of moveable type predates the standardisation of interchangeable parts that was the hallmark of Ford’s automobile manufacturing system. If we think of these worker-figures as replacing numeric figures, then this standardisation is not necessarily Fordist. Nor is it entirely evident that the chart supports ‘Americanism’. The assembly line is proposed as an explanation for the difference in productivity, but whether this is desirable, or what its consequences are, are questions for the working class visitors to the Gesellschafts-und Wirtschaftsmuseum to debate. What happened to the other car workers in America, what were the unemployment statistics there? What different kinds of skills did the workers need? How wealthy is a society that consumes so many cars? Had assembly line manufacture spread to South America as well as the US and Canada? What was the meaning of all this for people living in Austria? In other words, enthusiasm for the American production system was not the only possible outcome.

In some ways, the standardised appearance of the Isotype chart is rather misleading. As with the products of Soviet constructivism and of the Bauhaus, it gives the impression of mass manufacture when actually these charts were in many respects handcrafted objects. Charts using the Vienna method were assembled from linocuts printed on a treadle press. Each little worker-icon appears almost identical because each is printed from the same piece of lino (though a close look shows variations in the printing). Later the pictograms were made using letterpress, but even then, the production entailed hand-pasting the printed images onto the charts. Such cutting and pasting techniques had democratic associations, and were used in the teaching of mass literacy by Maria Montessori who used cut-out sandpaper letters in kindergarten (the picture statistics were tested in Montessori’s kindergarten in Vienna).

In these charts, standardisation is a process of condensation, transforming large amounts of data into small pictograms, and of simplification, reducing inessential detail. It is a process which enhances legibility, since the same pictograms are reproduced across different charts, and a process enabling accessibility and ease of production. The visual approach of the Vienna Method was developed over several years, through a number of iterations, and the chart that Wollen refers to is a good example of its most well-realised form. The team at the Gesellschafts- und Wirtschaftsmuseum had arrived at a clear, legible layout in which people and occupations were represented without unnecessary or misleading details of costume and posture.

The structure and layout of the charts derived from theories of statistical representation, and used criteria of accuracy, clarity and legibility: Neurath set rules for the use of colour and scale, for example, and other restrictions would be necessitated by reproduction technologies. The succinct visual style of the charts and the individual pictograms also derived from Gerd Arnz’s experimentation in his political prints of the 1920s (monochrome linocuts). Arnz opposed the reduction of social classes to visual types in the work of artists such as George Grosz, reportedly stating: ‘Grosz ... draws the capitalist as an ugly and fat criminal ... I sought to show the position of the capitalist in the system of production for that they need not be as ugly as Grosz made them’. The anonymity of the figures in Arnz’s own political prints, and in his work in picture statistics, is connected to the imperative to depict social and economic relations, to ‘reveal social contrasts and show social opportunities, not just moralising criticism’.

So while it represents Fordism, the relationship of the chart to Fordist standardisation is not straightforward. Contributing to this complexity is Arnz’s own critical position toward Fordism, exemplified in his political prints. Arnz was a member of the Cologne Progressives, a group of politically active (socialist and communist) printmakers, before joining Neurath in Vienna. In one political lino-print from 1924 (fig. 2) Arnz depicts six women, their arms across one another’s shoulders, each clothed in a different swimsuit and socks of varying length and pattern, a variety


which doesn’t quite manage to conceal the fact that the figures are identical (like all Arntz’s figures, they are blank-faced and anonymous). Behind them a few simple lines constitute a Model T Ford. The lines indicating the back of the car, repeated eleven times, make one car into a series, a dozen identical automobiles. On the left of the pageant of women is a simple hangman drawing; a black silhouette with slumped head, white underpants and two thin rectangles for legs, contrasting with the curved, closed legs of the women, their dazzling patterns and their upright, frontal appearance.

The print is reminiscent of Siegfried Kracauer’s essay, ‘The Mass Ornament’ published three years later, in 1927. The essay, famously, is an analysis of the Tiller Girls Revue (a British dance troupe, but associated with Americanism and Fordism in the minds of German observers). Kracauer argues that both capitalism and the revue or parade (the mass ornament) appear at first as highly rational constructions, but have an irrational, mythological or ‘primitive’ core. In Arntz’s print this primitive core is represented by the lynching, the element of the print which recalls Walter Benjamin’s thesis ‘there is no document of culture [civilization] which is not at the same time a document of barbarism’. In other words, the lynchings occurring in the

FIG 2: Gerd Arntz, ‘Americanism’ (1924). In the Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, University of Reading. © DACS 2010.
American South are part of the same culture of display and mass action as the beauty pageant and Fordist production. By the 1930s, clear parallels between the racism of the Southern states, and that of the Nazis would be being drawn on both sides of the Atlantic. Through the image of the lynching, Arntz implies a connection between the ordered rationalised modernity associated with Americanism and Fordism and an irrational barbarism.

For Kracauer the mass ornament’s irrational core is to do with the dehumanisation of the individuals who make it up, it is ‘mythological cult wrapped in abstractness’. It echoes the efficient actions of the modern Taylorised workforce, subordinating the individual dancer to the larger visual effect, just as the worker becomes part of the collective machine. Kracauer’s reading of social relations under capitalism is in keeping with German sociological views of the time, exemplified by Ferdinand Tönnies who saw modern civil society as constituted by separated individuals, ‘starkly equal, elementary units of labour, like atoms’ working en masse for their own gain and for society. Kracauer describes dancers in these mass public displays as ‘building blocks’ in the construction of an ‘édifice’; a ‘pattern of unimaginable dimensions’. These patterns are not rooted in community or ritual (as say, traditional forms of folk dancing), symbolically ‘empty’ and regressive. Kracauer argues that ‘the structure of the mass ornament reflects that of the general contemporary situation’ in which capitalism destroys individual and national differences. Statistical measurement and mechanisation are complicit in this process: ‘only as a tiny particle of the mass can the individual human being effortlessly clamber up charts and service machines’.

The individual transformed into an anonymous part of a ‘mass’ and climbing up charts does sound remarkably like a figure on one of the Vienna method charts produced at the Gesellschafts- und Wirtschaftsmuseum. Indeed, Wollen makes the point that there is a resemblance between the Tiller Girls and the Isotype chart, commenting ‘The Tiller Girls were like Neurath’s Isotypes, marshalled in identical lines’. Arntz’s swimsuited figures do not represent the Taylorist Tiller Girls, but rather, the ‘bathing beauties’ pageants referred to by Antonio Gramsci in his analysis of Americanism and Fordism. In Quaderno V of his prison notebooks (written between 1929 and 1935), Gramsci sees Fordism as geared toward the production of ‘a new type of man’ via a process that required the regulation of sex and family life. Taylorism ‘and rationalisation in general’, Gramsci writes, ‘demand a rigorous discipline of the sexual instincts’ and of alcohol, meaning that the working class is persuaded and coerced (via Prohibition, for example) into a puritanical morality at odds with the libertinism practised by other classes. The ‘bathing beauties’ phenomenon is in Gramsci’s reading associated with the ‘moral gap’ between the puritanical, monogamous working classes (‘womanising demands too much leisure’) and the ‘passive’ non-productive elements of society who ‘stimulate the mental attitudes of prostitution’. Arntz’s prints from the 1920s could accompany Gramsci’s text beautifully: they too associate prostitution.
and ‘libertarian’ sexual practices with the upper classes and the military, while depicting the working classes as monogamous family units. Gramsci sees this new puritanical drive as ‘the biggest collective effort to date to create, with unprecedented speed, and with a consciousness of purpose unmatched in history, a new type of worker and of man’. Thus Fordism ‘smashes’ the worker’s humanity in order to maintain ‘psycho-physical equilibrium’ in workers because it conceives of the collective worker as a machine. By the mid 1920s the idea of the mechanisation of the worker’s body is well-known, and Arntz makes this vivid in one print (fig. 3), giving assembly line workers wrenches, screwdrivers and hammers for hands.

As cultural phenomena, Taylorism, Fordism and Americanism tend to be treated together in the European left’s understanding of capitalism in the 1920s and ‘30s. However, Ford’s assembly line and F.W. Taylor’s ideas about scientific management were not viewed as synonymous by Neurath and his associates in social and economic planning. The Taylorist Mary Flédderus financed Neurath’s International Foundation for Visual Education in The Hague. She and her partner Mary Van Kleeck conducted a study of labour conditions at the Ford Plant, and condemned the Ford system as disastrous and completely incompatible with scientific management. Neurath himself was an early but unorthodox advocate of scientific planning. He had long been actively involved in planning, as Rations and Provisions Officer in the Army Corps from 1910, director of the Bavarian Central Planning Office in Munich, as part of the short-lived Bavarian free state circa 1918-19 (when it was overthrown he survived a death sentence, principally because he insisted his role was technical rather than political), and then in Red Vienna. In the UK he became involved with organisations such as the Association for Planning and Regional Reconstruction and the Political and Economic Planning Bureau.

In 1917, Neurath had proposed

FIG 3: Gerd Arntz, ‘Factory’ (1927). In the Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, University of Reading. © DACS 2010.


LIVING LIFE IN PICTURES 49


25. Ibid.

a radical humanist revision of Taylorism, his own ‘Converse Taylor System’, which advocated the development of jobs and organisational structures out of the diversity of people ‘as we find them’. Taylorism, he suggests, does not have to ‘increase the general mechanization of living’ but could become ‘a principal force of a new humanism’. Like Kracauer he sees social uniformity as negative, but as only a temporary first consequence of social and economic planning, which people tolerate insofar as it is accompanied by improvements in living conditions and stability, and a reduction in unemployment and poverty. Because of this ‘it will doubtless take some time before an incisive criticism is raised against the uniformity. But the wish for co-existence of different forms of life and organization would then show itself more forcefully, and it might not be impossible that a multiplicity of forms of life adapted to the multiplicity of men themselves should become the mark of the future next-but-one’.  

Neurath would later avoid predictive writing, but some of the passions and ideas he pursued throughout his life are here: the Epicurean idea of a tolerant society based on maximising human happiness and rooted in the actual needs of people in all their diversity; the rejection of the free market economy in favour of the planned society; the tendency to treat social and economic planning as an activity independent of a specific political system; and the emphasis on the use of social planning ‘to facilitate the simultaneous existence of as many forms of life as possible’. Contrast this to Gramsci, for whom both the political promise and the barbarism of Fordist-Taylorist industrialism lay in its attempt to create a ‘new type of man’ adapted to the various demands of capitalist industry.

In the German sociology of modernity of Tönnies, Simmel and Weber, modern mass society characterised by science, rationalisation and atomisation, was contrasted with an older form of sociality or community of ‘natural bonds’, magic, ritual, and paternalistic and priestly authority. This diagnosis shapes Kracauer’s image of the mass as a conglomeration of isolated, atomistic individuals. Neurath shared this intellectual background with Kracauer, but in his view, new communal bonds of association, real organic collectives, were possible within the context of a mass society. Moreover, statistics and the methods of social science could be mobilised to produce this. Neurath first deployed picture statistics in exhibitions developed in the context of the social and economic crisis in post-war Vienna, as the Social Democratic city council began an extensive programme of changes to the social and economic infrastructure. Economic collapse during the Great War had led more than 100,000 people to build makeshift homes and plant vegetable gardens on public land on the outskirts of the city. This self-help movement became organised into co-operatives, and was at first far more effective than the socialist municipality, which was struggling with the Austrian economic collapse and constitutional crisis. Neurath worked as a sympathetic mediator between the city government and the co-operatives. He promoted the self-help
housing movement, helping to create organisations to unify and promote the interests of the settlers and allotment-holders, provided courses for settlers, architects and councillors, organised public demonstrations and exhibitions in the city centre, and negotiated with architects and city planners.  

The Vienna Method charts were produced first as exhibition materials at the museums he founded with the support of the municipality. They addressed the working-class citizens who would be the first beneficiaries of the new social provisions, such as housing developments and health initiatives, enabling them to see their place in larger developments, in Vienna and worldwide. As Elisabeth Nemeth emphasizes, ‘the museum was not a place where scientific truths about society and economy were conveyed to the layman … [but] a place where people - most of them without higher education - could learn to look at social issues in a new way and practice doing this’.  

Lending themselves to comparative judgment and contemplative thinking, exhibition charts were intended to engage the viewer on first sight, requiring closer examination to be fully understood, but avoiding detail which detracted from the overview. By opening up this overview and encouraging reasoned comparison and debate, the Gesellschafts- und Wirtschaftsmuseum exhibitions engaged the Viennese working class in the reconstruction of Red Vienna, rather than simply communicating the reconstruction after the fact. They were components in a programme of social and economic planning that utilised Taylorist techniques. The view of the working class as an anonymous mass of atomised individuals was very alien to this application of Taylorism (converse or otherwise) in the service of socialist, anti-free market economics.

It was clear in 1920s Vienna that Taylorist planning could be mobilised in different ways, with distinct social and political consequences. This can be illustrated with an example. One of the architects associated with Neurath and the Viennese settlement movement was Margarete Schütte-Lihotzky, who designed her prototypical ‘Frankfurt Kitchen’ using Taylorist principles. Schütte-Lihotzky introduced an innovation in efficiency by abandoning the traditional Wohnküche (live-in kitchen) characteristic of working class homes in Germany and Austria. She used time-motion studies to design new ‘working kitchens’ that separated the activity of cooking from the other activities of the home. The municipality of Vienna adopted this model in the late 1920s for their community housing blocks or Gemeindebauen. Neurath’s closest architectural associate, the architect Josef Frank, responded acidly to Vienna’s introduction of these kitchens, arguing that they destroyed the proletarian home despite the fact that ‘the greatest proportion of civilised humanity live in the kitchen’. Interestingly, Frank describes this as a return to the ‘speculatively built dwelling’. Speculation, usually associated with metaphysics by advocates of empiricism such as Neurath, is here associated with Taylorist ergonomic design. Time-motion studies or other purportedly rational attempts to systematise living and make homes efficient are speculative in Frank’s view because they propose new domestic arrangements that are not rooted in the


actual everyday lives of the working class tenants. Frank implicitly aligns the new kitchens, and the ‘speculative’ application of Taylorist techniques with what Neurath called ‘pseudo-rationalism’. Briefly, this is the belief that it is possible to root all decisions (including design decisions) in conscious, rational insight. This belief, Neurath argues, ignores the necessary arbitrariness in decision-making and in everyday arrangements. In a 1913 essay, Neurath emphasised that social action could not be based on rational or objective certainties. To believe you can achieve everything through conscious, rational insight is ‘pseudorationalism’, which derives from the same root as superstition and mysticism. Neurath’s philosophical rejection of certainty accompanies a rejection of over-rationalised planning which does not take sufficient account of human needs and human happiness.

ISOTYPE, FUNCTIONALISM AND UNIFORMITY

Architects who used ergonomics and time-motion studies set out to reinvent everyday tasks according to rational principles, and ultimately, shape a new way of life [Gestaltung des Lebens] on this basis. The commitment to ‘functionalism’ and rationalism of the neue Sachlichkeit (new objectivity) in architecture and design is underlined by its use of Taylorist time-motion and ergonomic studies. Galison reads Isotype in this light, and views Neurath as a proponent of the technical and architectural production of the new way of life via his involvement with the Dessau Bauhaus under Hannes Meyer. Galison points out that, “Throughout their writings Carnap, Neurath, and others singled out modern architecture as the cultural movement with which they most identified”. Using Neurath’s 1928 book Forms of Life and Class Struggle, Galison summarises,

Since rationality and scientificity were to characterize the revolutionary proletarian orientation, the architecture of modernity demanded rationality and functionalism. Modern architecture, Neurath believed, could both reflect and shape ‘the spirit of modern times’. Again and again, he argued that ‘significant movements of the age’ striving to shake loose of the past would ignore the example of the Bauhaus only at their peril.

In his Theory and Design in the First Machine Age, Reyner Banham states that functionalism was by the mid thirties used ‘as a blanket term for the progressive architecture of the twenties and its canon of approved forerunners that had been set up by writers like Siegfried Giedion’. Banham’s argument is that functionalism was not characteristic of 1920s architecture, even if its theorists and architects described it as such. However we can draw quite a sharp difference between the practices of the Dessau Bauhaus after 1928 (when it was directed by Hannes Meyer) and the architectural projects in which Neurath was most closely involved, the Gemeindebauten in Vienna.
These used standardised interchangeable parts, but were as concerned with symbolism as they were with functionality, rationalisation and efficiency. Architectural historian Eve Blau describes the social housing projects of Red Vienna in the late 1920s as using a conventionalised typology, much as the Vienna Method (or Isotype) did. Different combinations of mass-produced architectural components communicated ‘how each building was to be used and what its relation was to the larger program of Red Vienna, as well as to traditional building practices and the physical fabric of the historical city of Vienna’.  

In his essay written on the opening of the Dessau Bauhaus in 1926, Neurath had, as Galison summarises, ‘gently chided the Bauhaus for relying too much on the style of modernism and not opposed to its practical implications’. Nevertheless, Neurath was not opposed to aesthetics in the sense of visual or sensory pleasure. In his writing he repeatedly emphasised that any calculation of efficiency or use must be tempered by the recognition of the significance of everyday sensory pleasures. Marie Neurath recalled how he talked of the Bauhaus, and ‘ridiculed one of their designs, a house for bachelors, from the point of view of the human beings who were to live that way’. However irrational or arbitrary actual lived practices may appear, they should be the grounds for stylistic choices, rather than the desire to give an appearance of functionality or the scientific analysis of human movement. Neurath and his colleagues put this principle into practice in the production of picture statistics and charts: at the Gesellschafts-und Wirtschaftsmuseum in Vienna and later, the Isotype Institute in Oxford, their methods were repeatedly tested on audiences and in schools, and adjusted in the light of these findings.

Neurath’s version of functionalism is one that begins with people ‘as we find them’, a proposition first set out in his 1917 essay ‘The Converse Taylor System’. A clear example of what he took to be the needs and ‘functions’ fulfilled by a designed object (or graphic symbol, or building) is given in his correspondence of 1945. In that year, the Isotype Institute was involved in a slum-clearance project in Bilston, near Wolverhampton. In November, Neurath wrote to A.V. Williams, the town clerk and driving force behind the Bilston redevelopment, on the importance of enabling ‘the slum-dwellers to continue certain peculiarities of their life’ (things they enjoyed and did not want to abandon); ‘I am looking at all these items from a personal point of view, how a single person in your society may look at it, as a father, as a tired person, as a person who would like to read a book’. This idea of designing for diverse human needs also informed the work of Adolf Loos, who worked alongside Frank and Neurath on the Viennese social housing in the 1920s and 1930s. Loos wrote, ‘Following the principle that every type of tiredness requires a different chair, an English room is never furnished with one type of seat alone’. Neurath and his friend Josef Frank both held that there could not be any true or complete functionalism since it was impossible to anticipate in advance the uses to which things would be put. The function of a chair may
be ‘alleviating tiredness’ or it may be ‘sitting down’ but neither captures the full range of uses to which a chair is put, and no chair can be designed with the foreknowledge of all those uses. In a letter to Frank describing his escape from The Hague, Neurath described parachutists fighting with machine guns on the roofs and added an ironic aside to the architect - ‘you see the result of modern flat roofs - a fine thing for fights’. This example shows, not the fallibility of flat roofs, but the impossibility of knowing the results of design decisions in advance.

England seemed to offer some particularly vivid examples of the necessity and difficulty of redesigning the everyday. In a lecture given in Cambridge in 1941, Neurath contrasted the uses of fires in houses in Germany and England. A fire might be conceived as ‘a tool for making warm’ but it also might function (depending on its design) for ‘centralising, grouping people’. So, ‘changing the fireplace institution means changing many things: we cannot say what’. Any attempt to make rational technical improvements to the fireplace must take into account the love of ‘cosiness’. Neurath explained that his German-speaking friends viewed the English fireplace as a ‘waste of calories’, since most of the heat goes up the chimney, yet he argues, via a comparison with skiing, that what one person views in terms of efficiency (the burning of calories), another calls pleasure. Frank shared this emphasis on aesthetic, sensory pleasure. As the only Austrian architect chosen to contribute to the 1927 German Werkbund exhibition in Stuttgart, Frank built two houses which, though technologically innovative, were interpreted as a direct and provocative challenge to the neue Sachlichkeit in architecture. Theo van Doesburg lambasted the interiors for being ‘femininely appointed’ and ‘middle class’, while other critics talked of being ‘caressed’, of ‘frippery’ and of the house as a ‘bordello’.

Frank’s defence of his work rejected the notion of ornament as gender-specific and the denigration of the feminine that this implied. He responded that the bare, ‘functionalist’ style of interior did not cater to actual psychological needs: ‘Every person has a certain measure of sentimentality which he must satisfy,’ he argued; ‘frippery’ provided comfort.

As Galison suggests, Frank ‘tried to navigate between left and right, between a naively progressivist (and, in his view, affected) functionalism of the Germans and his own countrymen’s penchant for ornamentation, regionalism, and nationalism’. He was not alone.

Cosiness and comfort were priorities for Neurath in his own everyday life and, he assumed, for the working people of Vienna and England. Friends’ reminiscences of Neurath’s home in Vienna describe a space organised (even Taylorised) for the use of Neurath’s then wife, the mathematician Olga Hahn, who was blind; but also a comfortable space, decorated with Chinese objects and fabrics. An acquaintance, Ernst Lakenbacher, described meeting Neurath in the army service corps, and how he rapidly transformed their remote and bare living quarters ‘into a cosy study, making use of old crates and pictures
from periodicals’. Wolfgang Schumann, who met Neurath in 1906, recalled, ‘he told me of his research into the character of lavatories in Vienna, especially regarding their cosiness. I was startled, but extremely impressed by the man’. This interest in the cosiness of toilets reappears as a criticism of Le Corbusier’s architecture in a 1945 letter to Frank. Neurath recounted, ‘when we asked the lady where the bathroom is, we learned after some hesitation that it was just this dark hole, in which one could hardly move’. Frank argued that working people were less attracted to bare furnishings than intellectuals: ‘The demand for bareness is made particularly by those who think continuously, or at least need to be able to do so, and who can obtain comfort and rest by other means’. A Persian carpet could provide an unlimited amount of detail, which given time to contemplate, has ‘a calming effect’.

It seems that Neurath concurred with his close friend when it came to the domestic interior, but followed a very different approach with Isotype. Just as Josef Frank’s brightly-patterned, exuberant textile designs are very different in appearance from the designs of the neue Sachlichkeit (Frank later became a key figure in the Swedish Modern movement), they also stand out from the austere geometric aesthetic of Gerd Arntz and Isotype. Certainly Isotype charts appear visually stripped down, and rationalised, their uniform simple appearance is intended to facilitate reading and discussion. While, even in the 1920s, neither Neurath nor Frank had been unequivocal supporters of a bare, minimal aesthetic in design, the Gesellschafts-und Wirtschaftsmuseum housed a simple, modern display structure designed by Frank to draw attention away from the soaring Gothic ceilings of the neues Rathaus. Isotype charts were intended to be encountered for a limited time in the space of the museum, and relatively quick comprehension and debate is the aim. The Persian carpet belongs at home, where relaxation and quiet, absent-minded contemplation is needed. Nevertheless, the visual style of an Isotype chart is not purely to do with legibility. Like the Gemeindebauen and the designs of the Bauhaus, Isotype charts use visual style to position themselves within a larger social and political context.

