Form Unfollows Function: Subversions of Functionality

by
Inbal Strauss

DPhil Fine Art
The Ruskin School of Art & Linacre College
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Abstract

This practice-led doctoral thesis explores what happens when we consider works of art as designed objects (i.e., their process of production as a process of design) through two discrete yet mutually informing components: a series of original objects and a written dissertation.

The objects, which play with the language of industrial design yet are presented in a traditional fine art exhibition setting, are intended to oscillate between a sense of utility and a sense of futility, thereby destabilising the ground on which they are presented and received. By straddling both registers, the objects resist neat subsumption either into the category of "art" or that of "design," consequently urging their re-evaluation.

The dissertation, which draws on Donald Norman's theory of the design of everyday things on the one hand and Wolfgang Kemp's theory of reception aesthetics in the fine arts on the other, sets up a theoretical framework for considering the products of artistic production in design terms (namely, *affordances*, *constraints*, *signifiers*, *feedback*, *mapping*, and *conceptual model*). Through a close focus on three works of modern art—Claes Oldenburg's *Saw*, Joseph Beuys's *Capri Battery*, and Lygia Clark's *Critter*—the dissertation offers keyhole comparisons of everyday products and the canonical sculptures, whereby the analyses of the former enable unexpected "functional" readings of the latter.

Through these two complementary forms of enquiry (the object-making and the writing), the thesis aims to challenge traditional distinctions between different modes of creative production, and it argues for a consideration of artistic production as a rational mode of visual and material production that does not follow means-end rationality.

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Contents

Preface

The Practice-Led Doctorate

Drawing on my training as a product designer and subsequently as a sculptor, I question the traditional distinction between art and design, which hinges on how closely the mode of production adheres to the modernist dictum "form follows function." Titled "Form Unfollows Function: Subversions of Functionality," this doctoral thesis explores questions of artefactual agency and instrumentality, asking: how might art subvert or complicate the relationship between form and function?

The thesis addresses this question through an expanded art practice that combines both making and writing—exploring the same question through discrete yet complementary modes of enquiry. The practical studio component is presented for examination as a physical exhibition of five objects (documented in a digital portfolio). The theoretical written component, presented for examination in this dissertation, was designed to support the production of the objects by developing and articulating the thinking behind them.

In the practical component, I employ my design toolbox to create objects that speak the language of everyday things—in an almost stereotypical way—but are in fact "useless." Replacing use-value with useless-value, these quasi-functional objects are designed to jolt, twist or accentuate a notion of function that goes beyond the notion of utility, thereby negotiating the binary oppositions between usefulness and uselessness, utility and futility, design and art. In other words, by resisting a neat subsumption either into the category of "art" or that of "design," the objects seek to destabilise the ground on which they are presented and received, thereby challenging traditional conceptions of artistic production and reception.

In the theoretical component, I closely engage with a body of literature centred on reception aesthetics and interaction design, while also drawing on a wide range of references that extend from the historical avant-garde to contemporary art practices. The dissertation does not set out to argue for the correctness of any "thesis"; instead—and more speculatively—it seeks to establish a theoretical framework for considering art making as a process of design, and accordingly, the products of artistic production as designed objects. The guiding assumption is that there is a latent generative potential in a functional consideration of art. Itself destabilising the categories of "art" and "design," the dissertation informs and mirrors what the objects seek to do within the exhibition space.

Prior to the physical exhibition of the practical component, where the objects can be viewed in the round, they are available to view in the digital portfolio, through the following URL: http://www.inbalstrauss.com/dphilportfolio

The Doctoral Dissertation

Several modern art movements have engaged with questions of design, and there is a corresponding wealth of relevant resources in the art-historical literature. Many of these movements and resources have inspired and informed this doctoral research, and this I believe is evident in both the objects and the dissertation. However, given the restricted scope of the dissertation, and the fact that it is part of an expanded art practice rather than a traditional doctoral thesis, I have decided not to elaborate on the historical precursors, or to go into detailed analysis of how the various historical, neo- and contemporary avant-garde movements have dealt with questions of design. Instead, the dissertation considers the works of these movements in terms of concepts, structures, and creative decisions, which better reflect my own thought processes as an artist.

I have also decided not to write directly about my own works of art. Instead, I address the critical questions and concerns that underlie my practice through writing about

the works of others who share these questions and concerns, and who make creative design decisions that seem to reflect these. Such an approach affords me the vantage point of an outside observer, affords the viewers of my own works the liberty of an "unmediated" reception, and, it is hoped, prevents excessive self-preoccupation.

Moreover, writing about the approach of other artists who share my critical concerns yet whose practices greatly differ from my own, gives me the opportunity to identify and consider potential future directions for my practice. The form that the theoretical component has ended up taking, represented by the ideas that bring the dissertation to a close, marks a possible trajectory for my practice.

While this doctoral research has greatly contributed to the development of my art practice, like any doctorate, it aims first and foremost to make an original contribution to knowledge. Although I am not the first artist or scholar to think about works of art in terms of designed objects, my doctorate's claim to originality lies in its interdisciplinary practice-led approach to researching the relationship between art and design: rather than tracing and questioning processes of commodification in art, or even thinking about "art" and "design" as inherently antithetical, my doctoral research considers the two categories in terms of constitutive tensions, and combines theory and practice to bring them into a productive dialogue. I therefore hope that it will contribute to the practice of other artists, as well as designers, curators, scholars, and anyone else with an interest in art, design, or any mode of production in between.

All men know the use of the useful,
but nobody knows the use of the useless!
— Zhuangzi[1]

1. Zhuangzi, *Zhuangzi: Basic Writings* (c. 476–221 BC), trans. Burton Watson (New York: Columbia University Press, 2003), 62.

Part One:
The Work of Art as a Designed Object

Preliminary Considerations

Standardly, we consider art and design to be antithetical: two modes of object-making distinguished not merely by cultural context, but rather the type of purpose assigned to their objects, and consequently the manner in which these purposes shape the process of form-giving. We consider the purpose of everyday objects to be utilitarian whereas we consider the purpose of works of art to be non-utilitarian (i.e., artistic), and this supposedly determines the way in which the maker goes about giving form to an object. However, both everyday objects and works of art are arguably the products of a process of decision-making, in which the maker gives form to an object with a view to fulfilling a particular purpose, be it utilitarian or non-utilitarian.

If we look at everyday utilitarian objects and examine some of the design decisions embodied in them, we may notice that many of these decisions are at odds with the object's declared utility. From glittery Hello Kitty smartphone cases to quasi-aerodynamic cars, we may notice that the forms, materials, and colours selected for many utilitarian objects do not necessarily correspond to any practical or technical reasoning. In fact, impractical or "expressive" design decisions often compromise and even completely undermine the utility of objects.[2] A classic example is the iconic *Juicy Salif*, a mass-produced

2. Another way to think of this variation in the functionality of designed object is through the dichotomy of "primary functions" and "secondary functions," proposed by sociologist and cultural theorist Jean Baudrillard in his book the *The System of Objects* (1968). Baudrillard conceives of primary needs as the basic requirements of the body or of everyday life—needs which must be met for us to sustain ourselves at an adequate level of wellbeing. Baudrillard contrasts these with secondary needs, conceived as social requirements, mostly in an affluent society where prestige and social status may further improve one's wellbeing. Central to Baudrillard's system of objects is the inverse correlation between primary functions and use-value, and secondary functions and what he calls *sign-value*—e.g., the prestige that the object imparts to its owner. For Baudrillard, use-value and sign-value can coexist in the same object, and he demonstrates this with the example of an automobile, whose engine and other technical components serve the primary function of transporting us of from point A to point B, whereas the pseudo-ergonomic tail fins serve the secondary function of *connoting* speed and performance (by mimicking features from the natural

lemon juicer by the renowned designer Philip Starck (fig. 1). Displayed at the MoMA (the Museum of Modern Art in New York), this highly sculptural object is notorious for its poor juicing capability. Juicing with the *Juicy Salif* would leave a splatter on your worktop, and if you are using the prestigious tenth anniversary edition, the acidity of the citrus fruit would corrode the gold-plating, thus rendering the object useless (at least as a lemon juicer). It seems, then, that rather than corresponding to the declared or ostensible utility of objects, some design decisions correspond to sociocultural purposes, such as individuation, self-definition, indicating social status, or even just starting a conversation.[3] (While clothing is undoubtedly useful, this seems to be the founding premise of the fashion industry.) Nevertheless, even though some commercial objects such as *Juicy Salif* embody impractical design decisions and are often fully intended to serve sociocultural purposes as works of art do, we still consider them "designed" and ascribe them to the category or realm of Design.[4] Why, therefore, given that works of art are created—like the *Juicy Salif*—to serve various sociocultural purposes, should we not, by way of inversion, entertain the controversial yet logical proposition that they too are designed?[5] This is not to suggest that

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world). In this case, Baudrillard remarks, "form has become allegorical." Furthermore, whereas the aeroplane successfully mimics such features for primary purposes, the automobile enjoys no such utilitarian benefit, and risks, as Baudrillard implies, becoming "overwhelmed by a formal detail." That is to say, the unnecessary, or "inessential" features may have an adverse effect on the technical performance of the object. See: Jean Baudrillard, *The System of Objects*, trans. James Benedict (London/New York: Verso, 2005 [1968]), 63-64.

3. In his acceptance speech for the Design Excellence Award, Starck is supposed to have said: "My juicer is not meant to squeeze lemons; it is meant to start conversations." With reference to Starck and the *Juicy Salif*, Alberto Alessi, of the esteemed high-end houseware brand Alessi, argued that: "A true work of design must move people, convey feelings, bring back memories, surprise, transgress... in sum, it has to be poetic. Design is one of the most apt poetic forms of expression of our day." Although the observation by Starck may be apocryphal, these quotes not only reveal that some designs are meant to serve non-utilitarian purposes in everyday life, but also that design is perceived by many to be an artistic practice. Therefore, one may argue that designed objects are works of art, which is the reversed statement of this dissertation. This reversal, in turn, speaks to the overlap and similarity between the two practices of art and design. See: Donald Norman, *Emotional Design: Why We Love (or Hate) Everyday Things* (New York: Basic books, 2003), 114; Alberto Alessi, *The Dream Factory, Alessi since 1921* (New York: Rizzoli, 1998), 74.

4. Although not commercial, another noteworthy example of objects that are formally ascribed to the category of Design despite being designed for non-utilitarian purposes, are the Robots (2007) of the design duo Anthony Dunne and Fiona Raby, who—in their own words—"design for debate."