By rejecting extraneous detail and unnecessary ornamental flourishes, the Gesellschafts-und Wirtschaftsmuseum, and later the Isotype Institute, symbolically committed itself to the equalising power of modernity. The early charts made by the museum had included the trappings of social class and ethnic difference, indicated by details of dress, but as Isotype developed it tended toward very simple schematic indicators of such differences. Neurath’s 1939 book Modern Man in the Making includes an Isotype picture which shows how visual uniformity was linked with technological modernity (fig. 4). It depicts the transformation of battle-dress over time. Five soldiers in historical battledress from different parts of the world are arranged above five soldiers in identical nondescript uniforms. All are depicted in Isotype style, with blank faces and a simple colour palette, but the lower row of men are distinguished from one another only by a colour-coding of their faces. In the
1930s this use of conventionalised skin colour to refer to national and ethnic difference was still commonplace, and, despite its roots in the hierarchical racial schema inherited from the nineteenth century, it was seen by Neurath and his colleagues as a solution to the problem of depicting difference through ‘folkloric dress’, which Neurath was informed was offensive to people of the different nations. Progress and equal status were associated with modern dress. In this particular chart, homogeneity of costume distinguishes the modern row of figures from the historical one. Yet, battle-dress is not simply costume - it is also equipment, technology. The greater variety of the top row of figures, showing differences in shields, weaponry and headdress for example, might be regarded as visually more engaging than the sameness of the figures below. However, the accompanying text is unequivocal in its explanation of the disadvantages of this variety:

On the battlefield victories are won by the most highly developed war equipment. Whatever the social order may be, a knowledge of war technology is the common possession of all nations today. Cheap armaments and badly fed soldiers do not win battles. Mankind disposes of

FIG 4: Detail from Otto Neurath, Modern Man in The Making (1939). Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, University of Reading.
better equipment, planning and better methods for killing and tormenting fellow-beings than for making life and living conditions secure.\textsuperscript{50}

What appears as colourful variety turns out to be technical disadvantage on the modern battlefield, exemplifying the way social-technical planning has been misdirected toward death instead of life. This technical disparity had facilitated the European conquest of Africa, since African shields made of animal-hide, designed for battles fought with spears, provided poor protection against the bayonet and the horse. In this context, the development of a modern uniform style for Isotype may be seen as more than a functional choice, concerned solely with legibility and clarity. It is also a symbolic and strategic commitment to the equitable distribution of technology and planning for the improvement of life and living conditions. Uniformity of appearance was understood as anti-hierarchical, and democratic. Before the second world war, standardisation was often understood as an aspect of the democratising potential of modernity, a means of combating traditional hierarchy and social inequalities, both symbolically and practically. Equating domination with standardisation and Fordism became more common as the Fascist and National Socialist adoption of rationalisation and standardisation became evident. After the war, many modernist designers and artists, including Frank, repudiated their own earlier insistence on a uniform style, as something now tainted by association with Fascism and Nazism.\textsuperscript{51}

Although in their final visual appearance they appear uniform, it is evident from Neurath’s correspondence that Isotype charts were produced as assemblages, through an assiduous process of consultation, drawing on a wide range of expertise, and diverse perspectives drawn from different fields. At the Gesellschafts-und Wirtschaftsmuseum this took the form of an Academie of experts at the museum. Later, in the Netherlands and Britain, it was via a large network of dispersed informal contacts and consultants, as well as paid researchers. This practice of assembling diverse elements into a unified whole is consistent with Neurath’s other work. For instance, he argued in the Cambridge lecture for the importance of diverse perspectives in social planning, rather than imposing a totalising view. On his Unity of Science work, he had to defend himself against Horace Kallen’s accusations that the unified science was ‘absolutist’ and in league with totalitarianism.\textsuperscript{52} Neurath argued his vision was a pluralist one - he had no intention of constructing a total system. He acknowledged that scientific disciplines operate according to different, contradictory principles. But the crux of scientific ‘unity’ is that all sciences could be discussed using everyday language, ‘the everyday language which we use when we talk of cows and calves’. For Neurath, this is a democratising move - what can be known by scientists should also be explicable to anyone, and he cites Itelson, ‘What one cannot explain in principle to a taxidriver in his language must be somewhat twisted’.\textsuperscript{53} Neurath’s model for construction was the encyclopaedia, an ongoing project of collating and orchestrating which is never complete, a model which drew on d’Alembert and Diderot’s eighteenth-century example.

\textsuperscript{50} Otto Neurath, Modern Man in the Making, New York, Alfred A. Knopf, 1939.

\textsuperscript{51} See Christopher Burke’s epilogue to Active Literature: Jan Tschichold and New Typography, London, Hyphen Press, 2007, and Christopher Long’s discussion of Frank’s post-war anti-style of ‘accidentalism’ in Long, op. cit..

\textsuperscript{52} On Kallen’s accusations, see George A. Reisch, How the Cold War transformed the Philosophy of Science: To the Icy Slopes of Logic, Cambridge UP, Cambridge and New York, 2005.

By the mid 1930s, Neurath had also rejected the idea of a symbolic language that could absolutely eliminate the problems arising from the ambiguity of natural language. In 1928 Carnap had published The Logical Construction of the World (the Aufbau) in which he conceived of a coherent system of scientific knowledge, built out of simple, empirical perceptual elements and therefore ‘transparent’ because directly traceable back to such statements. In this way, epistemology might establish itself on a scientific basis and rid itself of historically accumulated, metaphysical baggage. Isotype’s visual construction seems to echo this. Like the Bauhaus use of geometric elements (triangle, circle, square), Galison suggests, Isotype was ‘essentially a linguistic and pictorial form of transparent construction’, since ‘Out of simple pictorial elements such as a machine, a worker, or coal, one could construct standardised representations of the distribution of industry, housing, and other aspects of material life’. However, according to recent scholars, despite his early enthusiasm for eradicating terminology he saw as metaphysical or theological, Neurath took the view that linguistic ambiguity made communication possible by enabling stable discourse. He stated, ‘The fiction of an ideal language constructed out of pure atomic sentences is no less metaphysical than the fiction of Laplace’s demon’. The basis of science has to be Ballungen, common and imprecise ‘verbal clusters’ or congestions that we use in everyday life: ‘We always start from historical, natural language. Its sentences are Ballungen, and that means mixtures of forms of expression (precise and imprecise concepts)’. When Otto and Marie Neurath promoted Isotype as a ‘picture language’, they emphasised its limitations, its inability to deal with emotional content, its supplementary role. Neurath explained, ‘the picture language is an education in clear thought - by reason of its limits’. In 1944 he wrote, ‘I always maintain the limitations of all visual aids … I object to attempts to look at Isotype as a quasi-language in full-dress. It is just my point to maintain that Isotype is adapted to impressive presentation of relatively simple correlation. A full scheme of hieroglyphics should frighten me … ’ In International Picture Language he argued that picture languages, are based on our knowledge of the things themselves, putting weight on what ever seems important. Ideas of what is important are not the same at all times or in all countries … Certainly the ISOTYPE signs are dependent on their time like all these old sign-languages. Later times will see what their special qualities are and what the conditions were which made them’. While Isotype signs are empirically grounded, they are still culturally and historically specific interpretations. Isotype draws on a common symbolic vocabulary, pilfering from a wide range of different sign systems including well-established historical symbols. The ancient Egyptian wall paintings that Neurath knew from his visits to the Kunshistorischesmuseum in Vienna provided a model of clarity and colour, for ways around the complex naturalistic
convention of perspective, and for a symbolism derived from ‘living life’ (as Neurath put it) rather than ritual or religion. Neurath also explained that colour in Isotype was used according to common-sensical associations ‘adapted to popular usage’. In this way, Neurath hoped that Isotype might gain, not absolute clarity, but something of the legibility and stability of Ballungen.

In 1947, Marie Neurath wrote to a correspondent that while Isotype should be easily understood, ‘the writing of it was a very responsible and difficult job which can only be carried out by a group of experienced persons.’ Isotype, in her view, was a developed and thoroughgoing practice rooted in experience worked out over two decades, hers as much as Otto Neurath’s. Its flexibility and usefulness depended on this recognition of it as a practice, not a code that might be ‘cracked’ nor as a set of finished stylised artifacts. As a practice, Isotype intersected with a wide range of other practices, and participated in social change, as well as operating as a means to enable its users to develop new conceptual and perceptual practices. Peter Galison and Lorraine Daston have argued that scientific practices operate at the level of an individual, as ‘techniques of the self’ that discipline and orient attention, and create the conditions for certain kinds of (valued) thought. Cultural production also involves techniques and rules that orient attention in specific ways and facilitate practice. In Isotype this would include (for instance) the restricted range of colours used and their rules of combination, and the maxim that quantity should be indicated through multiple identical pictograms, rather than through differences in scale or volume.

Clearly Isotype did tend toward standardisation, uniformity, the methods associated with quantitative social science and social planning. Yet these techniques and regimes that facilitate the practice of making and interpreting Isotype charts were not attempts to impose a singular way of life, nor was the discipline needed to produce the charts a discipline imposed on its readers. Isotype was part of social planning and education, a practice that proceeded on the basis that what knowledge we have can be accessible to everyone if it is expressed clearly enough. Neurath and his colleagues did not believe that uncertainty, ambiguity and everyday muddle were intolerable, or assume the world was entirely knowable. Architecture, planning and Isotype were, for Neurath, not about shaping the new way of life (singular), in accordance with the demands of industry or the mass society, but about enabling plural, co-existent ways of life.

This essay was written on research leave funded by the UK Arts and Humanities Research Council and the University of the West of England, Bristol. Thanks to Elisabeth Nemeth, Eric Kindel, Ferdinand Mertens, Friedrich Stadler, Christopher Burke, John O’Neill and Michael Tuyman for generously sharing their knowledge of Neurath and Isotype with me, to staff at the various archives for their help, and to Iain Hamilton Grant and Esther Leslie for help with translation. Ben Highmore, John O’Neill, Gillian Swanson, Christopher Burke and John Parish all kindly read and commented on drafts. Thanks also to Alice Barnaby, Rod Dickinson, and Richard Hornsey for their useful and perceptive comments on a spoken version of this paper.

62. Otto Neurath, *From Hieroglyphics to Isotype*, draft in the Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading. 
63. Marie Neurath to Philip Dingle, March 27, 1947, Isotype 1/1-5, the Otto and Marie Neurath Isotype Collection.
Neurath’s Whale

In 1933, the American magazine Survey Graphic published an article entitled “Museums of the Future” by the Viennese museum director and polymath Otto Neurath. Neurath gave the example of a typical whale exhibit to explain what he saw as the limits of natural history displays:

A huge whale hangs in the middle of the hall; but we do not learn how the “beard” is transformed into old-fashioned corsets, how the skin is transformed into shoes, or the fat into soap that finds its way to the dressing room of a beautiful woman. Nor do we learn how many whales are caught per annum, or how much whale-bone, fat and leather are produced by this means. And yet many people surely would be interested to know what this means for the balance of trade, how it relates to economic crises, and so on. Human fortunes are connected with this exhibit—starving seamen, hungry families of fishermen in the north of Norway. And so, everything leads to men and society.¹

Neurath’s whale is a hypothetical, not a particular whale. He invokes it to question the separation between human society and nature that museum displays reinforced and that was rooted in the disciplinary divide between the humanities and the natural sciences.² His view was that the museum’s purpose was to help the visitor to understand his or her own place in social processes. In 1933, whaling was still big business, and Neurath proposes that the current
dependence on whales be made visible so that the animals are revealed to be part of industrial modernity, transformed into commodities and abstracted as stocks and shares. It is a vivid and interesting example of Neurath’s museological approach, and one of the few times he describes an object-based museum display in his writing.

Yet it is not clear exactly what kind of object Neurath meant by “a huge whale.” He may have been thinking of the whale skeletons exhibited in the Naturhistorischesmuseum in Vienna, or in the central hall of Berlin’s Museum für Naturkunde, or that he had seen on visits to Britain and the United States. Few examples of cetacean taxidermy exist since dead whales putrefy quickly and whale skin is difficult to preserve, so models were increasingly used in exhibits. Neurath’s essay predates the blue-whale model at the British Museum (Natural History) that was completed in 1938, but in the United States there was the 76-foot-long papier-mâché model of a blue whale, suspended since 1907 at the American Museum of Natural History (AMNH) in New York.

This hypothetical whale is not entirely imagined, then, but based on the experience of visiting whale halls and seeing suspended specimens or models. As well as challenging disciplinary boundaries and the separation of nature and society, Neurath is questioning the continued orientation of museums toward the “quasi-religious” display of singular, impressive objects. Neurath proposes a reorientation: the whale may remain at the center of the hall, but the real center of the exhibit becomes “man and society” rather than the whale. This raises interesting questions about the museological display of whales, and about the relationship between objects and contextual information in displays. Could this huge object simply slip into the background, quietly allowing us to move from the contemplation of it to the contemplation of the human uses of whales? What, in the context of an exhibit about whales’ social uses, would visitors see? Would the whale even remain visible as “a whale”? And, if it could succeed, would Neurath’s proposed exhibit connect us more closely with the whale, as he seems to suggest?

Consider what Neurath wants the exhibit to do. He wants it to make visible a “network” of human and nonhuman relationships and dependencies, and to overcome the existing splitting of nature from society. Yet, in the case of whale exhibits, museum natural history was already closely entwined with industry. Exhibits that featured whaling were prepared by museums, including the
Smithsonian, which produced fishery exhibits for a succession of international expositions in the 1870s and 1880s. These exhibitions were so frequent that the museum secretary, Spencer Baird, complained that the task of producing them was hindering the museum’s usual work. Baird’s combined roles as secretary of the Smithsonian, director of the United States National Museum, and commissioner of Fish and Fisheries suggest that political-industrial interests and scientific concerns were very much entangled.4

In the Smithsonian exhibit for the 1883 Great International Fishery Exposition in London, scientific and museological concerns mixed with the vested interests and propagandistic purposes of industry and state. The exhibit promoted national identity and progress, and aggrandized U.S. industry, including whaling. Before it opened, the New York Times had predicted that it would explain “the gradual march of the fisheries” in the United States to the present day, in which “the value of our catch exceeded that of any other country.” The Times noted that the exhibit concerned itself not only with industry but also with the scientific classification of fish (and whales). It would also include some of the things Neurath later described as absent from the whale hall: harpoons, guns, and other weapons used in hunting were to be shown but also the “archeology of whaling,” alongside a perfectly equipped whaling boat, whaling logbooks, and “all the make-shifts of the whaler”—“such as strange lamps manufactured out of tumblers” and “rough skates fashioned out of files.” In addition, there was a life-size model of a harpooner standing on the bow of a whaling ship. The article concluded that this exhibit would certainly be “in the highest degree creditable to our country.”5 Indeed, the Americans came away from the 1883 exposition with eighteen gold medals.

Neurath’s aim was politically very different from the propagandistic aims of the International Exposition. He set out to facilitate democratic participation in social planning, which meant first that museums were an educational tool to help visitors understand their relationship with a wider world. The museum should aim to make knowledge relevant and coherent, a process he later described as the “humanization” of knowledge.6 In Neurath’s imagined exhibit, the aim is not to aggrandize whaling, but to show the interdependence of man and animal. Neurath’s text proposes bringing natural history home, making the whale not simply an object of curiosity and wonder or scientific interest but something of direct personal concern to visitors. Thus, Neurath makes the whale social and political.
However, the Smithsonian exhibits do point to a problem with Neurath’s critique. For Neurath, it is the separation (of whales from us) enacted by natural history that is the dilemma. For the sociologist Bruno Latour, separation is only part of the problem. In his book *We Have Never Been Modern*, Latour describes “the modern divide between the natural world and the social world,” but he is also interested in the ways in which the divide is continually overcome and reinstated. Through a process he calls “translation,” modern science produces “entirely new types of beings, hybrids of nature and culture.” Another process, “purification,” then reinstates the separation: “two distinct ontological zones, that of human beings on the one hand, that of nonhumans on the other.”

The fact that the 1883 Smithsonian exhibit included whales (mammals) as fish demonstrates the priority of social, industrial classifications over scientific ones, yet at the same time, science and the museum lend the exhibit authority. Even the whaleman appears as an anthropological subject through his ingenious inventions. Scientific knowledge and industrial interests are simultaneously mixed (translated) and kept apart (purified), since rigor, disinterestedness, and objectivity assure scientific authority. The whale appears caught up in human activity, part of culture, and yet the translation of the whale into a social being is also denied through purification since whales are reduced to “nature” in the form of raw material to be exploited by humans. The whale is pushed out, assigned its place as nonhuman, in the same moment that it seems to be being accepted as part of the social. The same could be said for Neurath’s whale, which also appears primarily as a human resource.

Nevertheless, Neurath’s envisaged whale exhibit also invokes beauty, hunger, and starvation. The dismembered whale connects peoples across the globe, connects the desire for beauty with others’ hunger. If “everything comes back to man,” it is not to rational, scientific man, but to the diversity of feeling, living, eating humans. Human attachment to the whale, human dependence on the whale is not “happiness neutral,” to use Neurath’s own phrase. At the same time, the feelings evoked here all relate to the use of the whale and to the hunt.

We can read Neurath’s explanation of what is missing from the whale hall as indicative of what whales were to people at the time. The whale was industrial material, often described in terms of the number of barrels of oil it yielded. Philip Hoare’s book *Leviathan: Or, The Whale*, inspired by *Moby-Dick*, shows vividly how, at the height of the industry, and for those directly
involved, the whale was known primarily as a calculable, disassembled object. Whalemens and whalers looked at the animal with trained eyes: they estimated and described its size and strength with a view to its capture, in relation to volumes of oil and blubber, with an eye on market prices.

Yet the whale is also a fearsome creature, and the encounter with a living whale is an encounter with another conscious being which orients itself toward you, which responds, acts, and reacts. Encounters with these creatures would have evoked strong feelings, however much the whalemens were trained to see them as potential commodities, or in terms of the work they would undertake on their corpses. They saw the whale as an industrial object, labored on the whale’s body, and also could be inspired to terror and awe as they faced the creatures they slaughtered. As the literary theorist Philip Armstrong expresses it, nineteenth-century whalemens had an experience that “routinely alternated between dangerous encounters with the vast materiality of the living animal and its reduction to dead and partial resources, a commodity to be measured by the barrel, reified by the factory ship’s technological procedures and its specialization of labor.”

This vacillation between the two perspectives may have diminished by the time Neurath was writing, as the industrialized mass extermination of whales was then under way. New technologies and forms of industrial organization meant an end to the struggle between man and whale, and perhaps to the sense of the whale as an awe-inspiring “monster.” Whales were slaughtered on sight and en masse, and the huge corpses were processed on factory ships in ever-more-efficient ways, weighed, measured, and reduced to saleable units with no chance for either side to step back and wonder at the other. Whales were now a war resource, for use in the manufacture of nitroglycerin. As John Berger’s famous essay “Why Look at Animals?” suggests, modern industrial society sets animals at a distance from us, making it hard to see the animal as codependent, to relate to it as more than an object.

Berger’s essay also suggests that this detachment of humans from other animals allows symbolic, emotive, and sentimental attachments to animals to proliferate rather than diminish. The whale remained, and is still, a powerful creature in myth and symbolism. We do not need any actual encounter with a whale, life-size whale model, or whale skeleton to develop strong, even passionate, feelings toward it. The possibility of love for the whale, of fear, empathy, awe may be provoked by narrative accounts, by fictions, rumors, pic-
tures, and our capacity to imagine. These feelings are variable and historically specific. Few people now face a whale knowing they have to kill it or may be killed by it. Moreover, I cannot say whether the tears that come to my eyes when I see film footage of a whale’s tail rising and sinking below the surface of the ocean might have any of the same emotive content as the tears in a nineteenth-century sailor’s eyes when he saw the same sight for real. A gulf lies between us, in which a photographic cliché has been born, whales have been driven to the edge of extinction, and environmentalism has become a popular cause. Even so, in the 1930s as now, most people’s relationship with whales was with imagined whales. These do not possess the same certainty, the same calculable quality as “the balance of trade” and “economic crises,” but they affect us just as much.

THE PROPERTIES OF THE WHALE

Although he ignores other emotional and meaningful attachments to the whale, Neurath is not arguing that we need see the whale solely in instrumental terms. He simply suggests we restore the social character to something that has been misconceived, and misrepresented, as purely nature. This is consistent with the Marxist perspective that Neurath knew well. Marx used the example of a cherry tree to argue that objects we conceive of as “nature” are the product of human activity. Commerce enabled the cherry tree to appear before us as an immediate, natural thing. As Marx wrote, “the sensuous world is not a thing given from all eternity, ever remaining the same, but the product of industry and the state of society . . . a human product.”12 Similarly for Neurath, “everything leads to men and society.” In his proposed exhibit, there is therefore no sense of the whale as a creature existing regardless of, and outside, human society and human work on it. Clearly the whale as an animal does exist regardless of us. Alive, it is a beast with its own purposes, its own intentions, its own unfathomable world. To encounter a living whale is, as Berger suggests, to encounter something that looks back, but across a gulf: it is to encounter an “other,” similar and different from oneself.13 Yet once the whale is disassembled into commodities or transformed into a museum exhibit, it is, like Marx’s cherry tree, the product of human labor, social transactions.

One way in which the whale exhibit becomes a whale for us is through the imposition of ideas and beliefs, which then appear to us as apparently innate properties of the whale itself. We impose meaning onto the things of the
world by bringing a certain “baggage” to any encounter. For example, certain kinds of illustrations and written encounters of whales may have predisposed the nineteenth-century museum visitor to view the whale as a “monster.” Museum models or specimens are never neutrally exhibited. They do not appear before us as simple matters of fact, but are produced by various exhibition practices, contextual framings, institutional conventions. To see the whale as something that is socially and culturally constructed means attending to how such practices, frames, and institutions actually produce the object as a whale. Various discourses or scripts make it possible to see and act toward the display in one way and not another. The whale-object is not simply sensuously given to us, nor does it appear to a viewer innocent of the discourses and context that surround it. The ways we perceive, represent, and classify the whale are rooted in our own culture.¹⁴

This is complicated, however, by the fact that visitors encounter it bodily, as a material thing, in actual space, and via their senses. From a phenomenological perspective, we might say that the whale (object) and the visitor (subject) work together.¹⁵ The museum visitor orients her attention, and also herself, toward it. The object impresses itself upon her materially, but the properties she perceives as belonging to it are not simply “in” the object but in its relation to her. If the whale model has certain material properties that she takes into account, this is because of her particular bodily engagement with it: thus, weight becomes a felt quality of the whale skeleton only for those people assigned the task of hanging it in the hall. The workers doing this will experience it as resistant or malleable, as workable or not, just as whale oil materially lends itself to certain industrial uses and not others. Every subjective encounter with the object, even for visitors just looking, is also a material encounter. By exhibiting the whale in certain ways and allowing visitors to engage in certain ways (to touch, or not to touch, for example), an exhibition might cross out certain properties of the whale while directing visitors toward others.