5. According to the sociologist Pierre Bourdieu, we are wrong to think that our relation to art is purely aesthetic since a work of art—like any other cultural commodity that exists in the *objectified state* of cultural capital—may be produced, circulated and consumed for more than its potential economic value,

works of art are objects of Design as such, only that they are designed objects—i.e., that they have been designed.

With this question in mind, it is important to point out that in the English language the word "design" has a dual grammatical usage as both a verb and a noun. As a verb, "to design"—which comes from the Latin *designare*, "to designate"—means "to plan" and refers to a process or a cognitive activity. As a noun, "design" refers to the plan itself, be it abstract, as in an idea, or concrete, as in an actual artefact or its blueprint. Some designs aim to satisfy utilitarian needs, whereas other designs, as we have seen, aim to satisfy non-utilitarian needs (and may do so partially or wholly through expressive features). In fact, the English noun "design" comes from the Latin verb *designare* through the Italian noun *disegno*, which in the Renaissance period connoted both the technical and intellectual aspects of an artistic drawing.[6] One can design a consumer product or a building, but one can also design an event, a procedure, or a work of art. One possible definition proposed for "designed things" is that they are "the means by which we achieve desired ends."[7]

If we resist the common and parochial conception of design as a process of "problem-solving," and instead consider the process of design in the broader sense of decision-making in relation to a particular purpose or a desired end, then we may consider all artefacts to be the product of a process of design. We could then say that be it utilitarian or non-utilitarian, mass-produced or singular and handmade, when contrasted with

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including the symbolic cultural capital that it confers on its owners. Much like a house, a car, or a suit, which have practical purposes but can also function as status symbols, works of art can be the objects of conspicuous consumption and promote social mobility. See: Pierre Bourdieu, "The Forms of Capital," in *Handbook of Theory and Research for the Sociology of Education*, ed. John Richardson (Westport, CT: Greenwood Press, 1986), 241-258, and Pierre Bourdieu, "The Market of Symbolic Goods," in *The Field of Cultural Production: Essays on Art and Literature* ed. Lawrence D. Kritzman et al. (New York: Columbia University Press, 1993), 112-144.

6. "Disegno," National Gallery, Glossary of the National Gallery, accessed July 31, 2021, https://www.nationalgallery.org.uk/paintings/glossary/disegno.

7. This definition of "designed objects" is proposed by design theorist Henry Petroski. For the quote, as well as for a detailed discussion about the definition of "design," see Glenn Parsons, *The Philosophy of Design* (Cambridge, UK/Malden, MA: Polity, 2016), 5-12.

naturally occurring objects (rocks, trees, seashells), any artefact is—in effect—a "designed object."

From this point of departure, this dissertation sets out to explore what happens when we think about works of art as designed objects, and correspondingly, of the creative process underlying their production as a process of design. How might a design perspective change our perception of art, artistic production, and the creative process? How might it deepen our understanding of works of art and their mechanisms of operation? How might it challenge our understanding of aesthetic reception? And might thinking about works of art as designed objects help to identify the function—or functions—of art?

A Shared History

There is deep-seated tension between our modern understanding of art and design that runs deeper than semantic differences. Drawing a comparison between so-called "productive" and "unproductive" modes of production therefore faces a number of challenges. We live in a time in which art and design have effectively come apart and we have become accustomed to thinking of them as two disparate practices, manifesting different sets of values and rationales. However, a broader historical perspective reveals that the two supposedly incommensurable practices are not mutually exclusive, but rather that they have a long-standing relationship of mutual cross-fertilisation.[8] Within modern art and the various avant-garde movements, design principles and design thinking played a recurring role, and we can summon many examples from the historical record in which art

8. A particularly relevant account that provides such an historical perspective is that offered by the philosopher Jacques Rancière in *Aisthesis*. Revisiting selected moments of artistic modernity, Rancière wears away at the distinction between art object and design object, and argues that we cannot understand the history of art without understanding its relationship to design. On his account, aesthetic objects and experiences continuously oscillate between art and design, between the "fine arts" and everyday experiences. See: Jacques Rancière, *Aisthesis: Scenes from the Aesthetic Regime of Art*, trans. Zakir Paul (London/New York: Verso, 2013).

and design have come together in all sorts of complimentary and arguably integral ways. Considering the entangled histories of art and design in which they continuously influence one another, may reconcile us to the feasibility and potential rewards of thinking about art in terms of design. While there is an undeniably strong tension between art and design, it is precisely this tension that promises an illuminating and enriching comparison.

As the etymology of the word "design" suggests, the categories of "art" and "design," as well as that of "craft," share common origins and their respective historical developments coincide, rendering their definitions slippery and overlapping. The word "art" comes from the Latin *ars*, closely related to the Greek *techne*, which in the classical period denoted any skilful human activity that can be contrasted with natural phenomena or the creations of the natural world.[9] It was only in the eighteenth century, with the mechanisation and subsequent division and specialisation of labour brought about by the Industrial Revolution, that the concept of "art" began to trifurcate into separate categories, each signifying a somewhat different approach to the deliberate making of objects.[10]

In the early nineteenth century, under the slogan "art for art's sake," proponents of Aestheticism, or the Aesthetic Movement, insisted that art resign from any practical role and distance itself entirely from the concerns of everyday life, focusing instead on facilitating purely aesthetic experiences.[11] The aestheticists maintained that "fine art was distinct from everyday products precisely in needing to serve no utilitarian purpose, being valuable merely for 'its own sake'."[12]

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9. Larry Shiner, *The Invention of Art: A Cultural History* (Chicago: The University of Chicago Press, 2001), 5.

10. For more on this process of trifurcation, see ibid., 206-2012.

11. Parsons, *Philosophy of Design*, 57. In addition, consider here Immanuel Kant's notion of "disinterestedness," which is key to his theory of aesthetic judgment. For Kant, a "pure" aesthetic judgment must be conceived apart from any practical concept or one's conception of what the work may be used for. See: Hannah Ginsborg, "Kant's Aesthetics and Teleology," *The Stanford Encyclopedia of Philosophy*, accessed June 26, 2021, https://plato.stanford.edu/archives/win2019/entries/kant-aesthetics.

12. Parsons, *Philosophy of Design*, 57.

By the second half of the nineteenth century, the so-called "fine arts" were "being openly celebrated for their splendid uselessness," while "design" had come to broadly signify the making of useful objects.[13] The term "craft" was used to signify the skilful *hand*making of mostly useful objects, largely relying on traditional forms and techniques.[14]

If the slogan "art for art's sake" represents one end of the functional spectrum departmentalising material production in the late nineteenth and early twentieth centuries, then the other end is represented by the ubiquitous slogan: "form follows function."[15] Associated with Modernism, or, more narrowly, the Modern Movement, which shaped many aspects of economic and cultural production in this period, this slogan helped to entrench the association of design with utilitarian rationality and contributed to the polarisation of art and design. As opposed to Aestheticism, which promoted uselessness, Modernism—most prominently in the fields of design and architecture—promoted a sense of usefulness; therefore, the modernist dictum "form follows function" (closely related to the modernist polemic "ornament is crime") calls for a strict relationship between form and function.[16]

It is important to note that "Modernism" is a general name for a movement encompassing various positions, and—perhaps more importantly—that the message of this slogan does not fully represent Modernism's most basic commitments or its ethos; it

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13. Ibid., ibid.

14. Note that this definition of craft refers to what Parsons calls "tradition-based craft," which may vary from other possible definitions or conceptions of "craft," and which is selected here for its distinction between a designer and a craftsperson, who may merely—albeit with great skill—fabricate or execute someone else's design. See: Ibid., 25. For a more detailed discussion of how the three categories of "art," "craft," and "design" came to be, see Shiner, *Invention of Art*, 5-10.

15. Originally formulated as "form ever follows function" by architect Louis Sullivan in his 1896 article "The Tall Office Building Artistically Considered," this "law," as Sullivan refers to it, was paraphrased and propagated by his student, the architect Frank Lloyd Wright.

16. This is another famous paraphrase of a statement, originally formulated as "ornament and crime" by the architect Adolf Loos for the title of a 1908 lecture (later published in *Les Cahiers d'aujourd'hui*). Although Loos never explicitly states that "ornament *is* crime," or that it should be considered "criminal" as such, responding to the popularity of Art Nouveau he explicitly calls for the "elimination of ornamentation from useful objects" and questions their design ethics.

belies the egalitarian underpinnings of a normative movement that promoted social reform through "good" design and "useful" art. Although the Industrial Revolution led to the rise of industrial capitalists and the deskilling of the working class, thereby increasing social stratification and economic inequality, Modernism was founded on the conviction that technology and mechanisation can also counteract social inequality and ultimately mitigate the fallibility of the capitalist system. Somewhat paradoxically, some proponents of Modernism believed that industrialisation could act as a leveller, making the comforts and standards of modern living accessible to all by means of mass production. To achieve social reform through material production, modernists "sought to break down the traditional distinctions between Design and other fields of human activity," and to "blend the best elements of traditional craftmanship, modern mass production and fine art."[17]

For example, pursuing the grand ambitions of the "total work of art" (the *Gesamtkunstwerk*), the Bauhaus school in Germany sought to integrate beauty and utility by applying its austere aesthetic, largely shaped by the standardised principles of mass production, to the design of everyday things. The artists-designers of the Bauhaus school synthesised craft traditions, modern technology, and aesthetic sensibilities, to create architectural exteriors, interiors, and everything that is contained within them, down to the smallest detail—furniture, lighting fixtures, stationary—and including the artworks (for example, see fig. 2).

In fact, the integration of art back into the practice of everyday life has been a recurrent theme in modern art, and the professed aim of many other avant-garde movements, including Constructivism, Productivism, De Stijl, Dada, Fluxus, and Pop, to name just a few.[18] Rather than a particular aesthetic "style," or the prescription of a single

17. Parsons, *Philosophy of Design*, 56-58.

18. See: Peter Bürger, *Theory of the Avant-Garde* (Minneapolis, University of Minnesota Press, 1974), 22. See also Shiner, *Invention of Art*, 3.

guiding principle of design, Modernism was a comprehensive and a inclusive "approach to life in the 'modern' era."[19]

While modernists rejected the Aesthetic division between everyday objects intended for use and fine art objects intended for aesthetic appreciation, they did not reject aesthetics with a small "a"; in fact, they strongly embraced aesthetics. In the same vein, modernists did not believe that form must follow a *utilitarian* function, rather they believed that everything—including art and aesthetics—should follow some *social* function. That is, modernists did not denounce art's withdrawal from utility, they simply believed that art should not be *utterly* useless, and therefore denounced its wholesale withdrawal from usefulness or functionality.[20] It follows that if to achieve a particular social function required that the form of a design follow a non-utilitarian logic, that would have still been in keeping with the modernist paradigm.