Text, labels, and other contextual material inform how visitors see the whale model or skeleton. Other informative exhibits—photographs and charts, animals of related species, and other whale remains—orient visitors toward the whale in the center of the hall, directing them to these properties and not those. Certain properties of the whale exhibit become vivid, while others recede as irrelevant, go out of focus, or disappear altogether. In this sense, changing the exhibition context as Neurath proposes would change the whale itself.
This process of recontextualization, by which some of the properties of an exhibited object become perceptible and others disappear from view, may be described as the object’s “social life.” The notion of the “social life of things” is usually attributed to the anthropologists Arjun Appadurai and Igor Kopytoff, and emphasizes changeability. A good example from the art historian Philip Fisher concerns a hypothetical sword that changes hands and moves from being a weapon through to being treasure and loot, and eventually becoming a museum specimen. In the museum, the sword is no longer lifted and swung, and is now an object of primarily visual and narrative, educational interest. Fisher shows how objects shape and constrain human activity and how, through their place in a “community of objects,” they direct our attention, but he also argues that the traits of an object are only real within certain social scripts: “our access assembles and disassembles what the object is.” Referring to his sword example, he writes: “Once it is bolted down in a display and not swung in a certain way we cannot say that balance or imbalance is even a fact about it. Without a class of warriors, trained to fight in certain ways, even the permission to lift and swing the sword could tell us nothing.”

The whale has certain traits, certain properties that result from its material existence in the world. But, on this account, these matter only if visitors can access them. In altering our access, orientation, and interpretation, exhibitions alter the properties of objects. This does not mean that all entities are socially constructed; very few social scientists or cultural theorists would argue that. Instead, they tend to retain a category of the natural, or extrasocial, for certain kinds of objects. Or, as Latour expresses it, we tend to divide “nature” into two kinds of things: “soft” objects that are “white screens” for projection (that is, what we see as their natural properties are actually our own ideas projected onto them), and “hard” larger forces (such as biology, or laws of physics) that shape society. However, Latour argues against this division. Either we need to see things like the laws of physics as the arbitrary projections of society, he writes, or we have to rethink the idea that any objects are simply white screens. He introduces the term “quasi-objects” to describe those things that are “much more social, much more fabricated, much more collective” than the hard forces or objects, and yet they are not arbitrary projections, but “much more real, nonhuman and objective.”

If the whale hall were to include objects or text communicating the information Neurath suggests, and if this were to make “everything lead to man
and society,” the whale in the hall would have to be a “soft” object that can simply have new meanings attached to it. If we take this view, we treat the suspended whale as a white screen, one of those objects that are “mere receptacles for human categories.” Even in Fisher’s example, it could be argued that swords and other objects have social lives only insofar as they are instruments for people, enlivened through human attention and uses. By contrast, Latour gives a much stronger meaning to a thing’s liveliness, suggesting that material things confront us with their materiality, demand from us certain kinds of care, refuse to do some things, differentiate between us, and do other things that were never intended by us. This does not make them alive, but it does make them “actants,” not as active as “agents” but not simply playing a prescribed role, either. Things participate in our social lives, not simply as a means to our ends, but alongside us. We are “enveloped, entangled, surrounded” by things, passionately connected and interdependent. Latour conceives of them as “complex assemblies of contradictory issues” and as material, actual, substantive.

Latour also suggests that the semiotic and material properties of a thing cannot be separated. The whale exhibit’s communicative aspect is part of its materiality, not a superimposed layer that we can peel off and replace at whim. Misled by the “modernist opposition between what was social, symbolic, subjective, lived and what was material, real, objective and factual,” we have tended to forget that symbols are always material and to treat the material as if this were just a medium, a carrier. Suspended in its great hall, the whale is a designed object, whether model or reconstructed skeleton, put together to represent a whale, and therefore like all representations, to draw attention to certain aspects, to invite us to think about whales in certain ways. It is the product of a process of construction (the measurements, designs, the manipulation of papier-mâché and wood). It speaks to us (if ambiguously) through its physical construction. Even the skeleton is produced as a signifying object. A process has been gone through to make it stand for a whale: the bones have been cleaned and processed, joined together, made into a construction that can then be hoisted up to the ceiling. Through these procedures they are made to describe or depict a whale.

Yet a skeleton also conceals this, seeming to say, “I am whale,” rather than, “this is what the whale is like.” I have written elsewhere about how taxidermy, like photography, stakes its truth claim in the fact that it both looks like and
is made out of the animal it represents. Taxidermy demands that we respond to it as more than just an object. Thus children ask their stumped parents, “Is it real?” and “Is it dead?” In the case of skeletons, there is less of the visible form of the animal present, but there is still a claim to realism: we assume this is what the animal looks like “underneath” or “inside.” Models, however, do not have this direct relationship to the thing; they have no status as scientific specimens and are purely display objects.

In the case of the massive blue-whale models mentioned earlier (at the Smithsonian, the AMNH, and the Natural History Museum in London), accuracy is very difficult for visitors to assess, since they are highly unlikely to have seen living blue whales. Even Richard Van Gelder, the chairman of the Department of Mammology at the AMNH who was asked to oversee the production of a new blue whale in 1959, had never seen one. Nevertheless, according to the science historian Michael Rossi, the model was based on thorough studies, with Van Gelder “insisting, for instance, that twenty-eight tiny hairs be placed in the massive model’s chin, in accordance with what was known about blue whale whiskers.”

If measurements and photographs have been taken, if various procedures have been adhered to, the scientific character of the display might be assured, and models can also count as truthful, reliable, and authentic displays. The 1907 whale at the AMNH was made of wood, iron, and papier-mâché, but it was based on photographs of dead whales and on the Smithsonian’s whale model, which itself was based on plaster casts laboriously taken from a dead whale. The “mechanical objectivity” attributable to photography and the directness of the plaster cast underwrite the model’s truth claim, but so do the expert knowledge and skills of the paleontologists, taxidermists, and biologists who produced the models. In other words, the whale-object becomes a convincing whale not only through direct physical connection with the animal it represents, but through the rigor of the processes involved and the authority of science. As Lorraine Daston and Peter Galison argue in relation to scientific illustration, objectivity in science is developed through such techniques and practices, regimes and routines. The exhibit is the result of certain technical procedures, rituals, habits, disciplines, and ideologies.

Rossi points out that the 1907 AMNH model was “by no means a generic model” but referred to a specific animal and “preserved the zero-sum relationship between referent and representation that underwrote the other taxi-
dermies in the museum." However, the nineteenth-century commitment to truth to nature meant that the specific singular whale had also to be generalized, to become the typical whale, by eliminating or at least playing down the anomalous or the atypical aspects of a specimen. The whale-object, whether skeleton or model, is always already, to adopt another word from Latour, an “imbroglio”—a tangled knot of human social practices and whalishness, of material, technical thingliness, and ideas. Neurath’s hypothetical whale would not be a bounded solid object, but a multiple, entangled quasi-object—already socialized, already embedded in the world of natural science and its ways of seeing the world but also concretely present before the museum’s visitors. Because it is already so, we cannot say that it has no properties, or that its properties are dependent on our access.

It is hard to imagine a whale-model as an imbroglio. As Hoare reminds us, the earth had been pictured from space before the first underwater photographs of whales were taken: “We knew what the world looked like before we knew what whales looked like.” Whales, that is, fully in their element. The whale models in museums preceded this, giving a sense of the whale’s suspended grace, but the analogy is a good one, because somehow whales (especially blue whales) seem as bounded and as whole as the earth does in those pictures. Before that, large whales were mostly perceived in fragments, as parts that did not add up. Those parts that surfaced were allegedly taken for islands or for other fabulous beasts. Caught, or beached, whales become formless, ungainly things. Yet in representation they seem bounded, self-evident, and also singular—“the whale.” So much so that when the philosopher Ian Hacking writes (in The Social Construction of What?) of how categories of people get produced as “a definite class” or subspecies in the singular (“the child viewer,” “the woman refugee,” “the disabled individual”), he says, “like ‘the whale.’” He could have chosen any animal, but the whale is the most appropriate.

So the whale model is already embedded within, and has embedded within it, practices, procedures, and protocols, yet it appears to us as whole and unassailable because of its shape and its sheer size. The blue-whale model suspended from the ceiling of the Natural History Museum in London is designed to impress me with its scale. This is obviously a material property but also a designed, symbolizing, meaningful aspect of it. To fully comprehend this aspect, it helps if I can get my body close to the (model) whale body. Since size is relational, my experience of the whale’s largeness, and my comparative
smallness, is between the two of us. No other objects need join this community, no beautifully designed exhibits need point me to this; the main thing I need is proximity. I also need some guarantee that this is how a blue whale looks and this is its true size.

How I then understand and experience my encounter with a museum whale will depend on all sorts of factors—I may have picked up from other displays and paintings a Romantic understanding of the relationship between the human body and the vastness of nature, and that might shape how I feel about this. In any case, the difference in scale is unlikely to be a neutral fact for me, and I am unlikely to respond with indifference. The natural history museums that hit upon the idea of suspending their whales from ceilings well knew their spectacular and emotive power. By the 1950s and 1960s, whale exhibits were designed with the explicit intention of inviting visitors to feel as if they had entered the whale's underwater domain.30

MANAGING WONDER

Size connects the museum experience with the experience of living whales. Even in contexts where the whale was seen primarily as an industrial-technological resource and a set of commodities, its physical presence was overpowering and had to be managed. In the nineteenth- and early-twentieth-century port cities that prospered from the whaling industry, the whale was both a symbolic and physical presence. Ishmael, the narrator in Melville's Moby-Dick, remarks of the city of New Bedford:

Nowhere in all America will you find more patrician-like houses; parks and gardens more opulent, than in New Bedford. Whence came they? how planted upon this once scraggy scoria of a country?

Go and gaze upon the iron emblematical harpoons round yonder lofty mansion, and your question will be answered. Yes; all these brave houses and flowery gardens came from the Atlantic, Pacific and Indian oceans. One and all, they were harpooned and dragged up hither from the bottom of the sea.31

In this contrast between an airy neighborhood and the violent activity that made it possible, houses and gardens are shown to be whalish in scale. They become interchangeable, one by one harpooned—one house, one whale. In places like New Bedford, the physical presence of the dead whale's body was
concealed in the wealthy parts of the city. The whale was transformed into a symbol, and from 1856, New Bedford’s city hall proudly bore the motto *Lucem Diffundo* (We light the world). But the viscera of the whale was less easy to forget in the port itself. Very often the whale bodies were managed by being dissected and processed before the ship arrived in port. Nevertheless, in New Bedford, whale oil had “saturated the soil and the air was redolent with the heavy odor,” as one speaker recalled with nostalgia at the 1916 opening of the Bourne Whaling Museum.

By the time the whale’s body permeated the mechanisms of modern civilization, it no longer smelled and it had been efficiently reduced to manageable amounts of raw material. It spread into fashion and commodity culture in the form of face creams, corsets, and leathers, into industry as machine lubricants, and lit the streets of the great metropolises. In these places, the visceral presence of the whale could not be felt. Such a transformation took a great deal of labor and industrial effort. Large whales, such as sperm whales, were difficult and dangerous to hunt, and turning their bodies into useable materials was also a dangerous, physical process. The whale corpse was, first of all, a mass that had to be managed with effort (Richard Sabin’s essay in this volume makes this very evident).

As Marx explained, human labor is concealed in the commodity, so that the opulent displays of the department stores seem to have nothing to do with factory labor. Similarly, the whalish element was concealed in the whale-based products that appeared on the market (soaps, skin creams, umbrellas, varnish, and margarine, for instance). When whale products were gradually superseded by other materials, such as petroleum, spring steel, rapeseed oil, and eventually plastic, the change was hardly felt, except in those places like New Bedford where it meant unemployment and decline.

Managing whales’ vast corpses was part of exhibition culture, too. A very vivid example of the unmanageability of the whale’s body after death is given in an 1889 *New York Times* article about “a giant whale that has lately been exhibited in the Prater” (in Vienna). Problems with the preservation of the animal meant that “the monster has not been able to resist the laws of nature and has gradually passed into a state of complete putrefaction,” resulting in an “effluvia” that “has pervaded the whole Prater.” Intended as a gift to the museum, the whale instead had to be “given over to the public flayer” to be cut up and buried. By Neurath’s time, embalming provided a partial solution to
this dilemma. Traveling whale shows were big business in the United States from 1928 (though they had existed since around 1918), and they continued until about 1937. The principal touring company was the Pacific Whaling Company, a show-business concern which also toured a whale to Britain in 1931. The Pacific Whaling Company's displays of humpbacks and finbacks were very profitable. For their first display, they acquired a whale from a ship that usually provided whales for the soap industry and attempted to embalm it, but it exploded. Undeterred, they proceeded to exhibit it very profitably, despite its increasingly putrid smell.36

To manage the whale's immense body is extraordinarily difficult. People went to such effort because whales were profitable, and they were so because of the demand to experience them firsthand. How this direct experience was assimilated is another question. Attempts to bring the whale closer, to allow it to be seen directly, took place in the context of a society in which fragmentary, compartmentalized information dominated. For example, writing in 1940, the critic Walter Benjamin observed that newspapers prevent readers from assimilating news content into their own experience, and that this separation is perpetuated through the style, layout, and journalistic practices that inform the newspaper and are part of its form.37 Latour also says of newspapers: "All of culture and all of nature get churned up everyday... but the analysts, thinkers, journalists and decision-makers will slice the delicate network for you into tidy compartments where you will find only science, only economy, only social phenomena, only local news, only sentiment, only sex."38

Neurath's plan to reorient the classic whale-hall exhibit toward "man and society" is about overcoming such compartmentalization, reconnecting the artificially separated spheres of the whale and human daily experience. This cannot be done by simply bringing the whale closer. It also requires overcoming the arbitrariness of modern education, the lack of connection between topics as well as the lack of relevance to lived experience. He wrote, "The wealth of scientific detail is no longer held together by a unitary approach, and in a certain sense it is left to chance whether a man thinks about some linguistic formations in Chinese or about a medieval text, about African beetles or about wind conditions at the North Pole."39

However, there is a distinction between this kind of arbitrary education and the compartmentalization of knowledge that emerges from increased specialization and division of labor. The expert knowledge of whales that
circulated in the whaling era was based in the pursuit of whales for profit; it was motivated, instrumental knowledge. Arbitrary knowledge tends to be nonmotivated, and associated with the leisure practices of the aristocracy, the working and lower-middle classes. While an education left to chance could be the product of neglect (a poorly organized museum, a badly designed curriculum), interest led by wonder, whim, and curiosity is also characteristic of the dilettante, the leisurely amateur, and of popular entertainments. Some forms of mass entertainment, such the newspaper, seemed to echo the fragmentations and jarring juxtapositions that had become a feature of everyday experience and working life in modern, urban society. Others, though, offered compensatory thrills, escapes from everyday life, and knowledge that was valued precisely because it was not immediately useful.

Whales were most explicitly made into objects of curiosity and wonder in the traveling whale shows mentioned earlier. They combined circus techniques with mortuary skills, scientific information with whalers’ firsthand narratives. Whale shows toured via the railroads, and their success meant they were more than a sideline of the whaling industry: preparing dead whales for exhibit became an “assembly line process.” More whale morticians were trained and employed. As the public became more accustomed to the spectacle, the Pacific Whaling Company adopted new techniques to draw the crowds. They advertised in newspapers, using the same publicity techniques as the circus and many of the same showmen. The whales were accompanied by lectures and sometimes other animal-based attractions including (at the other end of the scale) flea circuses.

Whales had become sensational, and the chief sensation to be had was the feeling of proximity: to get close to the whale, to touch the creature, even if it had to be dead for this to happen. In 1934, Pathé News filmed the model Anita Woolf climbing in the mouth of the sixty-five-foot embalmed “Jonah the Whale” (fig. 1). Such images glamorized the show’s promise of proximity. Mass culture brings things closer, as Benjamin observed with reference to technological reproduction, but reproduction was no substitute for the traveling whale show. Bringing whales closer involved immense effort: the newsreel of Jonah’s arrival shows a 100-foot lorry negotiating London streets with difficulty, and a voice-over explains that the whale could not be taken by train because its immense weight threatened to break the rails. Proximity was also assured through the lectures that accompanied the 1930s whale shows. These
were delivered by seasoned showmen using nautical language and dressed as sailors, convincing the audience they were whalers who had "felt the mist in their faces as they harpooned the whales they were showing."42

In Neurath’s time, exhibitions and traveling shows allowed audiences to experience the enormity of the whale: the very quality that makes it difficult to manage also makes it wondrous. So, although Neurath is critical of "arbitrary knowledge," an exhibition which connects whales to its human uses, in an attempt to overcome the separation of knowledge and experience, needs also to allow for the wondrousness of whales (both whales themselves and whale exhibits). As long as the huge whale suspended in the center of the hall remains a thing at which to wonder, it will be relevant to its audience’s lived experience, not by leading us toward "man and society," but by leading us away: because wonder might unseat us, allow us to forget ourselves, even—like the women in the photograph and film—to be consumed by the whale.43
NOTES


3. Ibid., 222–23.


17. Latour, We Have Never Been Modern, 52–55.

18. Ibid., 52.


20. Ibid., 6.

24. Ibid., 341.
25. Ibid., 342.
30. Rossi cites Van Gelder’s memoir on building the whale at the AMNH: “You are a skin diver without apparatus. You are one with the sea” (Rossi, “Fabricating Authenticity,” 360).
33. Ibid., 165.
34. Ibid., 167.
42. Ibid.
Isotype and Elephants: Picture-Language as Visual Writing in the Work and Correspondence of Otto Neurath

Michelle Henning

In 1920s Vienna, as part of the larger socialist experiment that earned the city the nickname 'Red Vienna', the picture language of Isotype was born. It was the invention of the Vienna Circle philosopher and sociologist Otto Neurath, working with a team of artists and researchers at his Gesellschafts- und Wirtschaftsmuseum (museum of society and economy, hereafter GWM). Isotype began as the Vienna method of pictorial statistics, a means of making statistical information and comparison legible to non-expert and even semi-literate audiences through the use of pictures. Later, it became Isotype, an acronym for International System of Typographic Picture Education. Individual symbols or pictograms were made as ink drawings, then as linocuts (later metal letter-press blocks). These were printed, cut out and pasted onto charts for display in exhibitions or for publication. A key innovation of Isotype was in the way it represented quantities as repeated pictograms of identical size, not as differences in size or volume. In this way Isotype made visual statistics measurable, because the number of pictograms could be counted and compared to the given numerical figures, but it was also far less dependent on written labels and contextual information than previous methods. Isotype was among the first standardized systems for representing social facts
in pictures, and the elegance of its visual solutions arguably remains unsurpassed (see fig. 6.1).¹

Though it had this specialized use, Isotype is sometimes described as the precursor of contemporary visual icon systems (used on toilet doors, and as road and airport signage). This claim is not entirely accurate insofar as Isotype symbols were always part of larger charts, maps and illustrations. Nevertheless, in his 1936 book, International Picture Language: The First Rules of Isotype, Neurath did connect Isotype with the emergent sign systems that were appearing in instruction manuals, on the street, and on the road.² Here Neurath explicitly presented Isotype as a language, comparing it to other artificial (and 'semi-artificial') languages such as Esperanto and Basic English. He was keen to emphasize its limitations, such as its inability to deal with emotional content, and suggested Isotype be considered as a supplement
to, rather than replacement for, ‘natural’ languages. Until his death in 1945 he continued to stress that Isotype was not intended to be a ‘quasi-language in full-dress’.3

In 1920s and 1930s Vienna, the primary use of Isotype charts was in specially designed exhibitions, alongside architectural models, maps and photographs. In The Hague, in the late 1930s, Isotype work for exhibition and public information continued, but commissions were rarer. In Britain, the Isotype Institute, established in 1942, gained much of its work through the company Adprint, a ‘book-packaging’ firm which designed illustrated books on behalf of publishers such as Penguin and Collins. The institute produced charts for these books, but also made public-information leaflets and animated sequences for wartime propaganda films, as well as exhibition charts. If in Vienna Isotype had been primarily part of exhibitionary and statistical techniques, now, through its use in a wide variety of books, and through Neurath’s explicit promotion of it as a ‘picture language’, it began to be more connected with linguistics and literature.

Isotype’s increased involvement in publishing and literature must have suited Neurath, who was a prolific writer and a keen reader. He wrote philosophical and sociological books and journal articles and an extraordinary number of letters, as well as a popular book Modern Man in the Making, published in 1939 and illustrated by Isotype. Though never entirely fluent in English, he wrote in English and Basic English as well as his native German. He had no artistic training and his role in the production of Isotype was as the director of the various institutes and organizations. He negotiated commissions, instigated new projects and gave public talks promoting and explaining Isotype. He also had a strong influence on the execution of projects and on establishing the basic principles and conventions they deployed. Several artists were responsible for the visual appearance of Isotype, but the one who had the greatest impact on its development was Gerd Arntz, who worked closely with Neurath from 1928 in Vienna and then in The Hague. Arntz’s ability to condense the details of everyday objects into simple recognizable shapes and to convey social types through silhouette and line was evident in his own political prints of the 1920s. He gave to Isotype clarity and a modern style, but it was up to ‘transformers’ such as Marie Neurath (née Reidemeister) to mediate between researchers and artists, planning

the layout of charts in order to ensure they communicated information clearly and consistently (see fig. 6.2).⁴

Although he did not consider himself an artist, Neurath commonly signed his letters with a cartoon of an elephant. These signatures were so distinctive that one obituary for Neurath, by Waldemar Kaempffert, was titled ‘Appreciation of an elephant’ and began, ‘Otto Neurath signed his letters to friends with the drawing of an elephant, usually cheerful, sometimes subdued. Now those brilliant letters have ceased.’⁵ These signature drawings might be seen to constitute another picture language, insofar as Neurath uses them to communicate with his correspondents. Stylistically they differ very much from Isotype, not least in being rapidly hand drawn. Recent studies have made much of the distinction between the flowing, expressive, hand-drawn line and the straight, unmodulated, mechanical line, associating the latter
Picture-Language as Visual Writing in Otto Neurath

with Enlightenment notions of rationalization and progress. This opposition may be complicated by comparing Isotype and Neurath’s elephant, and by considering what, exactly, a picture language might entail.

Neurath set out some of his thoughts on picture languages in a book written in the last two years of his life. It was finally published in 2010 as *From Hieroglyphics to Isotypes: A Visual Autobiography*. Here, Neurath describes Isotype as a system of modern hieroglyphics inspired by eighteenth-century military illustrations, pictorial atlases and encyclopaedia such as the Orbus Pictus and ancient Egyptian wall paintings. He was fascinated by the potential of pictures to communicate with clarity and affect, and interested in language and writing systems. This is evident in Neurath’s philosophical work, especially in his logical empiricist opposition to metaphysical claims and his early practice of prohibiting himself from using certain words that he saw as obscurantist or quasi-theological. Like many of his contemporaries, Neurath was also interested in attempts to produce new artificial languages. He wrote *International Picture Language* in C. K. Ogden’s Basic English: not an entirely artificial language but a radically simplified English. Neurath’s interest in pictographic writing extended to Chinese writing, and this was part of his broader interest in contemporary Chinese culture, including philosophy and cuisine, and involvement in the China Campaign committee.

Though Isotype’s first context had been the social projects of Vienna’s socialist city government, it is evident that Neurath saw Isotype as having a role in the context of the growing internationalist planning movements of the 1930s. On its migration to Britain in the early 1940s, Isotype was adopted by various groups that were adapting the pre-war vision of a planned society for the purposes of British social reconstruction, but also for a post-war, post-Empire Commonwealth of nations. *The Loom of Language* (1943) gives some clues as to the stakes for thinking about language in this period in Britain. This best-selling book was written by an acquaintance of Neurath’s, the Swiss/South-African linguist Frederick Bodmer, and edited by Lancelot Hogben, who worked with Neurath on other publications. Commissioned for Hogben’s series, *Primers for the Age of Plenty*, it was aimed at the ‘home-student’ and members of the Adult Education movement. It sets out to demystify language learning by showing the common roots of different languages and by explaining how traditional approaches to learning languages
Michelle Henning

derive from an elite, academic approach rooted in 'the Latin scholarship of the humanists, and in the teaching of Greek in schools of the Reformation.' The book demonstrates how the residues of past linguistic habits exist in contemporary writing and speech and can provide clues to the commonalities between languages, but Bodmer and Hogben make it clear that their sympathies lie with a standardization of spelling and the pursuit of an artificial language for international communication. Their sympathies are clearly socialist; their vision is for a self-educating working class to play a central role in the construction of a democratic, rational and international post-war 'age of plenty'.

Neurath's political sympathies and ideas about language had much in common with this. So it is worth looking at what Bodmer tells us about picture languages. Bodmer writes of ideographic and logographic languages (such as Chinese writing and Egyptian hieroglyphics) in which symbols that began as pictures had then 'lost their explicit pictorial meaning' and become logograms and ideograms that require a key to be interpreted. In Bodmer's view, the ancient picture languages probably became obscure and difficult to interpret because 'picture-writing was necessarily the secret lore of a priestly caste.' Neither Ancient Egyptian hieroglyphics nor Chinese writing initially had any connection with the sounds of speech, although Egyptian hieroglyphics eventually incorporated phonograms and the Japanese adapted Chinese logograms and transformed them into a syllabic script. One of Bodmer's claims is that Chinese people who speak different languages may read exactly the same scripts. This understanding of Chinese writing is one of the reasons it was of particular interest for internationalists in the period. Another reason can be found in Bodmer's claim that English is coming increasingly to resemble Chinese because there is a 'large and growing group of words which can be verbs, nouns or adjectives.' This linguistic simplification was seen as significant in the search for new means of international communication and a tool in the democratization of knowledge.

If Bodmer's text points to how hieroglyphic and logographic scripts might lend themselves to this political effort, it also suggests their inappropriateness by arguing that this was a secret code, intended to keep knowledge, and therefore power, within the circle of priests. The difficulty of deciphering ancient hieroglyphics in the modern period is perhaps testimony to the
success of this strategy. Yet Neurath was not the only person to connect hieroglyphs with a modern, popular visual education. His acquaintances Theodor Adorno and Max Horkheimer made the same connection, but with very different conclusions. In the early 1940s, at the same time as Neurath was writing about Isotype as hieroglyphics in Britain, Adorno and Horkheimer were in the US, completing *Dialectic of Enlightenment* (1944). Hieroglyphics are discussed in the first chapter of this work, which is in part an indirect critique of Neurath and the Vienna Circle, and in another chapter, not included in the published version, entitled 'The schema of mass culture.'

In Adorno's and Horkheimer's argument, mass culture takes the form of images that parade themselves as natural, immediate and obvious, but that are an encoded means of domination: 'in the rulers' dream of the mummification of the world, mass culture serves as the priestly hieroglyphic script which addresses its images to those subdued, not to be relished, but to be read.' In the picture language of mass culture, images appear as 'neutral counters' to be read unreflectively, as mere signs: yet what they conceal is reification (described here as 'mummification') and domination. In other words, for Adorno and Horkheimer, mass culture communicates with images: these are hieroglyphics both because they make language pictorial, and because they operate as hieroglyphics did, not to disseminate knowledge and power, but to consolidate and preserve the social position of a few 'priests'.

In Bodmer's account, picture language becomes logographic as the priests increasingly attempt to maintain secrecy. Pictograms are accessible, because they resemble the things and ideas they represent, but logograms and ideograms are cryptic, maintaining only traces of visual resemblance. Neurath recognised that the Ancient Egyptian hieroglyphs worked in combination with wall paintings to form a complex picture-writing system. Some of the little hieroglyphic symbols derived directly from the wall paintings, and these were the ones that particularly interested Neurath. He was influenced less by the mysterious hieroglyphic script than by the communicative clarity and vividness of these images derived from everyday experience. Adorno and Horkheimer, on the other hand, relate the very clarity of the picture language of mass culture to the rule of a modern, capitalist 'priestly caste'. Adorno and Horkheimer generalize mass culture, discerning little difference between
advertising, comic strips and pictograms like Isotype. In a brief essay of 1944, entitled ‘Picture book without pictures’, Adorno referred to ‘little silhouettes of men and houses that pervade statistics like hieroglyphics’, and that, like the newspaper ‘funnies’ in his view, replaced aesthetic contemplation with the training of people in a mode of visual reading that is instant and unreflective.\textsuperscript{16}

Neurath emphasized the distinctive qualities and value of different media which ‘ought not to be lumped together in one category’.\textsuperscript{17} He too saw a connection between newspaper comic strips and Isotype, and on several occasions expressed interest in producing Isotype strips for newspapers. Yet it was in his correspondence, not in Isotype, that Neurath constructed a form of pictorial communication that shared the hand-drawn, fluid cartoon style of the popular comic strips. The signatures are informal, playful and closely associated with handwriting, and contrast vividly with the rigid elegance of Isotype. The elephant is an expressive character that changes according to the content of the letter, for instance, growing thin and surrounded by cactuses if the writer is in a tight spot, or using its trunk to offer flowers in love or gratitude, usually smiling with a raised trunk, but very occasionally with drooping ears and trunk and a tear in its eye. By the 1940s, the drawings are quickly and confidently executed. The elephant always faces to the left, usually with an open smiling mouth, large cartoon eyes, two simple curves for the ears and three toenails on each foot. Although the position of his
trunk varies, and he becomes fatter or thinner in different drawings, the elephant's pose and the way it is drawn remain consistent. The drawing works successfully as a handwritten signature: repeatable, quickly executed and instantly recognisable (see fig. 6.3).

This character was arrived at over the course of Neurath's correspondence.\textsuperscript{18} It is used frequently in letters dating from after his arrival in Britain in 1940. Photographs and drawings of elephants appear in a collection of love letters written by Otto to Marie, during their internment on the Isle of Man in 1940–1 (they married on their release). The camp authorities appear to have imposed a word limit on these letters, which would have passed through the British censors, and it seems Neurath used the pictures to compensate for the restrictions on written expression. Though Neurath did have a 'proper' written signature which appears on some letters, much of his correspondence after 1940 is signed with the elephant and carries no written name at all. After leaving Onchan camp, he returned to the long-established habit of typing all his letters. In this context, the signature drawings add a personal touch. However, there was no mechanical means of making images as cheaply and swiftly as a typewriter prints text, and hand-drawn images also illustrate the typed newsletters that were mimeographed and circulated by internees at Onchan camp. Printed images appeared on business letters in the form of elaborate letter headings, but these are fixed and unresponsive. Cartoon autographs are not rare, as many autograph books will testify, but the responses of Neurath's correspondents indicate that they were not usual or conventional. The elephant often attracted commentary. When one correspondent enquired why he depicted himself as an elephant, Neurath replied that he had gained that reputation 'because I am so capacious' – perhaps not referring to the fact that he was physically big, but to his reputation as a polymath.\textsuperscript{19}

Neurath's German-speaking peers also used informal and affectionate animal symbolism. In his private written correspondence, Theodor Adorno referred to himself and his mother as hippopotamuses, and to Horkheimer as a 'mammoth'.\textsuperscript{20} The common use of animal symbolism and personification in modern culture has been understood in various ways: as symptomatic of the modern marginalization of actual animals, as evidence of the enormous importance of animals to the ways in which we imagine ourselves, and as a means of negotiating the 'otherness' of animals and other human beings.\textsuperscript{21}
Michelle Henning

Animal drawings are also, of course, associated with children’s literature and with ‘light’ culture and frivolity: in Neurath’s correspondence the hand-drawn elephant lends a playful informality, and he used it to set a friendly tone in business correspondence as well as in correspondence with close friends. It is evident just how effective this is as a form of visual communication as other writers, sometimes hesitantly, begin to draw in response.

For example, a letter written to a printing company, Hall the Printer, in February 1944, requests 3,000 sheets of notepaper to be printed with Neurath’s Oxford address as the heading. In the same brief letter he asks for tissue paper sheets to be used to cover the Isotype charts in transportation, saying ‘We want to paste it on the upper edge of the card boards we got from you.’ He ends the letter ‘yours sincerely’ and below that is a drawing of an elephant lifting a sheet of tissue to reveal an Isotype board beside it. Next to the board is a cat, his symbol for Marie Neurath. Here the signature works as a joint signature, indicating that the request is written by Otto on behalf of himself and Marie. It also illustrates and explains the tissue paper request. In another letter to Hall the Printer written two weeks later, Neurath reminds the company of his other request for ‘the paper with my name and address on’ and ends ‘what can I do, without a “head”? Yours sincerely’, and here is the elephant again, smiling as usual, and holding out a flower in his trunk. The sun is shining, but the elephant’s head floats free of its body, which stands below it, in its usual pose, but with flesh and bones revealed in the cross-section of its severed neck. The sun, the proffered flower and the elephant’s smile, all indicate Neurath’s good will and good humour, even in this decapitated state.

The printing company wrote back to say that they were working on the notepaper. Nothing in this letter is particularly unusual or informal except the signature. In place of a signature is a drawing of a man, in hat, raincoat and pinstripe trousers, replacing the head on an elephant. The correspondence continued for some time: on 16 March, Neurath, still without his headed notepaper, asks ‘How may I appear in society, without my letter head?’ and an entirely headless elephant stands on its hind legs, with its front legs raised as if beseeching the printer.22

This example is not entirely unusual. Repeatedly, correspondents felt the need to comment on, or engage in, Neurath’s practice of signing his letters
with a drawing. Dorothy Woodman, author and secretary of the China Campaign and the Union for Democratic Control, writes: 'I can't draw elephants so I only send by substitute what I think is a very delightful card to you both.' Other the elephant is seen as a picture-gift, which must be reciprocated. On 12 March 1941, the photographer Lucia Moholy writes to Neurath thanking him for a letter and expressing delight that he has survived the war in Europe: 'I hoped you may have been able to escape but not having heard from you all this time I had almost given you up.' She ends with a postscript: 'I do not know which animal would be the one to replace my signature - can you tell?! I enjoyed your two.' A month later she decides, and signs a letter to Neurath with her own animal picture, a long-eared cat seen from the back. Adapting his convention for the expression of good will, Moholy gives her cat a red flower, which it holds with its tail.24 Helen Coppen, a South African student at the Institute of Education, signs one of her earliest letters: 'Being a Westener I must leave picture writing to the Chinese and sign myself very sincerely yours, Helen Coppen.' In their subsequent correspondence, she signs herself first 'Table Mountain,' in writing, with an outline of the mountain over the words, and then eventually with a drawing of the mountain and no words. Neurath responds by omitting her name from his letters and addressing her with his own drawing of Table Mountain, elaborating her simple line by adding trees on one side and waves beneath.25

What is the relationship of this with the practice of Isotype? The signature appears on letters relating to the business of the Oxford-based Isotype Institute, which Otto and Marie ran together, as well as on Neurath's correspondence with friends and students such as Coppen. Since the content of these letters has often to do with Isotype, it is not surprising that many of the drawings incorporate Isotype-like figures. One example is a brief letter to Peggy Volkov, the editor of The New Era in Home and School, the London-based journal of the New Education Fellowship. Writing on 15 April 1944, Neurath expresses regret that Volkov had not advised him of the difficulties she had reproducing an Isotype chart in colour. He sets out some of the colour rules of Isotype: 'Blue is always used as a "speaking" colour and never used as a "text" colour in our charts ... Black is text colour and symbol colour.' He ends the letter: 'Of course, I know there is a war on and everything goes
on in a hurry, where periodicals are concerned. I hope all this strain is not endangering your recovery. With kind regards, yours sincerely, and beneath, the elephant on the right, and on the left, a family of Isotype figures: a woman with her arm stretched out to the left, a girl and two young children.26

The New Education Fellowship was concerned with child-centred education, so it is possible that the cartoon Isotype figures represent Volkov’s or the fellowship’s protective role in relation to children. But perhaps most interesting about this example is the contrast between the emphasis on the rules governing colour in Isotype charts, and the improvisational signature. In another letter to Volkov Neurath speaks of her recent appendix operation and his own childhood appendicitis, and then depicts the elephant, smiling at a floating appendix in a jar, and below, Isotype-style infants sit on grass, with flowers growing between them.27 Some of the most elaborate signatures appear in letters to the author and biologist Lancelot Hogben, the editor of
the series of *Primers for the Age of Plenty* who later authored an Isotype-illustrated history of visual communication entitled *From Cave Painting to Comic Strip* (1949). In the letters to Hogben, Isotype figures appear as circus tumblers, balancing on one another’s shoulders, helped by the friendly elephant; Isotype diagrams of the workings of the ear are discussed, and then an anthropomorphized inner ear is drawn, as if singing to the elephant; political or social commentaries are thus made. One letter includes Isotype-style figures at desks, with the slogan ‘the higher the seat, the lower the salary.’ Often, the elephant is an instructor or guide, using his trunk to point (see fig. 6.4).

In the signatures, then, Isotype symbols are allowed to do things which they were not allowed to in the context of the charts: to illustrate personal opinions, to tumble around playfully, and to symbolize in ways that were outside the possibilities of the charts. An Isotype symbol of a child always represents a given number of children; figures are always equal size and arranged in rows; they do not hold hands like paper-chain people; and they stand for verifiable ‘facts’ not personal observations (however insightful) about things like the relationship of furniture to social position. The signatures have qualities in common with speech and writing that the picture language of Isotype does not have: the improvisational and inventive quality, the ability to deviate from and within a given formula, as discursive, dialogic and intimate. This picture language is *scriptible* (writely) in Roland Barthes’s sense, in that it invites and elicits responses in kind; it is participatory.28 Anyone can do this, Neurath’s signature seems to suggest, and perhaps the fact that his drawing is not particularly accomplished helps to encourage his correspondents to draw too. Isotype, by contrast, is an expert practice. As Marie Neurath wrote after Neurath’s death, ‘the writing of it was a very responsible and difficult job which can only be carried out by a group of experienced persons.’29 The two approaches to a visual language could be seen to embody two opposing perspectives on language: one that holds that language is primarily creative and generative, produced ‘from the grass roots up,’ and another that emphasizes its rule-bound, systematic nature.30

Retrospectively, it may be tempting to read the signifying differences between the picture language of Isotype and the picture language Neurath uses in his correspondence in terms of fundamental differences in meaning
between the mechanically produced and uniform, and the hand made, uneven and expressive. After the war, several modernist designers and artists, including Neurath's close friend Josef Frank and the typographer Jan Tschichold, repudiated the modernist insistence on a uniform style, associating this with totalitarianism.\textsuperscript{31} Isotype's standardized appearance has been linked with the popularization of Henry Ford's assembly line and F. W. Taylor's scientific management.\textsuperscript{32} While Neurath himself had emphasized diversity and pluralism in early critiques of modernist design and Taylorist planning, Isotype was necessarily uniform.\textsuperscript{33} As Neurath argued, a picture language sets out to be understood by everyone and, therefore, needs to be standardized, systematic, coherent and unified. Isotype grew from a particular cultural context in which to side with mass reproduction over individual expression was to commit to democratization, social renewal and to socialism.

The GWM in particular, grew out of social activism and avant-garde experimentation. It employed successful artist-printmakers working as part of the modernist avant-garde. The GWM had connections with the constructivist and Dada movements, and had exhorted the artist to be more like an engineer or factory worker, closing the gap between artistic production and mass reproduction. It had connections with the Bauhaus and with the Soviet avant-garde, who were putting this aim into practice by placing art in the service of mass design. 1920s photographs of Arntz and his colleagues working at the GWM, in their white laboratory coats, bear strong resemblance to photographs of constructivists at work in the same period.

Yet the institutes and museums that produced Isotype were small concerns, never factories mass-reproducing images. While individual symbols were hand drawn then reproduced in multiples through linocut and letterpress, the exhibition charts made by the various institutes were assembled and pasted by hand. In these production contexts it is difficult to make a sharp distinction between manual and mechanical forms of production: the history of picture making is a history of the use of technical aids, including pen and ink, rulers and scissors.

That Isotype charts can be read more easily than they can be produced has to do with the range of techniques deployed and the expertise required for signifying clearly and coherently in Isotype. This is underscored by a 1942
correspondence between Neurath and George Stevenson, medical director of the US National Committee for Mental Hygiene. Stevenson had suggested communicating mental disorders such as 'gross distortion of ideas' by using wavy and dotted lines around a central figure, a symbolism that is completely incoherent within the context of the 'picture language'.

Yet Isotype and the signature cartoon drawings are not as far apart as they might seem. Neurath maintained that, while the making of Isotype charts may have been a difficult expert business, learning to read picture statistics meant getting involved in practices of communicating through pictures: to read we must also learn to write. His archive includes photographs of charts hand drawn by Viennese school children, and in Britain he carried out similar experiments at Dartington Hall. His approach to this was informed by an understanding of child-centred education practices of Montessori and others. These had shaped the education delivered at the civic kindergartens of Red Vienna, and also possibly informed the practice of Isotype. Maria Montessori's approach to kindergarten education emphasized the early acquisition of literacy. Reading is learnt through writing and in visual and tactile ways: using cut-out sandpaper letters, children gradually form their own words, and through this begin to identify the words they see elsewhere.

Moreover, cartoons are not unrepeatable forms of individual expression, free from social convention. Like Isotype, Neurath's drawings follow a standardized format, with the same conventionalized symbolism used to communicate certain things (such as cactuses for 'prickly' situations and flowers for love and affection), even if they are more improvised than Isotype charts. The GWM itself experimented with using cartoon-like drawings, as shown by a chart prepared in the early months of the museum, 'Police action in Vienna in February 1925'. The chart resembles later Isotype charts in its linear layout but, instead of neatly separated and countable figures, the hand-drawn figures are brawling. Neurath's archive includes prints by George Grosz, which suggests he had an interest in Grosz's caricatures. However, Arntz reportedly criticized Grosz's use of caricature for conflating social types with physical types, by imposing a certain physiognomy on figures like bankers, army officers and workers. Neurath's own drawings never caricature people, but either render them as Isotype-style silhouettes and figures or represent them as animals.
In *International Picture Language*, Neurath contrasted Isotype with advertising, trademarks and corporate logos. In advertising and corporate identity, pictures do not form a language, but mark distinction, competing with and outdoing one another: each picture "has the tendency to put all such other pictures out of the memory of the onlooker."\(^{36}\) The picture language of the free market is chaotic and incoherent, yet it all functions in the same way, to impress itself on the viewer. If it repeatedly uses the same devices and techniques, it attempts to conceal this through novelty (as Adorno and Horkheimer noted).\(^{37}\) Trademarks are recognizable and repeatable because they are acting as authentication, as a guarantee of the authorship of the product and (increasingly) as an assertion of property rights.\(^{38}\)

Signatures also authenticate, and monograms, which usually originate as names or initials given pictorial form, have close association with the trademark and logos of corporations, which are also often based on the initial letters of the company's name. In his obituary, Kaempffert compared Neurath's signature to James McNeill Whistler's butterfly monogram.\(^{39}\) As Kaempffert pointed out, the monogram does not have the expressive variety of Neurath's elephant. Although the butterfly changed over time, and may have had some expressive features (developing a sting, for instance), it remained a means to authenticate Whistler's work. Neurath's elephant does more by communicating his feelings, mood and character. Graphology might claim that a signature can also communicate character, a contentious claim, but even if it does, it does so in an unconscious and coded way, which only the expert graphologist can decode. Even this code, though supposedly directly expressive of character, can be learnt, as initiates adapt their handwriting to the character they want to project. Neurath's own interest in symbolism had to do with the explicit, convention-bound and conscious ways in which societies communicate. If a picture language was to communicate feelings (something he acknowledged Isotype could not do), it could not do so in a direct way, but through analogy (the elephant is sad, the elephant is Otto, therefore Otto is sad) or conventional symbols (such as the flower and the cactus). If the elephant signature communicates something of Otto's character, if, for instance, it suggests to us that he was an optimist, original, irrepressible and playful, this assumption also has to do with our interpretations of the cultural conventions surrounding letter writing, signatures and the practice of drawing.
Picture-Language as Visual Writing in Otto Neurath

While his work brought him into close contact with both avant-garde experimentation and artificial language movements, Neurath's own drawings are very different from attempts to explore the potential of language and mark making for expressing inner psychic states, and far removed from the idea of producing an entirely new, entirely rational international language. Nevertheless, and despite evident differences, the picture language that Neurath develops in his correspondence and the picture language of Isotype do share some common features. Both reject the reduction of pictures and writing to stamps of authentication or property, and instead emphasize their communicative function. Both avoid encouraging a physiognomic reading that might reduce people to visual types. Both aim to be easily legible by using recognizable and established symbols where possible.