The transformation of the slogan "form follows function" to "form *un*follows function" in the title of this dissertation does not imply a championing of form over function, or a celebration of dysfunctionality as such. Rather, the title alludes to the linguistic ambiguity of the word "function," to the internal contradictions of modernist thinking (and the subsequent misconceptions about Modernism), and to the potential value that lies in revisiting the avant-garde reconnection of fine art and everyday design. It also alludes to the role of design (as well as irony) in realising the subversive or transgressive qualities of modern and particularly avant-garde art, with which this dissertation deals.

If we think critically about the distinction between art and design, and question the inherited notions and antithetical oppositions that govern our everyday conception of

19. Parsons, *Philosophy of Design*, 56.

20. It is worth noting that a possible way of understanding the philosophical position of Modernism is that it was not guided by utility in its narrowly construed sense, but rather by a broad construal of utility that is closer to utilitarianism—the ethical doctrine that seeks to maximise well-being for the greatest possible number of people.

them, we may discover a notion of function that goes beyond the notion of utility—one that is able to negotiate the binary oppositions between productive and unproductive labour, usefulness and uselessness, utility and futility, design and art.

The Function(s) of Art

Since the divisions and exclusionary categories of Aestheticism persist to this day, a functional consideration of Western art seems to go against the grain or to feel somehow counterintuitive. The framing or identification of art as a means to an end goes against the idea of "art for art's sake." Those that hold a romantic view of artistic production may argue that creativity is not a rational process but rather an intuitive one, and therefore that considering the creative process as a process of design risks negating its autonomy. They may also argue that considering the work of art as a designed object risks instrumentalising it, thereby reducing a deliberately heteroclite operation that manifests autonomy to a streamlined apparatus that embodies heteronomy.

Although the creative decisions that artists make—licensed by artistic freedom—are undoubtedly often intuitive, they are by no means arbitrary. Intuition and intention are not mutually exclusive but rather intimately tied to one another, particularly within the context of the creative process. While on a level of political economy artistic production is indeed subject to its own criteria rather than to utilitarian reason or market demands, only a cynic would suggest that art-making consists of mindlessly splashing paint on a canvas, or fortuitously squashing clay into a random form. Any basic art appreciation course is grounded in the conviction that the work of art represents more than meets the eye, and that it is the intent underlying the manifest elements that imbues or endows it with meaning. Therefore, considering art-making as *anything but* a process of decision-making would be unduly reductive.

While the intellectual legacy of Aestheticism persists to this day, so does the legacy

of Modernism. Although most people do not consider works of art as objects of use, they nevertheless consider works of art as fulfilling some social or cultural function. Due in part to the association of the slogan "form follows function" with utilitarian design, the word "function" connotes a technical or an everyday use that may strike a discordant note in reference to art. Yet, if we think of the word "function" as synonymous with the words "purpose," "aim" or "role," then we may be more prepared to think about art in terms of what it does, or what it is designed to do. After all, no one would argue that works of art are *not* purposive objects shaped by intention. Even on an expressivist account, either the very production of art satisfies some internal need or desire (for example, processing one's emotions), or the final result is designed to meet some external end (for example, transmitting one's emotions to others).[21]

Testifying to this understanding that art and artistic production fulfils some social function, in recent decades there has been a turn in the art-historical literature and in analytic aesthetics back towards function and even a consideration of art as a "tool"—i.e., as an instrumental artefact.[22] According to one account that relies on the principles of evolutionary biology, the fact that art is continuously reproduced or otherwise persists in existence, suggests that it serves some function within society—within the system that warrants its continued reproduction or otherwise sustains its existence.[23] Simply put, if art performed no function whatsoever, then it could not have survived, and would have

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21. One may argue that while any work of art is indeed the result of a process of decision-making, not all works of art are meant to fulfil a function, as such. That is, one may take the Tolstoian view that works of art are created to express or transmit emotions, or alternatively, one may take the Freudian view that works of art are created to sublimate socially unacceptable impulses, desires or frustrations. One may even simply take the view that works of art are created to relieve boredom or to keep idle hands "out of the devil's workshop." Yet, although it is undeniable that these motivations for creating works of art are real and prevalent, such motivations, in themselves, constitute functions–be it expressing emotions, sublimating them, or otherwise maintaining physical and mental wellbeing.

22. For example, see: Gary Iseminger, *The Aesthetic Function of Art* (Ithaca: Cornell University Press, 2018); Glenn Parsons and Allen Carlson, *Functional Beauty* (Oxford: OUP, 2008), 196-227.

23. This refers to Parsons and Carlson's theory of selected effects for the identification of art's "proper" function, specifically, as it is expounded in the section "Selected Effects Theory of Art Function." See: Parsons and Carlson, *Functional Beauty*, 216-222.

become extinct—it would have ceased to exist. From a structural point of view, the fact that art continues to be made and valued suggests that art does something that merits, or accounts for, its continued existence.

Yet, the very slipperiness of the word "function" is emblematic of even bigger problems posed by the notion of function, especially as it pertains to art. Much like the word "design," the dual grammatical usage of the word "function" as both noun and verb reflects a slippage in meaning. The function of a hammer is "hammering" (i.e., driving nails into walls), but a hammer could also *function* as a door stop or a weapon. Likewise, a work of art can be created to express the feelings of the artist or convey a political statement, but it can also be hung on a wall to cover a hole or a safe.[24] For a functional consideration of art, this dual-meaning raises the teleological question of whether we are considering the function of an artefact *de jure* (i.e., as intended by its designer) or the function that the artefact fulfils *de facto* (i.e., in the hands or eyes of someone else, regardless of its original function).[25] Even if there were a consensus that a work of art fulfils some social function, and specifically a consensus on whether this is the function for which it was designed or the function that it fulfils in practice, determining the identity of that function would remain a knotty task for a number of other reasons.