When Neurath died suddenly in December 1945, Isotype continued. Out of financial necessity Marie Neurath was back at work in January, and over the next thirty years she ran the Isotype Institute, successfully adapting the method to the production of non-fiction children's books. But when Neurath died, 'those brilliant letters [. . . ] ceased' and the elephant died too. Far more dependent on one man than Isotype was, this picture communication ended, because Neurath's friends also gave up drawing on their letters. Affection was expressed in different ways, in writing. But a trace of the picture language remains in the nickname Helen Coppen continued to use for Marie Neurath: 'Dear brr brr', she wrote, a reference to the cat that Neurath had so often drawn to accompany his elephant.

Notes


Michelle Henning

3 Otto Neurath letter to R. W. Moore, 23 May 1944. Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, University of Reading, Isotype 1/10–11.

4 For more on Gerd Arntz’s work see Ed Annink and Max Bruinsma (eds), Gerd Arntz: Graphic Designer (Rotterdam: 010 publishers, 2010). For Marie Neurath’s role as a ‘transformer’ see Marie Neurath and Robin Kinross, The Transformer: Principles of Making Isotype Charts (London: Hyphen Press, 2009).


8 Neurath’s involvement and interest in things Chinese is evident in much of his correspondence, especially in 1942–3. See the Otto and Marie Neurath Isotype Collection at the University of Reading, Isotype 1/1–5.

9 Robin Kinross writes: ‘The Isotype Institute fitted well into the project of social and political reconstruction in Britain, which got underway from about the time of its foundation.’ Kinross points out that one of their early commissions was for a 1943 pamphlet publicizing the Beveridge report. See Robin Kinross, ‘Emigré graphic designers in Britain: around the Second World War and afterwards’, Journal of Design History, 1/3 (1990), 35–57 (44).


11 Ibid., pp. 57–8.

12 Ibid., p. 125.

13 For a discussion of European uses of, and assumptions about, Chinese characters and script in relation to Orientalism, see Nina Parish, Henri Michaux: Experimentation with Signs (Amsterdam: Rodopi, 2007), chapter 3.


Picture-Language as Visual Writing in Otto Neurath

18. Marie Neurath possessed one drawing, a souvenir of the 1928 Press Exhibition in Cologne, that may be by Neurath. This rather distorted elephant is seen from the rear, a pile of books upon his back, his trunk raised as if he is trumpeting. The drawing shows some attempt at realism that is not present in the signatures: there is laboured shading and modelling, and the air snorted from the trunk is drawn using nineteenth-century conventions (source: the Otto Neurath Nachlass, Vienna Circle Archive, Haarlem).
19. Neurath to Coppen, Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/1–5.
22. Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/6–9.
23. Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/1–5.
24. Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/1–5.
25. Ibid.
26. Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/6–9.
27. Ibid.
30. This was politicized in V. N. Vološinov’s 1927 critique of Ferdinand de Saussure’s linguistics for placing too much emphasis on the system of language over living speech. Vološinov instead emphasized the competing meanings produced by different social classes in class struggle. See V. N. Vološinov, *Marxism and the Philosophy of Language* (Cambridge, MA: Harvard University Press, 1973).
Michelle Henning

32 See Peter Wollen, 'Modern times: cinema, Americanism, the robot' in Raiding the Icebox: Reflections on Twentieth-Century Culture (London: Verso, 1993).


34 George Stevenson to Otto Neurath, Otto and Marie Neurath Isotype Collection, University of Reading, Isotype 1/6–9.


36 Neurath, International Picture Language, p. 28.

37 Adorno and Horkheimer, Dialectic of Enlightenment, p. 123.


39 Kaempffert, 'Appreciation of an elephant'.
B. – The Museum as Material and Media

Legibility and Affect: Museums as New Media

Michelle Henning

Remediation

When museums started collecting and displaying artists’ films, they “brought the night into the museum” (Dercon 2000). The white-cube art space inverts into the dark-cube. The possibility of projecting film in the gallery space was already written into the modern art museum, with its neutral-coloured walls, windowless galleries and dependence on controlled artificial lighting. Even so, film changes the way people use the museum: if the film is long, they may need to sit down, and the gallery becomes a cinema or auditorium; if it has a linear narrative structure, their entry into and exit from the space may be regulated. The introduction of different media into museums has an impact which is simultaneously banal and far-reaching.

The art museum adapts its display practices to the requirements of different media. At some point, simple adoptions become major, and the museum becomes a noticeably different institution. This is true of the adoptions made as the museum embraces new (computer-based) media art. The difficulties of how to exhibit this are to do with the audience’s relationship with computers and the impact of fitting a gallery with them (see Graham and Cook 2002). New media art can often not be mutually experienced: watching someone else using an interactive projection is not the same as doing it yourself, but two people may stand in front of an object, a painting, a film projection, and experience it simultaneously. In a
gallery or museum, to use a computer is to perform for others, or to withdraw from the public space of the gallery into a private pursuit. New media art may also require skills or experience that the audience does not have. Another problem is that it can (like performance art) be constantly changing and unrepeatable (Paul 2005).

One response to these difficulties has been to turn the gallery into a quasi-domestic space, the digital media “lounge.” Some artists have expressed disappointment with these dedicated spaces, which reduce the control the artist has over the installation and viewing context. Museums have also begun to make more use of the internet. Since the late 1990s, many have been extending their web provision, sometimes showing specially commissioned projects only on the web, and treating their websites as an additional gallery. The Walker Art Center in Minneapolis has eight actual galleries, and opened a ninth on the internet in 1997. Under the direction of Steve Dietz, Gallery 9 became one of the best-known online exhibitions of internet art. In 2001, some institutions even planned to extend into broadcast and cable: Sandy Nairne, Head of National Programmes at the Tate, envisaged “a Tate digital channel” (Morris 2001, pp. 27–8). Glenn Lowry at MoMA described that museum’s website as a “parallel museum” which could attract an audience who may never visit the actual museum (Morris 2001, p. 33). A number of artists and museums or galleries have also used the internet to link the physical space of the gallery to other spaces, or to govern events and performances within and outside the gallery space.

In this essay I want to explore some of the ways in which current developments resemble the exhibition experiments of the late 1920s. In that brief period, the exhibition and the museum were reinvented and reimagined through new technologies and media, and the virtual museum was anticipated. By considering this moment of possibility before the actualization of new media, via some of the categories associated with new media, I hope to offer some new ways of thinking about the meeting of museums and new media. I am interested here, not only in the art museum but also in other artistic experiments with new media and technologies in exhibition design.

New media and old are sometimes distinguished too sharply, on the presumption of abrupt and absolute distinctions between the “virtual” and the “real,” and the “digital” and the “analogue.” In new media theory, a more interdependent relationship between old and new media is suggested by the concept of “remediation.” New media theorists Jay David Bolter
and Richard Grusin use this term to describe how media borrow from one another, and incorporate one another. They argue that new media do not function independently of other media, and see remediation as “a defining characteristic of the new digital media” (Bolter & Grusin 2000, pp. 45, 55). They outline various ways in which new media remediate other media, from being a supposedly transparent means of accessing other older media forms, through to absorbing older media so that they appear as their technically updated descendents. But old media can remediate new media too, as they reinvent the latest techniques and media for their own purposes (Bolter & Grusin 2000, p. 48).

One way in which the museum would be remediated by new media is via the virtual museum. By this I mean not only the websites produced as “parallel museums” by existing institutions, but all websites which are produced and understood as museums. Secondly, the museum is remediated through the introduction of new media and computer technologies into its exhibitionary and archival practices, in the form of new media art, information kiosks and touchscreens, and databases. A third kind of remediation might be found in exhibition design, as it mimics and appropriates new media conventions and styles. For instance, I have noted elsewhere how natural history exhibits relating to biodiversity seem to resemble networks, and “branching tree” structures. In their use of diverse exhibitionary techniques, many contemporary displays take on a multimedia character similar to new media (Henning 2006).

Bolter and Grusin understand remediation as a mimetic process, by which new media approximate the “real.” It is tightly connected with notions of “immediacy” and “hypermediacy.” The first term refers to the ways media are self-effacing, concealing the act of mediation; the second refers to the multiplication of media and the ways in which media texts emphasize their mediated character through referencing and quoting other media (Bolter & Grusin, 2000, pp. 5–9). These two things are co-dependent. In dioramas, for instance, realism and authenticity are underwritten by the use of the conventions of Romantic painting combined with representational conventions drawn from photography and film. In other types of display, the authenticity of artifacts is enhanced by supplementing them with video footage or sound recordings. According to Bolter and Grusin, all media, but especially new media, acquire their realism either by denying their own mediation or “by multiplying mediation so as to create a feeling of fullness, a satiety of experience, which can be taken as reality” (Bolter & Grusin 2000, p. 53).
Bolter and Grusin's theory of remediation is a theory of representation, based in a particular version of post-structuralist theory. When they argue that "there is nothing prior to or outside the act of mediation," they are close to the claims of cultural theory that there is nothing outside discourse (Bolter & Grusin 2000, p. 58). Though this has become almost a mantra for some writers, there are other schools of thought, which challenge this through an attention to aesthetics, affect, sensation, and mimesis (Massumi 2002; Sedgwick 2003). They allow us to see how what passes for cultural theory is sometimes little more than a series of statements that everything which might be thought to be outside discourse or representation (such as inarticulable but felt sensations) is in fact a "discursive construction" (Sedgwick 2003, p. 109). Bolter and Grusin note the barrage of sensations provided by hypermedia, but understand this as simply as underwriting the text's claim to the real. Insofar as cultural theory sees everything as mediated or discursively constructed, it is unable to register movement, matter, sensation. Media studies frequently leaves out one of the most interesting things about media: their affective pull, their production of feelings which do not invariably support the ideational content of a given text.

Affect

When I think about the introduction of media into the museum, I think about that impact that film has on the gallery, making it into a dark space, bringing in the night. This is something not reducible to the operations of discourse or ideology, though darkness does have social consequences. In theater, for instance, stage lighting required the darkening of the auditorium, reducing social activity amongst the audience and changing the communicative relationship between audience and actors. Nevertheless, there were different ways and degrees of darkening the auditorium, depending on the value attached to the social space of the theater (Schivelbusch 1995, pp. 206-10). Generally though, in theater, and later in cinema, darkness magnified the intensity of the experience and allowed the viewer to isolate themselves and concentrate their attention (Schivelbusch 1995, p. 221). This happened regardless of content, and on the level of affect. The remediation of the museum might also be thought in terms of an affective impact.

Perhaps the art museum is not the best example, since its organizational and technical changes are often driven by the acquisitions policy.
The “hybrid and participatory” character of new media art necessitates changes in the roles of the curator, the artist and the audience, and requires art museums to adapt (Paul 2005). Art museums are in this sense reactive. The appropriation of various media and technologies within exhibition design more generally is reactive in a different way: responding to the pressures of the market and wider demands for hi-tech and interactive experiences. However, the early remediation of the museum had a very different social context and significance. It was begun in the 1920s by European avant-garde exhibition designers, artists, and museum directors who purposively introduced technologies and media to the museum. Their experimental museums and exhibitions are usually associated with an avant-garde and socialist enthusiasm for technical rationalization, standardization and industrialization. I will argue that their exhibition experiments worked to increase the legibility, accessibility, and affective intensity of exhibits, and pointed towards the potential of exhibitions as democratic, participatory media.

In the late 1920s the Gesellschafts- und Wirtschaftsmuseum (Museum of Society and Economy, henceforth GWM) in Vienna introduced spotlighting to its displays. A decade later, Otto Neurath, the director of the museum at that time, stated: “Being conscious of the fact that the working man has time to see a museum only at night, the Gesellschafts- und Wirtschaftsmuseum was open at night. The lights were placed so that the brightest rays came onto the pictures” (Neurath 1936, p. 46; see figure 1.1). It is interesting that this use of artificial lighting was considered innovative and worthy of comment. Before the Great War, Vienna’s upper classes already had electric lighting in their homes. It had been used in stores since the turn of the century, and also in theater. The Paris Opera introduced electric lights in 1887, and the Swiss stage designer Adolphe Appia published lighting plans for Wagner’s operas in 1895 (Beacham 1987). Electric lights were used in Alfred Roller’s productions for the Vienna Court Opera in the 1900s. In Vienna, directional spotlighting may have been introduced to exhibitions via the theater. The Viennese exhibition and stage-set designer Frederick Kiesler curated the 1924 International Exhibition of New Theater Technique as part of the Music and Theater festival in Vienna. At this exhibition he used a modular display system, called the L and T system, which incorporated electric spotlights (Staniszewski 1998, p. 4).

Elsewhere, spotlights were used for more spectacular purposes: El Lissitzky’s famous and influential design for the Soviet Pavilion at the
Figure 1.1 The Gesellschafts- und Wirtschaftsmuseum in Vienna showing directional lighting. © The University of Reading. Otto and Marie Neurath Isotype Collection, Department of Typography and Graphic Communication, University of Reading.

1928 International Press Exhibition (known as Pressa) in Cologne included a star-shaped construction with spinning globes, lit from beneath by three electric spotlights. The commercial exhibitions and world’s fairs had large budgets for their displays, while many museums had very limited exhibition budgets or limited access to technical resources, including electricity. For instance, in 1927–8, Lissitzky constructed his “Abstract Cabinet” for the Hanover Landesmuseum. The walls of the room were covered in vertical metal slats, white on one side and black on the other, so that they changed color as visitors moved through the space. Lissitzky wanted a lighting system that would make this more effective but there was no electricity supply to the exhibition space (Staniszewski 1998, p. 21).

In the case of the GWM, the introduction of spotlighting was not an inevitable step or progression arising from the availability of technologies, nor was it primarily intended as a spectacle of technical achievement. It was tied to a specific social project – that of making legible exhibitions. It shed light not on artworks or artifacts in the strict sense, but on posters, charts, photographs, and models. These were designed to communicate to
the working-class population of Vienna, who were the “clients” (as Neurath saw it) for the municipal housing projects, the kindergartens, and other social developments which the museum represented. Neurath developed, with the graphic designer Gerd Arntz, the architect Joseph Frank and Marie Reidemeister (later Marie Neurath), the Isotype system (International System of Typological and Pictorial Education), a visual language of icons or pictograms, used for communicating statistical information. These were exhibited in the GWM in the form of framed posters, in stark black and red. The GWM was associated with the reform programs of the socialist municipal government. As Eve Blau explains, “An important component of all these programs was public dissemination of information about them. In lectures and publications, including newspapers, magazines, books, posters, films, radio broadcasts, exhibitions, and other forms of public presentation, the purposes and methods of the Social Democrats’ programs were continually set before the public . . .” (Blau 1999, pp. 386–7). For Neurath, part of the point of the museum was to enable visitors to become involved in the civic projects which were reshaping their everyday lives. It was intended to give the people the means to participate in decision-making by enabling them to make comparisons and formulate arguments. For Neurath, exhibitions made possible the practices of comparison and contemplation necessary for critical thought and debate:

Exhibitions and museums have their characteristics distinguishing them from book illustrations, lantern slides or films. Visitors, for example, can stand around an exhibit, look for longer or shorter times, compare one with another. A filmgoer is presented with a set sequence, a scene appears and goes by quickly, he cannot turn back the pages like the leaves of a book. Museums are free for everybody, groups and individuals can go there, with or without a guide; their discussion could be supported by the visual material itself. (Neurath 1933, p. 238)

Neurath described the origins of the Isotype system in his childhood passion for clarity and simplicity in children’s book illustrations and his early fascination with Egyptian wall paintings (Neurath 1946). The Isotype “pictorial language,” Egyptian paintings and hieroglyphics, and the museum itself, all worked by combining and arranging multiple elements to enable comparisons. While the Isotype system of symbols gave information a visual, legible form, electrical spotlighting made it visible in the after-dark leisure time of the working population.
Yet directional lighting was already understood as an expressive and dramatic medium in theater. In the theater of the 1880s and 1890s gas and electric lighting had been used to flood the stage, to make vivid every detail (Bergman 1977, pp. 297–8). Some pioneers of electrical stage lighting, including Appia, objected to this. Appia argued for directional use of light, preferring spotlighting over the use of fixed lights, and he saw electric lighting as a means of expression which would enhance the emotional content of Wagnerian opera. There is an element of this in Neurath’s choice of spot-lighting to illuminate the Isotype charts in the GWM. According to Neurath the Isotype symbols “should be living symbols” (his emphasis), that is, both non-archaic and vivid (Neurath 1946). The Isotypes should be “attractive” and through them, information (such as statistics) which had been previously encoded in inaccessible and extremely dry modes of representation, would come alive. Electric lighting enhanced both the legibility and the vividness of the Isotypes.

The use of spotlighting is, in other words, affective. Brian Massumi describes affect as distinct from emotion and from expression, and in terms of the intensity of sensations. A sad or frightening or joyful experience might be felt at exactly the same level of intensity (Massumi 2002, pp. 26–7). Other writers on affect see less distinction between affect and emotion and emphasize multiple, qualitatively different affects (Sedgwick & Frank 2003, pp. 110–1). In this case, it seems that the exhibition lighting increased the intensity of the viewing experience, without necessarily determining the exact emotional content or meaning of the charts and models.

Neurath’s Isotype system is usually seen in terms of standardization, as repetitive, rationalized and modular. Isotypes are associated with Neurath’s logical positivist philosophy, his belief in the possibility of objective speech, and of a language in which knowledge becomes information, and “facts” can be transparently presented. Peter Wollen discusses the Isotype system as an example of how Fordism becomes a “world-view” (Wollen 1993, pp. 40, 36). Henry Ford’s assembly-line system, combined with F. W. Taylor’s methods for rationalizing labour, were models which in the 1920s shaped cultural production as well as industry, in both communist and capitalist states. Rationalization is associated with increased control (Michel Foucault discusses Taylorism in his description of the disciplinary society), and with an emphasis on efficiency at the expense of the sensuous. Yet, though the Isotype system appears rational, functional, even mechanistic, in Isotype exhibitions the techniques and technologies deployed were meant also to be affective.
Multimedia

The greatest intensities of affect were experimented with at the great expositions, especially in the world’s fairs of the 1950s and 1960s. The fairground technologies of the ride and the rollercoaster, along with those of cinema and other media, were reconfigured for the purposes of didactic displays of the achievements of industrial modernity (Highmore 2004). To emphasize the bodily appeal and the performativity of the world’s fair pavilions is not to downplay their ideological role. Even while these displays might seem carnivalesque in some ways, and offered visitors a sense of bodily liberation, they also, as Ben Highmore argues, gave visitors a taste of what it is like to be “machinic.” Multiscreen projections and fairground-style rides gave the sensation of leaving behind bodily limitations and current social relations. The fantasy of technological transcendence was “nailed down” experientially (Highmore 2004, pp. 130–2, 144–5). Theories of discipline and control cannot account for the ideological impact of this affective, multimedia address.

Through working in commercial exhibitions, international and national expositions, early exhibition designers began to realize the great potential of the exhibition medium in its capacity to incorporate other media. Herbert Bayer, whose career began in the 1920s, wrote:

Exhibition design has evolved as a new discipline, as an apex of all media and powers of communication and of collective efforts and effects. The combined means of visual communication constitute a remarkable complexity: language as visible printing or as sound, pictures as symbols, paintings, and photographs, sculptural media, materials and surfaces, color, light, movement (of the display as well as the visitor), films, diagrams, and charts. The total application of all plastic and psychological means (more than anything else) makes exhibition design an intensified and new language. (Cited in Staniszewski 1998, p. 3)

These designers found in exhibitions a flexibility and range similar to that they found in designing stage sets and department store window displays. In all these contexts, artists could combine new materials and technologies with established ones. Yet it was museums, not exhibitions as such, which provided the conceptual model for the direction in which it was anticipated, the new mass media would develop, since museums included an
exhibitionary function and accumulative and archiving functions. In the late 1920s and early 1930s, while exhibition design was described as the medium to end all others, the museum was often seen as a regressive, bourgeois institution. The avant-garde famously and repeatedly made calls for the destruction of the museum. Yet they coupled this with ambitious and unlikely plans for new kinds of museums. Writing on Le Corbusier’s concept of the “museum that contains everything,” Beatriz Colomina says, “What makes the museum obsolete as a nineteenth-century accumulative institution is the mass media,” for mass media take the contents of the museum and disseminate them into the world and into domestic space (Colomina 1994, p. 213). But reports of the death of the museum are greatly exaggerated. Le Corbusier continued to use the word musée to describe projects such as the Mundaneum/World Museum which he worked on with Paul Otlet (on whom more below), and his later notion of a Musée à croissance illimitée (Museum of Unlimited Extension). Neurath, too, continued to found museums, even as he described the GWM as “really a permanent exposition” (Survey Graphic 1936, p. 618).

Museums did epitomize, for the avant-garde, both the over-accumulation and imperialist universalism of the Victorian era, and the institutional “death” of art. The way paintings were crammed onto the museum’s walls appeared to some writers as a violent battle for the visitors’ attention (Marinetti 1909; Valéry 1923). Yet, when they tried to anticipate or describe the directions in which the technologies associated with the mass media would take culture, many writers and artists took the museum as a model. (Later examples would include Walter Benjamin’s essay “The Work of Art in the Age of its Technological Reproducibility” (Benjamin 1936) and André Malraux’s Musée Imaginaire (1947)). For instance, László Moholy-Nagy imagined a “Domestic Pinacoteca” (art gallery) in which pictures would be retrieved using various technical devices, including some which did not, as yet, exist. He mentioned filing systems, color slides, three-dimensional imaging, and a “radio picture service” (Moholy-Nagy 1925, pp. 25–6). Four years later, he produced his “Room one” for the Film and Photo exhibition in Berlin. Here he displayed photographic reproductions of various shapes and sizes without accompanying text. In 1930, he exhibited a machine, the Licht-Raum Modulator (Light–Space Modulator). This was operated via push-buttons and, through rotating metal plates, projected abstract patterns of light onto walls and ceiling. It has been suggested that the machine was originally designed for use in theater (Staniszewski 1998, pp. 21–2;
Huhtamo 2002, pp. 6–7). In 1926 Frederick Kiesler envisioned a “Tele-
museum,” in which pictures would be broadcast into domestic interiors 
through the use of specially sensitized walls. He displayed a version of it 
the following year (Staniszewski 1998, p. 313). It seems this was basically a 
darkened room, in which illuminated images of well-known artworks were 
displayed at the push of a button. In a 1930 book, Kiesler returned to the 
project, anticipating that, “Through the dials of your Teleset you will share 
in the ownership of the world’s great art treasures” (Kiesler 1930).

The museum was reimagined in terms of new practices of accumulation 
and display. The museum would extend beyond the walls of the public 
institution and broadcast itself into the domestic space. According to 
Neurath, the “Museum of the Future” would rid itself of ritual and the 
self-serving ambitions of donors and directors, and be oriented toward the 
visitors. Through a simple device – the electrical switch – exhibition 
experiments of the late 1920s and 1930s pointed to the possibility of 
handing over control of the display to the visitors themselves.

Interactivity

Developments in interactivity, which long predate the introduction of 
computers to museums, were part of a larger “user-orientation” in new 
exhibition design. The popularity of the GWM and Neurath’s traveling 
exhibitions was perhaps due to the relevance of their content to visitors 
and to the approach to visitor participation. Some exhibits were explicitly 
interactive. For instance, in one Vienna branch museum visitors were 
invited to move a metal ring along a wire; if they accidentally touched 
the wire, a bell rang. In a 1936 exhibition visitors could make models 
rotate by pressing a switch (University of Reading 1975, p. 27). These 
kinds of participatory devices were already beginning to be used in science 
museums, including at the Deutsches Museum in Munich (1925) and in 
the Children’s Gallery at the Science Museum in London (1931).

In modernist exhibition design, the use of the push-button is part of the 
appropriation of fairground devices. Bayer used such devices in a 1938–9 
exhibition at MoMA, New York, and Kiesler continued to use them into 
the late 1930s. Journalists were critical, describing Kiesler’s use of peep-
holes at Peggy Guggenheim’s Art of this Century Gallery as “a kind of 
artistic Coney Island” and Bayer’s use of cut-out footsteps on the floor as a 
These techniques connected the experience of the exhibition with that of the fair, if only synecdochically. That is, rather than being a full-blown attempt at a participatory and affective experience, simple devices such as push-buttons stand in for a larger range of possibilities: for the potential of the media to be controlled by its users, for museums where visitors would organize their own displays, and for the affective possibilities of media (as images appear and disappear into darkness with the press of a button).

The user-orientation of 1920s and 1930s avant garde exhibition experiments depended on a notion of the “active” visitor which was tied to a socialist vision; it had a meaning which it has lost in our own time. Then, to make the viewer “active” was tightly connected to notions of political agency, jolting people out of the “numb passivity” which resulted from the social and technical arrangements of modernity (Lissitzky 1930, p. 149). Now, interactivity is mainly understood in terms of consumer choice and civic participation. Andrew Barry has written of how interactivity, in science centers especially, is still harnessed for the production of “interested, engaged and informed technological citizens” (Barry 2001, p. 129). Interactivity in these contexts may appear to be a tool to teach scientific facts and principles – the explicit content of the exhibits – but it may also be a training or preparation for the ways in which everyday, sensual experience is configured in relation to certain machinic arrangements. Indeed, we could see many of the present manifestations of interactivity not as increasing agency, but as encouraging acceptance of a new set of machine–body relationships.

The new-media theorist Lev Manovich has argued against seeing interactivity as a defining characteristic of new media. His own distinction between old media and new media relies on a distinction between larger social, economic, and technological developments, between the era of mass standardization (Fordist) versus the information age (also contentiously termed “post-industrial” or “post-Fordist”). Manovich sees the demand for mass standardization as having shaped a “modern desire to externalize the mind.” Individual mental processes became understood as standard operations through analogy with the processes of modern media (he mentions Freud’s use of photographic analogies). In this way the private and individual become public, shared, and analyzable (Manovich 2001, pp. 60–1). Today, this is taken a step further as computer media produce “a new kind of identification appropriate for the information age of cognitive labor” by asking us to identify with someone else’s mental
structure, replacing our own mental associations with “pre-programmed objectively existing associations” (Manovich 2001, p. 61). Computer interactivity maps our own thought processes onto those already written into the software. It models certain ways of thinking, or certain ways of understanding our own cognitive practices: to click is to make a choice, to follow a link, to associate one event or piece of information with another. This process of the “externalization” of the mind closes the gap between subjective mental processes and objective, machinic processes. In this sense, like Taylorism, it hooks people and bodies up to machines, making people “thinglike.” This argument would suggest that interactivity, which seemed initially to promise agency over “numbed passivity,” actually does the opposite, increasing alienation.

The avant-garde, especially in post-revolutionary Russia, embraced industrialization with enthusiasm, even while they recognized the possibility that new materials and technologies would make people “thinglike.” For them, becoming “thinglike” was not synonymous with being alienated. In Marxist theory, alienation is a consequence of capitalism, not standardization. It is tied to commodity fetishism – the way in which, under capitalist labour relations, the commodity seems to come “alive.” In his essay “Everyday Life and the Culture of the Thing” (1925), Boris Arvatov produced a theory of the socialist thing. Released from the commodity relations of the capitalist system, and redesigned along Constructivist lines, the thing-world of industrial mass production would be beneficial and transformative. Already, modernist things were changing people, shaping “gesticulation, movement and activity.” Cognitive and psychological processes were also being changed by the new world of things; as Arvatov claimed, “The psyche also evolved, becoming more and more thinglike in its associative structure” (cited in Klaer 2004, p. 263). Arvatov believed that the use of materials such as glass, steel and concrete in modernist objects, and the rejection of the decorative casing of the bourgeois object, would lead to a more transparent or legible relationship between a thing, its production, and its use. The modernist reinvention of everyday things, according to Arvatov, might enable the reinvention of consciousness along socialist lines (Klaer 2004, pp. 265–7).

Exhibition design in the late 1920s presumed that the physical activity of an audience in a space, moving around, pressing buttons and so on, would not just communicate certain content but also induce certain forms of consciousness. To see this in terms of a Fordist world-view, or in terms of the expansion of forms of social control, is to miss how
existing technologies and everyday things were perceived as already shaping consciousness, and how the modernist, rationalized thing was seen as the means by which a new political consciousness would be engendered. For 1920s avant-garde exhibition designers and artists, buttons, switches and dials, modular standardized exhibition components, and modern materials stood synecdochically for a whole range of possibilities through which audiences/citizens could realize their own social agency.

Database

The possibilities of visitor participation and affective address, which could be hinted at through the use of buttons, switches, and effects of lighting, were also connected with new ways of imagining the purposes and uses of collection. The over-accumulation and universalism of the turn-of-the-century museum became translated into new kinds of accumulation and universalism associated with modernity. If the large temporary expositions were the greater site for innovation and technical experimentation in display techniques, the museum was the site in which these innovations were put to work in the service of internationalist, universalist, and democratic projects.

One such project was Paul Otlet’s World Palace, which attempted to bring together and disseminate knowledge on a global scale. Otlet’s work offers an interesting example of the ways in which the museum was being reinvented as a mass medium, and also of how it becomes a model for media more generally. From 1919, at the World Palace in Brussels, he and his colleagues worked on the massive filing system begun two decades earlier. This developed from a device for keeping a record of world literature to a means of cataloguing the world itself. Like Neurath, Otlet used mass reproduction alongside new processes of information retrieval to reinvent the museum, returning to an older convergence of museum, archive and library. Using his Decimal Classification System an archivist could inventory any item by allocating it a number and recording it on an index card. He also worked with Neurath and with Le Corbusier to plan a series of branch museums, called “Mundaneums,” intended to be reproduced worldwide. Both Neurath and Otlet were interested in the way museums and exhibitions could develop the potential of mass reproduction and communication technologies to cross national boundaries and create a world culture (Vidler 2001; Vossoughian 2003).
Like Neurath’s Isotypes, Otlet’s classification and card system has been cited as an example of rationalization and associated with social control. This is due to their connection with policing; police identity cards were introduced in Paris in 1883, by the police bureaucrat Alphonse Bertillon (Sekula 1993, pp. 357–62). Yet index cards were being used by banks and libraries from the 1850s and 1860s. To think of them in relation to this history draws attention to their role in exchange, of information and of money. The filing card replaced linear records (such as the ledger book) because it could be transported from one place to another as necessary. This system allowed for a new mobility and exchangeability of information and artifacts. It liberated things and knowledges from their fixed places. For Otlet it also had the benefit of releasing the museum from its dependence on notions of typicality. Anything can be collected and classified without having to be typical, symptomatic, or exemplary. This makes for a generous and potentially unlimited archive. Denis Hollier compares the index card file to the notion of the "open work" or "open text," pointing to how it

resists the syntagmatic closure of the sentence by sustaining the openness of the paradigm. It doesn’t allow the phrase to gel, to take shape. A filing system is indefinitely expandable, rhizomatic (at any point of time or space, one can always insert a new card); in contradistinction with the sequential irreversibility of the pages of the notebook and of the book, its interior mobility allows for permanent reordering. (Hollier 2005, p. 40)

The filing card system is the antecedent of the computer database, which, according to Lev Manovich, is foundational to new media. For Manovich, one of the things which distinguish new media most sharply from older media is their existence as an interface to a database. Many different interfaces can be founded on and provide access to the same database. This means that new media objects are fundamentally variable, able to “exist in different, potentially infinite variations,” rather than the multiple identical copies associated with the mass distribution of older media (Manovich 2001, p. 36).

Because the World Palace realized this potential of the database, Otlet has sometimes been described as one of the forgotten “forefathers” of the internet. However, the World Palace could equally be seen as an antecedent of the breakdown of the distinction between storage and archive, which we find in open-stack systems. In these, the archiving system displaces the
museum, or the museum store becomes the exhibit. Open storage display threatens to banish the exhibition as something which frames and stages and re-presents, but in practice, the exhibition becomes the means through which the storage system or archive is navigated. It becomes, in effect, an interface to the storage system, much as Manovich describes the new media object. Wolfgang Ernst has noted this correspondence between contemporary open-stack systems and the structures and processes of new media:

Today, the idea of providing the final preservation of artifacts, the traditional goal of the museum, is displaced by a practice of intermediary storage, minimizing temporal duration. The electronic inventory systems of commercial companies reduces their storage time virtually to zero by aiming at a real-time access to commodities in the supply–demand relationship, just as electronic random access to computer files turns memory into the omnipresence of data. The museum is no longer the terminal for parcel-post from history, art and culture; instead the institution becomes a flow-through and transformer station. Its demand now is mobilizing, unfreezing the accumulation of objects and images in its repositories, making them accessible to the public by displaying the stacks or recycling them into the exhibition area. (Ernst 2000, pp. 25–6)

Ernst emphasizes mobility and accelerated turnover as an aspect of new display and archival techniques, including open stacks. The parallel between computer RAM and this new kind of “flow-through” museum suggests a new approach to the memory and preservation functions of the museum. The resemblance of these exhibitionary practices to new media is not simply analogous – like the new media object, the new museum is facilitated by computer databases and electronic inventories. Like the worlds of commerce and of communication, it has been rejigged by electronic media.

Ernst proposes a correspondence between new exhibition forms in museums and information “architecture.” Data-processing and new media seem to be shaping new exhibition practices. This is not just because new media are being inserted into the exhibitionary context but because the exhibition appears increasingly like new media. It is possible to argue that the exhibitionary forms that Ernst describes are more than just analogous to new media. For the exhibition has become an interface to a database, enabled by automatic searching, even if what is stored is not simply data but also actual things (artworks, artifacts, and specimens).
The resemblance to contemporary new media and information technology leads Ernst to argue that the museum is becoming a medium and to ascribe to it a pedagogic effect: “the task of the post-modern museum is to teach the user how to cope with information” (Ernst 2000, pp. 31, 18).

According to Michael Ames, open-storage displays originated in attempts to “deschool” the museum in the 1970s (Ames 1992, pp. 89–96). “Deschooling” was about establishing a new relationship between the museum and its users. No longer would the museum be a place for straightforward instruction. Instead, the users of museums could – in theory – direct their own learning without the mediation of didactic display. The museum becomes a resource, or, in Ernst’s version, “pure register, archive, index … a data bank” (Ernst 2000, p. 26).

**Modularity**

Another thing which makes some contemporary exhibitions structurally similar to new media is the way in which they are flexible, made of modular parts. Ernst connects modular display systems, such as that at the Museo Gregoriano Profano in Rome, with new media (Ernst 2000, p. 26). New media are characteristically modular, made up of separate parts which can be assembled and disassembled. However, modular display systems predate new media and were pioneered by the exhibition designers I have mentioned. Kiesler’s L and T system of 1924 was modular. It was made up of freestanding wooden structures which supported slatted rectangular panels. The T-type structures were cantilevered, so that visitors could adjust pictures to eye height, or reorganize them according to whim, changing their relationship to other exhibited elements. The L and T units were transportable and could be adapted to suit different exhibition spaces. Neurath’s exhibitions were also modular, the Isotype charts made up of identical figures pasted onto board, and the display system standardized:

There were a number of thin walls of wood put together by a sort of hook. In this way it was possible to make smaller rooms of different size which might be changed whenever necessary. On the walls there were two rows of wood at such a distance from one another that pictures a certain number of centimeters high might be put on and taken off without any other apparatus. The normal size of a picture was 126 cm × 126 cm (4 feet × 4 feet),
and the middle-point of a picture was about 150 cm (5 feet) higher than the floor, that is the position of the eye of a normal upright person. Smaller pictures were put together in groups so that every group was 126 feet high .... 90 cm (about 3 feet) of wall-space under every picture was kept clear, so that a table with apparatus, some books or other things on view might be placed there. (Neurath 1936, p. 72)

Neurath, Otlet, and Kiesler transformed the exhibition into a media form made of interchangeable standardized parts. However, Manovich’s theory suggests that this sort of modularity can be distinguished from the modularity of new media. The latter allows for customization and is explicitly user-oriented: the readers and users of new media can construct their own media object to some extent. The interchangeable parts of older media and of modernism are viewed by Manovich as corresponding to the logic of mass standardization associated with Fordism (Manovich 2001, p. 30).

The idea of contextualizing media in relation to Fordism derives from the work of the Frankfurt School in the 1930s and 1940s. They analyzed how mass culture addressed an audience whose experience has been qualitatively altered by mechanization, and the permeation of standardization and the rhythms of the assembly line into their everyday working lives. Neurath, Otlet, and Kiesler’s displays were all in their various ways explicitly designed to meet the expectations and modes of perception of this new mass audience. The modular interchangeable parts of these early exhibition experiments were primarily intended to be disassembled and reassembled by the authors of the exhibits and could not be customized by individual users to the same extent as some new media. However, they pointed to that possibility through the use of participatory devices such as push-buttons. The exploration of the possibilities of the museum without limits or boundaries, as an open-work or text, suggests an orientation very different from the disciplinary one we now associate with Taylorism and Fordism.

Both new media and museums have been written about in terms of social control and discipline. It is symptomatic, I think, that Bolter and Grusin say that the art museum mediates the experience of art since “the space between viewer and canvas is controlled, institutionalized and policed” (Bolter & Grusin 2000, p. 59). Here, the very notion of mediation seems to imply policing, and the authors echo the critical writing on museums that has analyzed the museum as a disciplinary institution, which polices and regulates visitors (Bennett 1995). Bennett’s
well-known study of late nineteenth- and early twentieth-century museum discourse revealed its concern with how to police the behavior and appearance of working-class visitors. New display techniques seemed to respond to this anxiety by organizing the walking of visitors, and exhibitions became disciplinary technologies.

However, for the exhibition designers I have mentioned, the mass audience was not conceived negatively or as something to be standardized and controlled. To read these exhibition experiments as disciplinary ones would unnecessarily narrow the terms within which we might understand the mediated museum, then and now. It may lead us to overlook other ways of thinking about the relationships between exhibits and people, and also the impossibility of control via collecting, archives, and systems; that is, the rapidity by which they become uncontrollable, or entropic. For the analysis of museums as disciplinary institutions underplays the madness of museums, the over-accumulation which mitigates against clarity, sense, and orderliness.

I would also like to hold onto the possibility of recognizing how not-yet-available technologies can shape thinking and practice in a particular social or cultural field. Eve Kosofsky Sedgwick and Adam Frank have made a similar point, writing of the moment between the 1940s and the 1960s, when cyberneticists’ understanding of life and the human brain was “marked by the concept, the possibility, the imminence, of powerful computers, but the actual computational muscle of the computers isn’t available yet” (Sedgwick & Frank 2003, p. 105). Rather than simply identifying the cyberneticists’ understanding of human–machine relations as outdated or disproved, Sedgwick and Frank point to how it allowed for complex differentiations instead of simple binaries, for instance, by treating the analogue and the digital as “interleaved” rather than opposed (Sedgwick & Frank 2003, p. 106).

Similarly, the exhibition experiments of the late 1920s were shaped by the potential of technologies which did not yet exist, and they were informed by an understanding of that potential which was in some ways more supple and rich than present understandings of the significance and social role of both museums and new media. Of course, they were also shaped by what did exist, and some of the examples I have discussed presupposed that new media would be predominantly instruments for the reproduction and dissemination of high art. They also assumed that the single image would still have a power it has mostly conceded to a flow of images now. Yet these early imaginings and experimental exhibitions
illuminate existing similarities and shared histories between the museum and new media. They might prove a useful reminder, too, of the possible purposes and aims of deploying new technologies in museums. Although current museum experiments are shaped by ideas about audience, the attractions of interactivity, and the power of new technology, their politics is less explicitly and rigorously understood. New media theory tends to be preoccupied either with the role of media in social control or with its role in forms of personal liberation (via "identity" politics), while museums themselves often deploy new media to attempt to measure visitor response and learning, as well as to enhance popularity and compete with other attractions. In this context the real social, political, and aesthetic potential of new media in museums remains to be explored.

References


University of Reading (1975) Graphic Communication through Isotype. Reading: University of Reading, Department of Typography and Graphic Communication.


WITH AND WITHOUT WALLS
Photographic Reproduction and the Art Museum

Michelle Henning

According to Peter Walsh, we are in the era of the “post-photographic” museum, something we take so much for granted that we have to work to historically reconstruct the pre-photographic museum (2007, 23). Photography thoroughly mediates visitors’ experience of museums: from the publicity or educational material they encounter before their visit, on paper or online; to behind-the-scenes practices which employ photography for purposes of preservation, conservation, and documentation; to the snapshots that visitors take themselves and then circulate. Photographs are ubiquitous in contemporary exhibition contexts, to contextualize exhibits, and as artifacts in their own right. In this chapter, I do not plan to attempt to reconstruct the pre-photographic museum, but to show how photography has helped to shape the values that are commonly associated with modernism, such as artistic style, handling or facture, and originality. These aesthetic categories were naturalized by the post-photographic museum, even if it initially looked as if photography was a threat to them. They are associated with the privileging of certain kinds of attention in the museum. I want to suggest how our contemporary image culture can offer a different aesthetic model for museums, or more precisely, to use the French philosopher Jacques Rancière’s terminology, a different “distribution of the sensible” – that is, a different distribution of the sensory capacities associated with the different social classes, and with activity or passivity, work or leisure, criticism and consumption (Rancière 2009).

Photography is particularly important in this narrative, not least because many writers have argued that the use of photographs, both analogue and digital, to reproduce and disseminate art has produced new understandings of the original in relation to the reproduction, and distinctive ways of talking about, curating, and presenting art in the museum and outside. Photographic reproduction, in short, has been instrumental in the transformation of the art museum, in the development

Edited by Michelle Henning.
© 2015 John Wiley & Sons, Ltd. Published 2015 by John Wiley & Sons, Ltd.
of art history, and in ongoing changes in the ways in which audiences encounter art. But perhaps too much weight has been given to photographic reproduction. Is it really photography that has produced or even facilitated these changes? A number of writers have shown how other kinds of art reproduction, including wood engraving and lithography, continued to exist, and to flourish, well after the invention of photography in and around 1839. Between then and the distribution of photographically illustrated books in the late 1860s, “it was not photographs but wood-engravings that filled the pages of the illustrated magazines; intaglio work and lithography that crammed the print shop windows” (Fawcett 1986, 194). These other processes were increasingly mechanized. Wood-engraved reproductions of artworks were circulated internationally between publishers using the electrotyping process, which was invented between 1836 and 1838, very close to the invention of photography (Von Lintel 2012, 539). In 1839 new reducing machinery for bronze casting was introduced, which was so accurate that it “led to immediate comparison with the exactly contemporary daguerreotype” (Haskell and Penny 1981, 124).

Indeed, the notion that there is a technique for the reproduction and circulation of artworks that we could simply describe as photographic is questionable. Photography did not become a means for the wide circulation of prints until it could be combined with mechanical printing methods. It was only in the 1860s that photographically illustrated art books began to be published, although by then the market for photographs of artworks was an international business (Hamber 1995, 91–92). Photography lagged behind older print methods such as engraving and lithography until the invention of a series of new photomechanical processes in the 1870s and 1880s. But photographic methods also transformed older techniques, being incorporated into lithography and as part of the process by which engraving or woodcuts could be duplicated, allowing for multiple blocks and longer print runs.

Painting and photography became entangled right from the start. Not only did nineteenth-century painters use the new medium as part of their process, but painting became integral to the production of the photographic print, which frequently involved retouching with inks by hand, correcting, manipulating, coloring, and generally making the photograph “print-ready.” Today, digital photography and digital painting have become almost indistinguishable: manual skills are used to move and alter pixels, “painting” and “retouching” using a mouse or stylus and applications like Adobe Photoshop; and high-end facsimile reproduction involves a combination of the manual and mechanical application of paint. Bruno Latour and Adam Lowe have described the facsimile of Veronese’s Nozze di Cana produced by Factum Arte in Madrid as “a painting, albeit produced through the intermediary of digital techniques” (2011, 276). The Veronese painting in the Louvre was scanned using a large-format CCD (i.e., the same kind of sensor that a digital camera uses) that responded to light that the device itself produced (much like a scanner, only with LED lights to reduce heat and ultraviolet), but more
conventional photography was also used, via a digital Hasselblad and ambient light. After the large number of images produced were combined and manipulated to produce a copy of the entire painting, the facsimile was printed “in pigment on gesso-coated canvas,” the canvas stitched together, and the joins “retouched by hand by a team of trained conservators” (Latour and Lowe 2011, 289–296). Though the technology used, and the specific combination of techniques, are very new and innovative, the hybrid painting-photograph is as old as photography itself.

And yet, in the early to mid-twentieth century, critics, curators, and academics identified photography, in particular, as having dramatically affected the art museum, and drew a sharp distinction between the (photographic) copy and the original (usually a painting). The most famous texts are Walter Benjamin’s essay “The Work of Art in the Age of Mechanical Reproduction,” written and rewritten in the mid- to late 1930s, and André Malraux’s Museum without Walls, which was first published in 1947 (Benjamin [1936] 1992; Malraux [1947] 1967). Already, members of the early twentieth-century avant-garde combined painting and photography, but their advocates emphasized avant-garde photography’s potential as art on the grounds that it did not imitate painting, but “opposed” it (Brik [1926] 1989, 215–216). For instance, the Dada poet Tristan Tzara’s essay, which accompanied the publication of Man Ray’s “Rayographs” in the winter of 1922, argued that the cameraless photograph (photogram) had superseded painting, a now sterile and compromised medium:

Everything that bore the name of art had succumbed to paralysis; at which point the photographer lit his thousand-candlepower lamp, and gradually the light-sensitive paper absorbed the blackness of a few utilitarian objects. (Tzara [1924] 2002, 484)

During the late 1920s and early 1930s, in various art and culture journals, European photographers, writers, and curators debated the impact of photography on art, and especially painting (Phillips 1989; Benson and Forgacs 2002). In the pages of the Hamburg journal Der Kreis, museum directors and curators initiated a debate about the difference between the experience of the original work of art and the experience of a reproduction or facsimile. What did this difference consist of, if the viewer was unable to distinguish one from the other?