Firstly, if we try to determine the function of art, are we to consider the function of an individual work of art, or alternatively the function of art as a whole—e.g., as an informal institution or a cultural practice? Consider how the function of a particular novel is unlikely to be the same as the function of literature as a cultural practice, or how the function of a particular utilitarian object is unlikely to be the same as the function of design

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24. This example is paraphrased, in part, from Parsons and Carlson, *Functional Beauty*, 197.

25. Parsons and Carlson refer to the function intended by the artist as an "intentionalist" function, and refer to the function that the artefact fulfils in the hands or eyes of an agent as a "causal role" function. However, they then argue that neither are necessarily the "proper" function of the work of art, but rather merely "accidental" functions, since they may not belong to the work in and of itself. See: Parsons and Carlson, *Functional Beauty*, 203-216.

as a cultural practice. By the same token, the function of an individual work of art will not necessarily be the same as the function of art as a cultural practice, and this discrepancy may need to be reconciled if one wishes to arrive at a determination of art's function.[26] Some scholars choose to shine the spotlight on individual works of art, or to develop a compatibilist framework that allows them to consider both, side by side.[27] Yet for others, "works of art are not received as single entities, but within institutional frameworks and conditions that largely determine the function of the works," and should therefore be considered collectively.[28] In perhaps a similar vein, the evolutionary approach suggests that in order to identify the "proper" function of *any* individual work of art, we must look at works of art collectively and over a sufficient period of time before asking—with the benefit of hindsight: what is it that they do which enables the production of subsequent

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26. Arguing for art's aesthetic function, Iseminger acknowledges that the function of an individual work of art is not necessarily the function of art as a whole, and that this discrepancy ought to be addressed: "For the practice of art and the artworld to have an aesthetic function does not entail that each work of art must have an aesthetic function. Exactly what the relation is between that world and practice and individual works of art is something that needs to be discussed, but the anti-aestheticist objection, with its Duchampian and Brechtian examples, shows that we can hardly take it as an unchallengeable intuition that the function of each work of art must be aesthetic." See: Iseminger, *Aesthetic Function*, 25.

27. To demonstrate how a consideration of both the function/s of individual works of art and the function of art as a whole (as a practice or as what Iseminger above, following Arthur Danto, calls the "artworld") may be possible, consider the following example, which provides a functional analysis of an everyday object from a structural point of view, in which a given system consists of an hierarchy of sub-functions (or "ancillary" functions) and meta-functions. Imagine a bicycle, whose function, by and large, is "cycling" or "getting from point A to point B." The bicycle is comprised of several constituent parts—wheels, pedals, seat, handlebar—that all have their own functions within the system of the bicycle. That is, the function of the handlebar, for example, is to "steer," and the function of the wheel is to "roll." By fulfilling these different functions, the constituent parts serve the main function of the bicycle as a unitary whole. Taken together, the individual parts perform the function of "cycling" *in concert*. Moreover, this hierarchical structure of functions extends further, whether we "zoom in" or "zoom out." That is, the wheel itself is comprised of a tyre, rim, and spoke, which all have their own functions; and likewise in reverse, the bicycle itself is just a part of the larger system of transportation. In the case of a work of art, its constituent elements, or details, perform various functions in serving the main function of the work as a unitary whole. Note that this view, in turn, assigns the artist the role of constructing and orchestrating the constituent parts in the same way that a designer does.

28. Bürger bases this collectivity claim on what he considers to be "Marcuse's definition of the function of culture in bourgeois society [which] does not relate to individual artistic works, but to their status as objects that are set apart from the struggle of everyday existence." Bürger then furthers his claim by noting that "when one refers to the function of an individual work, one generally speaks figuratively; for the consequences that one may observe or infer are not primarily a function of its special qualities but rather of the manner which regulates the commerce with works of this kind in a given society or in certain strata or classes of a society. I have chosen the term "institution of art" [similar to what Iseminger above, following Arthur Danto, calls the "artworld"] to characterize such framing conditions." See: Bürger, *Avant-Grade*, 12.

works of art, or which enables the practice or institution of art to carry on?[29]

This leads us to the second problem: a notion of function based on changing historical conditions or on evolutionary principles, suggests that art evolves or adapts to its changing surroundings, thereby fulfilling different functions at different times and in different places.[30] The perceived social function of art seems to vary across historical periods, geographical regions, and cultural paradigms. For example, according to one familiar theory of the development of Western art, the cult objects of the Middle Ages served a religious or sacral function, whereas the representational objects typical of seventeenth-century France served a courtly function, and the autonomous objects of bourgeois society in the eighteenth and nineteenth centuries served the function of portraying its self-understanding.[31] On this account, it is under Aestheticism that autonomous art reaches the stage of self-reflection and the detachment of art from the practice of life becomes the subject of works of art.[32] In other words, "art becomes the content of art." Accordingly, on this account, it is in response to this decadent detachment that the modernist objects of twentieth-century avant-garde aimed to reconnect art and the practice of life.