Although the telegraphic transmission of photographs had been practiced by news organizations since around 1900, and the mass dissemination of photographs via photomechanical printing had existed since the 1860s, the preoccupation with the distinction between (static) original and (mobile) copy seems to have hindered the recognition that many of the “original” paintings in museums were born into, and inseparable from, the world of the mass copy. The French historian Michel Foucault has beautifully characterized the pervasive image culture that had emerged with technical reproduction and flourished in the late nineteenth century. In 1975 Foucault wrote a catalog essay for the painter Gérard Fromanger’s exhibition Desire Is Everywhere, in which he described “a new frenzy for images, which circulated
Extending the Museum

rapidly between camera and easel, between canvas and plate and paper,” from about 1860 until 1880. Technical reproduction enabled “a new freedom of transposition, displacement, and transformation, of resemblance and dissimulation, of reproduction, duplication and trickery of effect” (Foucault [1975] 1999, 83–84).

Foucault’s ability to vividly reimagine this late nineteenth-century culture of images was facilitated by his interest in heterogeneity, madness, prisons, and sexual transgression. In his account, media attempt to imprison images, which slip away. He writes:

In those days images travelled the world under false identities. To them there was nothing more hateful than to remain captive, self-identical, in one painting, one photograph, one engraving, under theegis of one author. No medium, no language, no syntax could contain them; from birth to last resting place they could always escape through new techniques of transposition. (Foucault [1975] 1999, 84–85)

The mobility of images ca. 1860 to 1880 has something in common with the mobility, diversity, and lack of fixity of sexual identities, “with their migration and perversion, their transvestitism, their disguised difference” (83–84). Foucault abolishes distinctions between original and copy, along with the old conception of a medium as something that merely delivered images to a receptive audience.

The cult of originality

To understand the post-photographic museum means situating museums in the play of images. We can start by questioning the idea that museums are the resting places of the originals from which reproductions emanate, since it disregards the role that facsimiles and reproductions have played in the history of museums. The idea of the museum as a place where you went to encounter “the thing itself” has not always held sway. If, as some claim, the “museum age” really only begins with the inauguration of the Louvre in the late eighteenth century, then the fascination with the facsimile and the reproduction precedes it. In the eighteenth century, casts and replicas in a wide range of materials were sold as ornaments and collectables, and there were galleries of plaster-cast facsimiles of antiquities throughout Europe.1 In Britain, Peter Walsh has argued, the Victoria and Albert Museum established itself as a prototype of a new type of museum, willing to use reproductions instead of originals to enable it to include as much as possible of the world’s artworks (2007, 24). From very early on, it included a photography collection and also used photography within the museum. The museum’s photographer, Thurston Thompson, photographed the famous Raphael cartoons, and these photographs were described as “all but as valuable as the originals” in the Athenæum literary magazine of 1859, which concluded that “Great works of Art are now, when once photographed, imperishable” (quoted in Fawcett 1986, 192). In the
United States, some museums modeled themselves on the South Kensington Museum, happily exhibiting reproductions where the originals were too expensive or rare (Walsh 2007, 28). Reproductions were also reproducible: in 1914 a catalog of photographs of Brucchi's Covent Garden collection of plaster casts of Byzantine, Gothic, and Renaissance works was published for use in schools (Haskell and Penny 1981, 117).

The flipside of this was that the original was effectively devalued. In exactly the same year as the Athenaeum described art as "imperishable," American essayist and poet Oliver Wendell Holmes had anticipated what would happen if a viewing public felt that reproductions were an adequate or satisfactory substitute, and he quipped: "Give us a few negatives of a thing worth seeing, taken from different points of view, and that is all we want of it. Pull it down or burn it up, if you please" (Holmes 1859).

To participants in the 1920s and 1930s discussions of photographic reproduction in European journals such as Der Kreis, Der Stijl, and Internationale revue, photomechanical reproduction appeared as a threat, because it effaced the labor of the photographer so effectively that it was difficult to tell the difference between a copy and an original art object. In 1929 Max Sauerlandt, director of the Art and Craft Museum in Hamburg, launched an attack in Der Kreis on the collection of plaster casts put together by Carl G. Heise, director of St. Annen-Kloster in Lübeck (and responsible for one of the first major exhibitions of photography in that year). The discussion soon turned to photography because Alexander Dorner, director of the Landesmuseum in Hanover, had exhibited 35 artworks on paper alongside their printed facsimiles in May 1929. Dorner challenged viewers to identify the difference, and over 100 laypeople and experts were equally confounded (Márkus 2007, 337).

Some writers in Der Kreis were appalled by the notion that the reproduction might take the place of the artwork. In November 1929 Kurt Karl Eberlein, an art historian and onetime director of the Kunsthalle in Karlsruhe, wrote that all facsimiles were forgeries and that, even if 99 percent of the viewing public could not tell the difference between them and the original artwork, this did not make them the same. Eberlein argued that technical reproduction provided only "falsifying surrogates" for art (Eberlein [1929] 1989, 146). In his view, mechanical reproductions were imposters, unable to substitute for the experience of the original, since each original is "a unique, intellectually shaped physical expression of art's essence" (149). The photomechanical reproduction of an artwork was supposed to complement and promote the artwork itself, but instead, for Eberlein, it followed what Jacques Derrida described, half a century later, as the "logic of the supplement":

The supplement adds itself, it is a surplus, a plenitude enriching another plenitude, the fullest measure of presence ... But the supplement supplements. It adds only to replace. It intervenes or insinuates itself in the place-of; if it fills, it is as if one fills a void. (Derrida 1976, 145)
Extending the Museum

According to Eberlein,

Every explanation of why the mysterious, magical, biological "aura" of a work of art cannot be forged -- even though 99 percent of the viewers don't notice the difference -- is an offence against the sovereignty of art. (Eberlein [1929] 1989, 148)

Today we tend to associate the concept of aura with Benjamin's essay, written six years later, but Eberlein's comment suggests that in 1929 it was already being used to characterize the "essence" of art. Dorner responded by pointing out that there would never be agreement between the advocates of facsimile reproduction and its detractors, because people like Eberlein felt that

ancient works of art can only be experienced at first hand, with a fingertip sense of the cracks in the surface. Indeed, for them the arduous pilgrimage to the work of art is part of the artistic experience; they want the old work of art to stand isolated from contemporary life. (Dorner [1930] 1989, 153)

By contrast, the advocates wanted to put the past to use in the present. So the dispute also involved competing understandings of museums -- one view took the museum to be the place you would go to experience the work of art in its full "presence"; the other saw the role of the museum as bringing museums into "the stream of contemporary life." Yet, as Dorner noted, museums had already torn paintings and sculptures and other works of art from their original contexts and in the process entirely transformed them. Museums and facsimiles serve similar functions, "generated by the interests and needs of the present" and are "incomprehensible apart from those interests and needs" (Dorner [1930] 1989, 152). The present absorbed the past, circulated its images, and put them to new uses for a modern mass audience.

The art museum's act of detaching objects from their context is something that we find in all kinds of museums. It is something Barbara Kirshenblatt-Gimblett describes as key to ethnographic museums, "an essentially surgical issue... Where do we make the cut?" (1998, 18). She argues that all ethnographic objects are fragments, pieces of the world produced by active choices about where to cut, which are guided by ideas about the singularity of the object and its separability from its place in the world. The art museum makes the most radical cut since, as Hilde Heine pithily describes it, "aesthetic interest inducts an object into a realm of privileged inutility" (2000, 128). Yet, if art museums produce the original as singular by detaching it, they can never quite rid themselves of the possibility that by making the cut they have damaged the object. Latour and Lowe compare their elaborate facsimile of Veronese's Nozze di Cana, mentioned earlier, in situ in Palladio's refectory on the island of San Giorgio where the Veronese painting had first hung, to the painting that Napoleon had stolen from there and taken as booty to the Louvre. In the Louvre the painting is inappropriately framed, hung too low, the meaning changed
and the balance of the composition altered (Latour and Lowe 2011, 276–277). For Latour and Lowe the recontextualizing of paintings by the museum undermines the concept of a pure "original," but to argue this they simply replace one notion of authenticity (the thing itself), with another (the original situation, prior to the cut).

The concept of the museum as a place in which we encounter the "original" is also complicated by the fact that the material object is not frozen in time but is always in a process of subtle, slow transformation. The museum actively intervenes in this process through restoration, conservation, and climate control. Latour and Lowe begin their essay with a viewer who encounters Hans Holbein's *Ambassadors* at the National Gallery in London (Figure 25.1), but finds it too "gaudy" and "exaggerated": restored, it takes on the appearance of a "cheap copy" (2011, 275–276). Holbein's painting is a good example since its restoration history has been documented — it had been altered in the eighteenth century, again in the 1890s, then again in the 1990s (with minor repairs in the intervening century). Martin Wyld wrote in the *National Gallery Technical Bulletin* after the 1990s restoration: "the image of the picture which is so familiar today is not that which was seen by the gallery's visitors in 1897" (1998, 9). The implicit distinction between the "image of the picture" and the picture itself is very telling. What is "the original" if not the thing we see before us? Does each restoration produce a new "image of

![Figure 25.1](image-url)  
Hans Holbein the Younger, *The Ambassadors*, 1533. Note the famous distorted skull in the foreground of the picture.  
By permission of the National Gallery, London.
the picture” in the eyes or minds of the visitors? If so, what is the distinction between this “image” and a copy?

The 1990s restoration involved cleaning off varnish from 1891 but also removing nineteenth-century painting and then repainting areas. The restoration process incorporated reproductive imaging technologies: x-rays and digital imaging. The nose bone of the famous distorted (anamorphic) skull presented particular problems because the x-rays revealed Holbein’s own paint as missing beneath the nineteenth-century paint. Digital imaging techniques were used to convert the anamorphic image to a conventional one, and this, along with various images of different skulls, was used as guidance for “a tentative reconstruction of the nose bone and the end of the lower jaw” despite “ethical reservations” and bearing in mind the “question of how the Gallery’s visitor’s might react if an image as famous as Holbein’s skull were to be displayed incomplete” (Wyld 1998, 25). The “image” – as remembered by visitors and circulated through reproductions – determines the production of a new nose bone, a copy, not simply of Holbein’s painting, but of other, actual, skulls. Only through this arduous process can the museum attempt to isolate the picture from the flow of contemporary experience, and yet, at the same time, it is the images circulating in the minds and reproductions of contemporary society that shape the restoration.

**Forms of attention**

Benjamin saw, as Dorner did, the facsimile reproduction as the next stage in the democratization of art begun by the public art museum. Unlike Eberlein (who wanted art to remain an elite experience), Benjamin sees this as a necessary and politicized process but, like Eberlein, he does not see facsimiles as harmless to the “aura” of the original. Benjamin argues in “The Work of Art in the Age of Mechanical Reproduction” that photomechanical reproduction gives art back an active social and political role which it had lost when it entered the museum. But Eberlein and Benjamin have one thing in common: they disagree with the advocates of facsimile reproduction who believe it will leave intact the “aura” of the work of art. Today we use “aura” to refer to some kind of ineffable aesthetic value. Benjamin sees it more precisely, as an effect of a certain social convention, a certain way of looking at art that had become the norm among a certain class of people in the nineteenth-century museum. For Benjamin, technical reproduction didn’t simply damage the value or mystique of the artwork; it attacked the social norm of receptive contemplation that was associated with the encounter with the original art object in the museum, so that seeing the “original” would never be the same again. The post-photographic museum is a museum in which a certain kind of aesthetic contemplation has started to decay.

The kind of contemplation Benjamin had in mind was rooted in the idea of communion with the artwork and institutionalized in the art museum, which
provided a secular substitute for religious experience in front of paintings that were once altarpieces, statues that were once gods. This is the kind of aesthetic experience expected and experienced by, for instance, the painter and physician Carl Gustav Carus in 1857. Carus had seen Raphael's Sistine Madonna in its new chapel-like installation at the Royal Gallery of Paintings in Dresden and effused that the painting “presented itself ever more radiantly and in its full significance to my soul” (quoted in Belting 2001, 61). This quasi-religious experience of the artwork in the museum is particularly associated with the Romantic belief in the autonomy of art. The Romantics conceived of both art and nature in terms of a reciprocated gaze. From this perspective, artworks were not mute objects or merely expressive of the artist and the culture, but autonomous and able to generate their own meanings to the receptive and sensitive viewer (see Stoljar 1997, 10–11).

“Insofar as the age of technical reproduction separated art from its basis in cult, all semblance of art’s autonomy disappeared forever” (Benjamin [1936] 2002, 109). The effect of this is to let loose the artwork, sending it spinning into the hands of the mass audience. This audience grasps at the image, with the hand as much as the eye, because it has been trained, by cinema and mass culture, toward a new kind of attention. Like other German writers of the period, Benjamin characterizes this as “distraction” (Zerstreuung – sometimes also translated as “diversion”); unlike them, he represents this new kind of receptiveness as active, not passive. Frederic Schwartz summarizes it like this:

Distraction is a hypothetical mode of visual attention, one described as routine, active and not absorbed, one representing a mode of technical problem-solving and not aesthetic enjoyment, one addressing bits and pieces from the inside and not unified wholes from a distance. (2005, 62)

Traditional aesthetic enjoyment was overturned, but in its place were new pleasures. As Schwartz points out, Benjamin was very familiar with Moholy-Nagy’s book Painting, Photography, Film, which spoke of meditation and immersion being replaced by participation, by art forms in which the observer is able “to participate, to seize instantly upon new moments of vital insight” (Moholy-Nagy, quoted in Schwartz 2005, 54). The new form of attention is grasping, tactile, instantaneous, urgent, and active but also habitual and almost automatic — and it belongs principally to the working class; it is very different from the older attention “of the savoring bourgeois” (Tschiehold, quoted in Schwartz 2005, 55). For Benjamin and these artists of the avant-garde, these debates were political, and their aspirations were that photographic technology could be put to use in overturning the class system. Although the larger political claims they made for this new kind of attention do not stand up to scrutiny in retrospect, the notion that the technology of mass reproduction might be associated with a change in the museum audience and a transformation of the experience of “original” works of art is crucial for understanding the practices and potential of art museums today.
We have seen how Foucault connected the technologically facilitated circulation of images with a kind of playfulness. Benjamin, too, connected the new technologies of mass image production with an increase in play (in the double sense of extension and amusement). In the early versions of the "Work of Art" essay, he argued that the origin of the technology of the machine age "lies ... in play" (Benjamin [1936] 2002, 107). In the footnotes he wrote that the machine age, by liberating people from drudgery, increased the "scope for play [Spielraum]." This means, not just increased leisure time, but an expanded "field of action" (124). Art had always involved play, but in traditional aesthetics emphasis had been placed on "beautiful semblance" at the expense of play. Now, as new mechanical reproductive technologies take precedence, the possibilities for play increase: "that which is lost in the withering of semblance and the decay of the aura in works of art is matched by a huge gain in the scope for play" (127). One kind of pleasure (critical, contemplative) was replaced by another (playful, irreverent), and it belonged to the mass audience.

The invention of facture

Just as much as photography and technical reproduction can be said to have contributed to the decline of aura, they can also, simultaneously, be said to have been necessary both to the development of the cult of originality and to an increased interest in certain kinds of detail and texture in the art object. The value attached to the original, as against the copy, is largely post-photographic. The sociologist Gordon Fyfe makes this point in a discussion of engraving. Line engraving was a skilled craft, practiced in the eighteenth century by craftsmen organized into guilds, who commanded a near monopoly over the trade in reproductions. As Fyfe summarizes:

In the service of patrons they reproduced the material culture of patrimonial power; they disseminated images of antiquity and they serviced the trade in reproductions of antiquities. Engravings spread news of royal, aristocratic and institutional collections and formed a part of the visual propaganda machines of European states and their rulers. (2004, 57)

In Fyfe's account, the hegemony of engraving was destroyed both by the maneuvers of art institutions, and transformations in the organization of labor during the industrial revolution, in which the guilds were replaced by capitalist relations of employment, and engravers cast as either employers or laborers (2004, 58). In capitalist society, culture is part of the market, and the destruction of the craft workshop and the guild was part of the process of creating a free flow of cultural capital.

The "visual propaganda" of the eighteenth-century engraving was the means by which aristocratic and bourgeois individuals were educated about art objects
and antiquities which they had not seen in the original, but it also produced them as an audience that was discerning about the quality of the engraver’s interpretation. In this period, the production of copies was not an anonymous and invisible practice. On the contrary, the skill and style of the master engraver was supposed to be evident and legible in the print. Engravers saw their task as to communicate certain classical ideals such as those of harmony and proportion. Line engraving emphasized composition and iconography, and engravers transposed paintings and statuary using a set of very specific conventions developed in the seventeenth century, a “syntax” or repertoire of cross-hatching, lines, and dots (Fyfe 2004, 54). As William M. Ivins, Jr., print curator at the Metropolitan Museum of Art in New York in the mid-twentieth century, had noted, the suitability of an artwork for translation into the engraving’s “net of rationality” was a criterion for its selection for reproduction (Ivins 1953; Pinson 1998, 155).

Engraving was undermined by photomechanical reproduction, not simply because the new technology was more efficient or effective than the older one, but because it accompanied and reinforced a new set of values: “Engravers fought to retain a place within the cultural apparatus, but the fight was conducted on a terrain that was increasingly defined by a photographic way of seeing” (Fyfe 2004, 59).

Just as engraving had influenced the canon, so artwork photography was shaping the public taste for art, but it was also shaping a distinctive new approach to seeing (and seeing through) reproductions. The photographic series which cataloged and documented exhibitions and collections, and which were sold throughout Europe, also transmitted a new kind of appreciation, which privileges the individual authorship of the artist and the authority of the original artwork while rendering the process of interpretation through reproduction increasingly invisible. For the new way of seeing, which emerged and developed with photography, an ideal reproduction would be one that effaced itself, which allowed the viewer to feel they simply looked through it to the artwork. The photograph’s direct, chemical-mechanical reproduction of objects and lack of explicit syntax gave the impression of transparency.

By the 1860s, distinctions were being made between interpretive prints of an artist’s work and “facsimiles” – surrogates or exact copies which stood in for the original. While photographs would be described as facsimiles, certain nonphotographic prints would be too, as Stephen C. Pinson has shown. An 1873 catalogue raisonné of Delacroix’s work described Robaut’s very precise manual copies of the drawings as “facsimiles.” Yet, in the same catalog, other prints made “after Delacroix” were treated as original works in their own right, presumably because they were seen to demonstrate more interpretive freedom or stylistic distinctiveness (Pinson 1998, 160–163). But, increasingly, copying in general was becoming an anonymous and secondary practice, shifting toward the production of precise facsimiles.

The photographer who reproduced the paintings that illustrated books and catalogs was almost invariably anonymous. Their authorship is suppressed, not just in the absence of a photo credit, but more importantly in the absence of any
evident "style" that shows the mark of an author. The photograph "created the illusion of communication without mediation; it brought the work of art and the signs of its making into the presence of the viewer whilst it suppressed the incorporated practices of print-making which made that presence possible" (Fyfe 2004, 52). The photograph seemed to be able to communicate or convey the unique handling and expression of an individual artist by reproducing tone and texture as well as line, composition, and iconography. Engraving had flourished in a world where art was still understood as largely collective, traditional, and convention-bound, but the developing modern culture of art valorized the individual and expressive mark.

One of the contributors to Der Kreis recognized that the value being placed on the material presence of the original — by both the supporters and detractors of photomechanical reproduction — was a peculiarly modern phenomenon. This was the art historian Erwin Panofsky, whose 1930 essay "Original and Facsimile Reproduction" pointed out that earlier conceptions of art, deriving from Aristotelian ideas and from Neoplatonism, had seen the materiality of the object as secondary, a passive carrier for ideas (Panofsky [1930] 2010). In the nineteenth century, the technology of photography appeared to realize the classical belief that the form is separate and distinct from its physical substrate, insofar as it seemed to separate images from their material place in the world. For instance, Oliver Wendell Holmes writes about photography as if it is a form of taxidermy, stripping reality of its outward "skin": "Men will hunt all curious, beautiful, grand objects, as they hunt the cattle in South America, for their skins, and leave the carcasses as of little worth" (Holmes 1859).

The increased emphasis on the handmade, the textural and material presence of paintings, both by painters and by writers on painting, was partly a response to this notion of photography as stripping away the surface appearance. Not only was photography unable to reproduce this physicality, but it had practically none of its own. In 1927 an article by Ernő Kállai in internationale revue argued that the difference between painting and photography is not about form and imitation, but is a difference of materiality. A painting or drawing is also "an physical substance with a tension and consistency of its own" (Kállai [1927] 2002, 683). By contrast, "photography is not capable of this degree of materiality and objecthood" and therefore an "emotional substrate" is hardly present. "There is no facture," declared Kállai, which means "no optically perceptible tension between the substance of the image and the image itself" (686).

Facture refers to the artist's expressive handling of their materials, the mark-making, and the sensuous materiality of the object evident in its texture and physical qualities: all those qualities that the reproduction could not possess. Yet, Dorner's exhibit showed how insensitive visitors, even expert ones, were to facture. People had to learn to see facture and, to do so, they had first to see paintings through photography: to see that the photograph itself did not possess facture. Panofsky concluded that the more faithful reproductions became the more
viewers would become adept at seeing nuanced differences ([1930] 2010). But, also, photographs conveyed facture when other kinds of reproduction did not. Black and white photographs, in particular, reinforced a modern way of seeing art by drawing attention to the mark-making and texture of paintings, and by emphasizing tone and mass over line and composition.

To an extent, the museum had already begun the process of drawing attention to material presence by removing objects from their original social context. The modern Western category of art developed out of the process of divesting art objects of their representational function: as Malraux noted in *Museum without Walls*, the museum does away with the significance of Palladium, of saint and Savior; rules out associations of sanctity, qualities of adornment and possession, of likeness or imagination; and presents the viewer with images of things, differing from the things themselves, and drawing their raison d’être from this very difference. ([1947] 1967, 10).

Malraux, too, notices how photography contributes to this change. By beating painting at the game of illusionistic representation, it destroys the value of spectacular techniques of illusion and trompe l’œil, which had dominated Baroque painting: “these spectacles ceased to be spectacle. They did not again become apparitions, but became pictures, in the sense in which we understand that word today” (Malraux [1947] 1967, 31).

The museum and photography, together, made facture conceivable. So when, in the 1920s, writers defended the handmade artifact against the mechanical facsimile, they were using a conception of the essence of art which had only relatively recently been formulated, and which had only gained prominence as reproductions and facsimiles increased their circulation.