This historical delineation of the ever-changing function of art leads us to the third and possibly most insoluble difficulty: even though this dissertation focuses on Western art in the particular cultural moment between the early twentieth and early twenty-first centuries, the perceived social function of art in this period is by far the most debated and perplexing. As oppose to sacral and courtly works of art, whose reception is collective (a

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29. See above, note 18.

30. According to Gary Iseminger, the fact "that the artworld and the practice of art 'expand' and 'change' needs to be taken into account in defending any claim about what art's function is." See: Iseminger, *Aesthetic Function*, 24.

31. Bürger, *Avant-Garde*, 47-48.

32. Ibid., 48-49.

group of people perceive the work of art to mean one thing), the reception of autonomous art becomes individual (each person perceives the same work of art to mean something different).[33] That is, one person may look at a work of art and see X, while another may look at the same work of art and see Y. Consequently, each would form a different idea of what it is that the work does—an idea that may define art's function. If so, it seems that by playing a role in the construction of artistic meaning, subjectivity itself becomes a defining feature of modern art, which makes it that much harder to formulate a definition of art's function.

This perplexity is perhaps best captured by the philosopher Theodor W. Adorno in his remark: "insofar as a social function can be predicated for artworks, it is their functionlessness."[34] Understood as an indeterminacy of function, the "functionlessness" of modern works of art to which Adorno alludes, differs from the "uselessness" of aestheticist works of art in that although their function is unspecified, they are nevertheless geared towards one. Conceiving works of art as serving a social function in virtue of their "functionlessness" does not make it any easier to grapple with art in functional terms. If the indeterminacy of art's function is an inherent and—in itself—a defining feature of art, then it remains awkward and almost paradoxical to try to define it in terms of a particular function, or even to theorise it as having one.

Determining the ever-changing function of art has proven to be a philosophically and historically complex enterprise, to the point where some scholars have deemed it impossible or have simply despaired at the magnitude of the task. There are many ways to understand "function," and this ramifies in ever more intractable ways when thinking about art, and particularly modern art. Perhaps it is also for this reason that there seems to

33. Ibid., 49.

34. Theodor W. Adorno, *Aesthetic Theory*, trans. Robert Hullot-Kentor (London/New York: Bloomsbury, 2013 [1970]), 309.

be a resistance to thinking about art in functional terms, or that it somehow feels "wrong" to define art in terms of its function. It is not only that thinking about art in functional terms, or indeed in terms of its function, goes against the still pervasive legacy of Aestheticism, it also overtaxes us to think of art in terms of what it does that enables its continued existence.

Scope and Methodology

For all of the above reasons, in asking how a design perspective may change our perception of art and deepen our understanding of works of art, this dissertation will not argue for any particular function of art, nor suggest that there is only a single "proper" function. Instead, it will argue for a consideration of the products of artistic activity in terms of design, in the hope that this will promote the perception of art as a rational mode of visual and material production that does not subscribe to means-end rationality.

Furthermore, this dissertation will not defend the position that art is a form of design, nor will it assume that the creative process is necessarily a process of design. Instead, it will assess the potential advantage of a design perspective for a functional consideration of art. In other words, the dissertation will not try to demonstrate that art *should* be thought of or understood in terms of design, only explore what happens *when* we think about art in terms of design. In the manner of a thought experiment, I would like to see how far we can get with such a comparison, and what we may learn from it. Whether or not such a comparison proves viable for a functional or rational consideration of art, we will learn something through the process, and in turn, understand something about art (and hopefully about design).

While identifying the function of art may well be an overly ambitious, even impossible task, it is by no means a futile one, and we should not shy away from it just because we are unlikely to arrive at any conclusive determination of art's function. A purely

functional consideration of art can shed a new light on works of art and the processes of their production and reception.

To address these questions of art and design, the dissertation will further narrow the focus of its enquiry and compare only two forms of object-making: sculpture and product design. As two forms of producing three-dimensional objects that have a dynamic relationship to the body in space, sculpture and product design share a baseline similarity that allows us to compare "like with like" and makes it relatively easy to identify parallels as well as divergences.

In order to set up a theoretical framework in which to offer adequately pointed answers to these questions, the dissertation will bring into dialogue two seemingly disparate texts, one from the field of interaction design and the other from the field of reception aesthetics. The first text, by the cognitive scientist and usability engineer Donald Norman, is helpful here because it describes the specific design principles through which a consumer product communicates its function to the user. Based on simple psychological principles, the six design principles of *affordances*, *signifiers*, *constraints*, *mapping*, *feedback*, and *conceptual model*, are potentially applicable, *mutatis mutandis*, to the analysis of works of art. Their illuminating specificity can enable us to examine the rationale behind the artist's decisions with quite a fine-tooth comb.

The second text, by the art historian Wolfgang Kemp, is helpful because it recognises that the work of art has an "addressee" and subsequently identifies the various and specific *forms of address* through which the work of art communicates its meaning to the viewer. By considering the process of production as the orchestration or authoring of the process of reception, Kemp's text allows us to consider the artist's decisions in forming the sculpture as intended to achieve a particular response or effect. Accordingly, it allows us to consider the work of art as a communicative object—as a formal puzzle that alongside its indeterminacy of form, and therefore meaning, offers sufficient clues to its deciphering.