**Style**

Kállai’s point about the absence of facture in photography is echoed in a 1942 essay by Beaumont Newhall, the curator of a series of groundbreaking photography shows at the Museum of Modern Art, New York, during the late 1930s and 1940s. Proposing that photography be treated more widely as a topic of study within art history, Newhall acknowledged that “Art historians, accustomed to dealing with “auto-graphic” works of art, may find it difficult to evaluate photographs. Facture, craftsmanship and other marks of the individual hand are absent” (Newhall 1942, 86). Yet, while Kállai used the absence of facture to argue for the absence of emotion, Newhall emphasized the ways in which the nonmechanical and nonobjective aspects of photography enable the photograph to embody a particular vision of the world. The marks of the individual hand only get in the way of this deeper distinctiveness of style rooted in unique visual perception, so that “this apparent
loss is at once a gain; it enables us to grasp the vision of an individual, of an epoch, of a people in the most direct and immediate way" (Newhall 1942, 86).

Newhall emphasized, first, the way photography gives us direct access to "vision" and, through this, style; second, human control over the medium. He distinguished the artistic control of the medium from the snapshotter who simply presses the button on a Kodak Brownie, and challenged the perception of it as a mechanical, objective medium. For Newhall, photographs have style and it is only the art historians' ignorance about photography that makes them unable to distinguish differences between photographic styles, differences that depend on technology but are driven by the photographer's unique vision. Even in the case of the photographic reproduction of paintings and sculptures (the principal use that photography had at the time for the art museum and the art historian). Newhall felt that photography was more than merely mechanical. In the best examples, Newhall argued, the photograph constitutes a piece of art criticism or interpretation:

Too many of the photographs of paintings which are used to instruct students and to illustrate textbooks are the work of unthinking journeymen, devoid of natural taste and completely incapable of recognizing the qualities which should be brought out on the print. In the case of sculpture, photography can be a direct form of criticism. (Newhall 1942, 87)

Even reproductive photographs can be judged in terms of the quality of authorship. Yet this is the authorship of the critic. Newhall cannot restore to the photographer the status and authorial role of the engraver. For Newhall, the photographer reproducing art must still bring out what is "there" and needs to exercise connoisseurship, not to translate into a new syntax.

The idea of style allowed photographs to be admitted as artworks. But it is also possible to argue that style itself had become a dominant category for art history as a result of photographic reproduction. For example, the art historian Heinrich Wölflin's famous distinction between the paintery (Baroque) and the linear (Renaissance) styles was based in a practice of close formal comparison between paintings - in reproduction. Late nineteenth-century art history in Germany tended toward historical surveys, but Wölflin's lectures and books posited a different kind of art historical practice attuned to style: through comparative, formal study students should develop a "feeling" for style, an ability to recognize and distinguish styles from one another (Adler 2004, 439).

Wölflin placed great emphasis on the experience of the artwork but this experience was conjured through the magical technology of the lantern slideshow. His lectures were deliberately populist and spectacular, using slide projections to make historically and geographically distant works of art present and immediate to the students in the lecture theater. His signature technique was to show two slides alongside one another for comparison (using two projectors), and to accompany this with a charismatic, mesmerizing presentation style. This was described by his
biographer and student Landsberger in 1924: “Wölfflin considers the work in silence, draws near to it, following Schopenhauer’s advice, as one draws near to a prince, waiting for the art to speak to him. His sentences come slowly, almost hesitantly” (quoted in Nelson 2000, 419). The lecturer’s performance, the darkened space, and the illuminated screen all heightened the sense of presence. As in cinema, projection served to dematerialize the image and to immerse the observer, isolating them from other distractions.

Benjamin witnessed Wölfflin’s presentation style, and privately criticized it. In extolling the artwork (via the slide), Wölfflin made the student’s relationship to it one of “moral obligation” (Benjamin, quoted in Foster 1986, 116). More recent commentators have argued that, indeed, Wölfflin’s method was meant to inculcate certain “spiritual values”; like several other German-speaking academics at the turn of the twentieth century, he felt that the increasing secularization of education had led to a neglect of students’ moral and spiritual education (Adler 2004, 433). Wölfflin emphasized the importance of students becoming “cultivated,” which in the context of his formalist art history involved “a mysterious, dynamic and intuitive process of visualization” (Adler 2004, 445–456). The student experienced learning art history in terms of the transformation of their perceptual experience: “each lecture was a new adventure in seeing” (Born 1945, 46). In this way, Wölfflin’s interpretation seemed to be self-evident: revealed through experience and in the encounter with the essence of art.

In Germany at the time of World War I, the concept of style was linked to notions of national culture and zeitgeist, most famously in Spengler’s misguided and influential Decline of the West (1918–1923). Wölfflin resisted simplistic attempts to see art as a straightforward expression of the mood or mentality of an age or a generation, but he did take the view that forms were connected to feeling and psychology, and that style originates in changing ideas about the human body and different kinds of movement and deportment. In his early writing this allowed him to connect the form of the Gothic three-pointed shoe to the architecture of the Gothic cathedral (Schwartz 2003, 1–18).

Wölfflin did not recognize his concept of style as dependent on reproduction. In fact, he argued that style was primarily a premodern phenomenon, something much more significant than the rapid changes of contemporary fashion (Schwartz 2005, 27). André Malraux drew on Wölfflin’s theory of style but recognized more explicitly that this was something made perceivable by photographic reproduction. He famously noted how reproductions of art created relationships of equivalence – affinities – between disparate objects, by rendering objects of different sizes at the same scale, and by making them monochrome. Malraux was clear that the affinities that appear between objects in the museum without walls are actually products of photography itself.

Black and white photography imparts a family likeness to objects that have actually but slight affinity. When reproduced on the same page, such widely differing objects as a tapestry, an illuminated manuscript, a painting, a statue, or a medieval
stained glass window lose their colors, their textures and dimensions (the sculpture also loses something of its volume), and it is their common style that benefits.
(Malraux [1947] 1967, 84)

He saw how small and ancient objects, such as belt buckles and amulets, coins and seals, appeared surprisingly modern in reproduction, because their minute scale necessitated a simplicity of form: "The unfinished quality of the execution, resulting from the very small scale of these objects, now becomes a style, free and modern in its accent" (Malraux [1947] 1967, 86). He also noticed how the faces of sculptures were lit for photographs using the same techniques as the lighting of film stars' faces, with the result that a new expressiveness and vivacity became apparent (82).

Malraux imagined a relatively benign world of reproductions, which expands human capacities and accelerates artistic progress. In the stylistic equivalences it produced between objects of very different scale, photography played a key role in changing the hierarchy of the arts, enabling the "minor arts" to rival the major ones and producing a great expansion of the canon (Malraux [1947] 1967, 79, 94). Photographic reproduction enlarged the range of historical artworks to which artists and audiences could refer, transforming not only the perception of individual artifacts, but also the canon of art itself. In a sense, this was not new. It is only since the advent of photographic reproduction that we have been able to see more clearly how the practice of engraving had played a role in producing the existing canon of masterpieces. The discipline of art history produced and maintained the canon in a process that relied on reproductions, whether engraved or photographic. To enter or to remain within the canon of great works, art objects have to be circulated through reproduction, but they also need to be repeatedly subject to new interpretations, to reframing and recontextualizations, those practices that seem to bring new life to old works. Latour and Lowe argue that “a work of art grows in originality in proportion to the quality and abundance of its copies” (2011, 279).

However, as feminist art historians have shown, the selection criteria for canonicity are not reducible either to notions of aesthetic value or to the pragmatics of reproducibility, and are part and parcel of the reproduction of existing social hierarchies (Parker and Pollock 1981; Pollock 1988). Malraux ignored the way in which museums as powerful institutions work to produce and reinforce ideologies of genius and greatness. For him, the museum acted as a resource of great culture, and the museum without walls expanded this out into the world, producing a rich repertoire of images and styles. The French title of Museum without Walls is Musée imaginaire, and Malraux's originality lay in the way he conceived of mass reproduction as shaping the imaginations and image repertoires of artists and museum visitors, expanding the range of art that was familiar to them, and enabling new qualities of that art to become perceptible for the first time. For Malraux, photography made visible the definitive or essential core of a body of work:

In art every resurrection has a way of beginning step by step. Reproduction, because of the mass of works it sets before us, frees us from the necessity of this tentative
approach; by revealing a style in its entirety — just as it displays an artist’s work in its entirety — it forces each to rely on its basic significance. (Malraux [1947] 1967, 77)

In Malraux’s hands, as in Wölfflin’s, style gains a moral force. According to John Darzins, an early reviewer of the English edition of Malraux’s Voices of Silence (of which Museum without Walls was one volume), Malraux’s emphasis on style was grounded in his vision of the artist as a demonic figure on a quest to “reshape the world,” an urge which “ensures the perpetual metamorphosis of styles and establishes a dialogue between exemplary creations” (Darzins 1957, 108). The imaginary museum accelerates this process of metamorphosis and heightens this dialogue, by giving the modern artist the ability to perceive the modern qualities in historical or non-Western art.

Like Domer and Benjamin, Malraux saw the museum without walls as continuing a process begun by the museum. By enabling comparison between artworks, the museum made it possible to engage with art as something more than simple visual pleasure, developing “an awareness of art’s impassioned quest, of a recreation of the universe, confronting the Creation” (Malraux [1947] 1967, 10, 82). As Darzins (1957) indicates, Malraux saw art in terms of a masculine human sovereignty. He envisaged the artist as a tragic-heroic and solitary figure, working against the grain of mass society, pitting his art against a declining West and a sham mass culture, and asserting art’s autonomy. Ironically, this is made possible, first, by the museum and then by mass reproduction, which enables and accelerates the metamorphosis of style crucial to artistic progress and development.

The play of images

In 1980 the American art historian Douglas Crimp read Malraux’s Museum without Walls as an unconscious parody, which treats style as “the ultimate homogenizing principle” in which photography “reduces the now even vaster heterogeneity of art objects to a single perfect similitude” (Crimp 1980, 50). Malraux does not celebrate a multiple, diverse visual culture in the form of the imaginary museum, but reduces it to a repetitive sameness via the concept of style. It is also possible that repeated copying empties the object of significance by rendering it ubiquitous: is it possible to even see the Mona Lisa or the Eiffel Tower anymore? They have become reduced to ciphers. Or, pulled out of the canon by their ubiquity, they have become toys. For Latour and Lowe, originality grows in relation to the number and quality of copies, but what happens when the copies are poor, trash, kitsch even, as in the many copies of the Mona Lisa collected by Robert A. Baron (1999)? Is the “original” under threat? Or did she disappear a long time ago, as exhibition designer Calum Storrie writes in his book The Delicious Museum. Storrie uses the theft and return of the Mona Lisa in 1911 to think about the nomadism of the work of art. The painting, initially thought to have been taken to be photographed, when it was stolen, was recovered and returned to Paris after being displayed in
various Italian cities (Figure 25.2), but, Storrie suggests, it was never the same 
*Mona Lisa* again:

In a sense it was "removed for photography" to be endlessly reproduced mechani-
cally. "Mona Lisa" was packed up and concealed and instead of being an object fixed
in place both on the wall and in the imagination, it became nomadic. It may never
have returned. Now the painting is impossible to see. The space that "Mona Lisa"
occupied on the morning of 22 August 1911 is taken up by a glass box and a crowd
of people ... How many photographs taken by these museum visitors show nothing
but the reflection of the photographer or the camera's white flash? (Storrie 2006, 15)

*Mona Lisa* is missing and in her place there are "poor images." The artist Hito
Steyerl uses this term to describe degraded, substandard, heavily compressed digi-
tal copies "in motion" (2009, 1). Steyerl argues that poor images, often circulated
illicitly, are the by-products of "the rampant privatization of intellectual content,
along with online marketing and commodification" (6). Poor images include
"former masterpieces of cinema and video art":

After being kicked out of the protected and often protectionist arena of national
culture, discarded from commercial circulation, these works have become travelers
in a digital no-man’s land, constantly shifting their resolution and format, speed and media, sometimes even losing names and credits along the way ... [the poor image] is about defiance and appropriation just as it is about conformism and exploitation. (Steyerl 2009, 8)

It is possible to conceive of a different musée imaginaire which encompasses high-quality copies, “poor images” and half remembered ones, parodies and tourist souvenirs; and which builds on Malraux’s recognition that, after the museum dislocates objects and pictures from their original context, photography (and now networked digital technology) releases images into the world to such an extent that the resource of mental images (as well as reproductions) is greatly expanded. According to the art historian Hans Belting, when we see pictures we transform them into remembered images that henceforth become part of the archive of our memory. When external pictures are re-embodied as our own images, we substitute for their fabricated medium our own body, which, when it serves this capacity, turns into a living or natural medium. (2011, 16)

Belting understands the medium as “that which conveys or hosts an image, making it visible, turning it into a picture” (2011, 18). The images held in minds and memory are ephemeral, but we pass them on to one another, and they become part of a shared cultural memory that is “the common storehouse in which images lead their own lives” (39). Our bodies become the media through which we experience mental images, and images are nomadic: “they migrate across the boundaries that separate one culture from another, taking up residence in the media of one historical place and time and then moving on to the next, like desert-wanderers setting up temporary camps” (21).

This anthropomorphic account is reminiscent of the way in which Foucault describes the transgresively plural and wandering image. It is also reminiscent of recent anthropological writing in which the “social life of things” has been used to understand the values and commodity exchange practices of cultures (Appadurai 1986). Latour and Lowe use this notion too, to challenge the distinction between an original and a copy: “A work of art – no matter the material of which it is made – has a trajectory or, to use another expression popularized by anthropologists, a career” (2011, 278). This model is more linear than Foucault’s free play of images though, and retains the idea of one-way traffic, from the original to the multiple copies it spawns.

For Foucault, however, the promiscuous circulation of the image between paintings and photographs, to print and lantern slide, belongs specifically to the early period of 1860 to 1880. Foucault senses the loss of this in his own period, and his essay is on one level a rejection of the dominance of abstraction in painting which destroys the image “while claiming to have freed itself from it” (Foucault [1975] 1999, 88). Foucault wanted to “recover the games of the past,” to set free the sheer pleasure of playing with images, “to put images into circulation, to convey
them, disguise them, deform them, heat them red hot, freeze them, multiply them” (89). As Adrian Rifkin suggests, “Read afresh today, it [Foucault’s essay] evokes as much the present and future world of electronic communication as the aporias of modernism in the 1970s” (1999, 41).

Foucault and Belting are describing the movements of the “virtual” image. As several writers have argued, the “virtual” is not specifically a property of digital or electronic media, but is a term used since the seventeenth century to understand images seen through lenses or in mirrors which, although they do have materiality, appear to us as immaterial and able to be transferred from one surface or support to another (Friedberg 2006, 8–12). Belting writes:

In the modern age, the museum has become a refuge for pictures that have lost their locus in the world and exchanged it for a locus in the world of art. But this secondary link to a place is now also dissolving, giving up its physicality as images enter the world of high speed, ephemeral, pictorial media. (2011, 40)

With digital photographic reproduction, storage, and retrieval of images, the movement from artifact to virtual image is facilitated, so that “technological images have shifted the relationship between artifact and imagination in favor of imagination, creating fluid transitions for the free play of the mental images of their beholders” (Belting 2011, 41).

Twenty years ago, writers and curators anticipated the impact of the combination of computers and telephone technology for the dissemination of images, but they could not foresee the ways in which mobile phones equipped with cameras and apps such as Instagram, Flickr, and Facebook would contribute to making image sharing such a common cultural practice. Only recently has the discussion of the digital image shifted toward an interest in the cultural and philosophical consequences of practices of transmitting, sharing, and transforming images as they pass between different kinds of devices and from one medium to another. These practices even affect the act of spectatorship in the museum as people take out their camera phones, take pictures, and post them online. These images go to their Flickr stream, to Instagram and Tumblr: some of the brand names evoke a kind of play – tumbling, simultaneous, spontaneous, instant.

It is tempting to imagine the post-photographic museum as the playful museum, as the alternative to the museum as the house of originals. Against the doomsayers who cite the short amount of time spent in front of each painting at the Louvre as some sign of cultural decline, we could see this fleeting attention as part of the flickering, active, and yet distracted attention which early twentieth-century commentators posited as a radical and collective substitute for bourgeois individualist attention. Mobile handheld media enable the variously reverent and irreverent ways in which people take and share souvenirs of their visits. Increasingly museums feel unable to prevent the use of camera phones, despite concerns regarding the impact of this on visitor attention (on the change in policy at the National
Gallery, London, see Bland 2014; Malvern 2014; Williams 2014). While many museums and galleries discourage, or at best tolerate, visitor photography, some encourage it—for example, in 2012, Arnolfini, in Bristol in the United Kingdom, encouraged visitors to take personal photographs of their Matti Braun exhibition*Gost Log* (Figure 25.3), inviting them to share them via Twitter, Facebook, and Instagram. There are also activist interventions using networked art, augmented reality, and mobile handheld media. These activities set the image into unruly circulation again and permit us to see playful possibilities in the art museum. Peter Samis (2008), associate curator of interpretation at San Francisco Museum of Modern Art describes this in terms of the “exploded museum,” and Haidee Wasson (in Chapter 26 in this volume) in terms of “elasticity.” The space for play—*Spielaum*—is also the expanded and networked field of action.

Samis uses the example of students visiting the Museum of Modern Art, New York, in 2005 with digital recorders and creating irreverent “guerrilla podcasts.” In Chapter 20 in this volume, Beryl Graham writes of augmented reality media art projects that use visitor’s mobile phones to undercut the official narrative of the museum. Storr’s “delirious museum” develops from the argument that “museums should be a continuation of the street,” resisting their tendency to order and control. Storr is attracted to museums that have a “messy vitality,” that spill over into the everyday (2006, 2–3).
Extending the Museum

However, the history of the art museum is to a great extent the history of the institutionalization of an idea of private, contemplative aesthetic experience that is at odds with the collective, participatory, communicative but also commodified aesthetic pleasures that underpin these new practices (Hein 2000, 132; Klonk 2009, 16, 129). As numerous blockbuster exhibitions demonstrate, we are still in thrall to the thing itself, to the original artwork as an expression of individual genius, even in cases where the artworks themselves seem to militate against such a reading. Here is the Tate Modern website on its Roy Lichtenstein retrospective: "Room after room will pay tribute to his extraordinary oeuvre, celebrating the visual power and intellectual rigour of Roy Lichtenstein’s work" (Tate 2013). Even video art, developed from a tradition which set out to challenge the ways in which museums separate art from everyday life, can end up reproducing or reinforcing the isolation of the individual spectator from collective experience. While other commentators see new media as damaging the private contemplative space of the gallery (see, e.g., Bland 2014), the art historian Charlotte Klonk sees new media installations, particularly video art, as on the whole reinforcing it with dark cinematic spaces:

The introduction of the bodiless, lost-to-the-world cinema spectator into the art gallery does away with the last public space in which cultural reception can take place as an engaged process together with others ... Unlike Boris Groys (and many others), I do not fear the introduction of new media into the art gallery because they represent a threat to the gallery as a space of contemplation. Rather, it is the disappearance of what is – potentially at least – a space of public interaction and communication that I would regret. (Klonk 2009, 221)

We might also want to question the model that proposes digital, computer-based, and mobile media as harmlessly "playful" and the skittish, superficial, glancing attention associated with computing as a viable alternative to deep contemplation. Parallel processing – the computer’s ability to keep several programs running at the same time – trained computer users to hop between tasks, something that is glossed as a superior ability via the term "multitasking" but which can equally be understood in terms of "the increased expectations of 24/7 productivity" and increasingly targeted marketing (Friedberg 2006, 235). In this context, close, sustained attention, with an eye for nuance and detail, might be a luxury with a critical edge, and the social, collective experience of new media may not be so sociable after all (Turkle 2011). In this context, solitary contemplation can be associated with freedom; to lose oneself in a work of art or have it "speak to your soul" is something to treasure. Producing this possibility can be a political practice, as Rancière suggests: "Constructing a place for solitude, an 'aesthetic' place, appears to be a task for committed art" (2009, 53).

On the other hand, the possibility that play can become labor, that attention can be harnessed economically, should not force us to abandon it as a model for thinking about the art museum in a culture of digital and electronic reproduction.
Digital media offer possibilities for control, but also for relinquishing control. This is not about the "gamification" of museums (i.e., the use of games and the harnessing of the pleasures of play to engage visitors and increase visitor numbers). It is about a model of play that involves aesthetic pleasure, participation, and collective engagement, a "delirious" loss of control and uncontamability – extending endlessly beyond the walls of the museum, into everyday experience, across media and bodies, and back again.

Notes

1. The lead Woodburytype, the Stannotype, and the collotype are examples of processes used in the late 1870s. In the 1880s came the introduction of the mechanical halftone process which translated the continuous tone of the photograph into dots with the use of a screen.

2. This is the title by which the essay tends to be known to English speakers, as it is that of the first English translation, by Harry Zohn, which was published in 1969 in Arendt's collection of Benjamin's writings, Illuminations. However, in this chapter I quote from the translation published in the Selected Writings under the less elegant title "The Work of Art in the Age of Its Technological Reproducibility" (Benjamin [1936] 2002).

3. There were cast galleries at the French Academy and the Palazzo Sacchetti in Rome, the Palazzo Farsetti in Venice, at Mannheim and Charlottenburg, and in Peter the Great's Imperial Academy of Fine Arts in Russia – to name just a few of those listed in Haskell and Penny (1981).

4. The term is Ivin's: "painstakingly as Dürer might copy a real rabbit ... in his own syntax, when it came to copying a print by Mantegna he refused to follow Mantegna's syntax, and retold the story, as he thought, in his own syntax" (Ivin 1953, 61, quoted in Fyle 2004, 54). The syntax developed by engravers was systematic and linear; a "net of rationality" as Ivin termed it, into which the visual language of the work of art was translated (Ivin 1953; Pinson 1998).

5. Amy Von Linten (2012) has argued that wood engraving, in particular, not only survived after photomechanical reproduction but was a more popular (because it was less expensive) way in which reproductions of art circulated to nonacademic audiences, general readers, and for self-instruction. In formal education contexts, however, photomechanical reproduction was being used, for instance, in the "picture study" of nineteenth-century American schools (Stankiewicz 1985).

References


Extending the Museum

Extending the Museum


Michelle Henning is Senior Lecturer in Photography and Visual Culture in the Media Department, College of Arts and Humanities at the University of Brighton. She is also a Visiting Senior Research Fellow in the Digital Cultures Research Centre at the University of the West of England, Bristol. Prior to this she was Associate Professor of Media and Culture at the University of the West of England, Bristol. She is a practicing photographer and designer and has written widely on museums, media, and display techniques in her book *Museums, Media and Cultural Theory* (Open University Press, 2006), as well as in numerous collections.