Since both texts are rooted in the psychology of perception, together they make it possible to compare the ways in which the designer creates an object that communicate its function to the user with the ways in which the artist creates an object that communicates its meaning to the viewer. This, in turn, will enable us to tease out the kind of connections that can reveal a causal relationship between form and function in works of art. Comparing the psychology behind different types of objects and our different types of engagement with them can also bring to the fore some of the institutional design decisions—primarily those relating to display—that shape the conditions of perception/reception, and which in turn feed back into the process of production, influencing the ways in which the artist goes about designing the individual work.

Drawing on these two theoretical sources, the dissertation will look at a diverse range of works of art, extending from the historical avant-garde to contemporary art practices, with a focus on three case studies: Claes Oldenburg's *Saw* (1971), Joseph Beuys's *Capri Battery* (1985), and Lygia Clark's *Critter* (1964). Representing three distinct modernist (and post-modernist) art practices that are already in dialogue with design, these three works conjure up analogous everyday consumer products and therefore provide advantageous cases to examine from the twin-optics of art and design. Drawing on Norman's theory of interaction design on the one hand and Kemp's theory of reception aesthetics on the other, the dissertation will offer a series of keyhole comparisons of the consumer products and the sculptures, whereby the analyses of the former contribute to the "functional" readings of the latter. Approximating "artist" with "designer," and correspondingly "viewer" with "user," the design rationales behind the everyday objects will foreground the artistic strategies behind the sculptures.

While historical and neo-avant-garde works are often directly and openly engaged with design, their actual processes of production and reception are rarely theorised from a design perspective, which remains neglected in contemporary art history and theory. Even

the highly canonical sculptures by Oldenburg, Beuys, and Clark, raise all sorts of complex issues and previously obscured questions when viewed from the twin-optics of art and design. Issues and questions that relate to visualism, institutionalism, and Westernism are arguably more relevant and urgent than ever if we are to better understand the sociocultural functioning of modern—as well as contemporary—art practices.

In analysing works of art from a design perspective, the dissertation takes a dualistic approach to a functional consideration of art: looking at the process of production and the process of reception as two sides of the same coin. While art-historical analyses of works of modern art tend to consider artists' biographies and the respective sociocultural, economic, and political circumstances that shaped the conditions of their production, we do not ordinarily deem such scholarly knowledge (or *any* prior knowledge for that matter) to be necessary for the validity of one's aesthetic experience—or even judgements—in lived experience. In fact, given that subjectivity is a central tenet of modern art, we consider a *tabula rasa* state to be uniquely legitimate—even favourable—in aesthetic reception.

By not divorcing the viewers' response from the intentions of the artist, the dualism of this design perspective may seem to negate subjectivity, as may seem to be the case with some art-historical analyses. That is, by considering the artist as designing not just the work of art but also—perforce—the viewers' response to it, this approach may seem to demystify the process of reception, thereby impoverishing art. However, just as the grounding of art-historical accounts in historical facts does not limit the scholars' leeway for interpretation, so the grounding of reception aesthetics in the process of production need not contradict the viewers' prerogative to derive their own meaning from the work of art, or indeed from their response to it—however authored it may be. If we consider the work of art as designed to do something specific but at the same time to be open to interpretation precisely in virtue of its specificity (i.e., specifically designed to

enable a plenitude of readings), then the dualism does not rule out either a pluralist conception of aesthetic reception or a pluralist conception of art's function. Adopting this dualistic approach, the dissertation is able to offer the appropriate means for a functional consideration of art that leaves its indeterminacy intact, thereby maintaining its unique status in the world.

In conclusion, by broadening our art horizons through the perspective of design, this dissertation does not set out to understand the precise function of art or works of art; rather, it sets out to understand *how* works of modern art function, thereby allowing us to see familiar works of art anew. More specifically, it aims to understand how works of modern art function despite—or rather in virtue of—their indeterminacy, which may well be the very thing that allows them to perform their social function.

Conceivably, a functional consideration of works of art in design terms can explicate how their Adornian "functionlessness" actually constitutes their social function.[35] Analysing the "nuts and bolts" of works of art using Norman's specific and concrete design principles, may spell out how their mechanism of operation fulfils a social function. Alternatively, perhaps by giving rise to a notion of "productive futility," the following analyses may help us to read Adorno's remark as a corrective to the purely aesthetic and

35. As Bürger notes, when Adorno addresses the social function of art in his *Aesthetic Theory*, he places the focus on "autonomy aesthetics" and consequently "foregoes a functional analysis because he suspects that behind it lies the attempt to subject art to externally determined purposes." However, as Bürger also observes, autonomy aesthetics nevertheless "contains a definition of the function of art," which is conceived in its apartness from the means-end activities of daily life. In line with his emphasis on the autonomy or indeterminacy of aesthetics, "Adorno sees effects as something external to works of art," and consequently, as Bürger demonstrates, he rejects reception aesthetics. However, Adorno argues that "the social decipherment of art must turn to art itself instead of . . . [to] the discovery and classification of effects," since on his account, these may not—given their subjective nature—be faithful to the objective meanings of works of art. At worst, this argument is somewhat contradictory, and at best, as Bürger points out, it "foregoes the possibility of mediating work and effect with each other." It is precisely this possibility that Adorno overlooks or refrains from, that this dissertation seeks to address and explore, for it holds the potential to provide a cogent functional analysis that *does* draw on reception aesthetics, yet does not take away from art's autonomy. Specifically, it preserves the autonomy by synthesising Adorno's notion of "autonomy aesthetics" with Kemp's notion of the "aesthetics of indeterminacy," which will be discussed in detail later in the dissertation. For Bürger's analysis of Adorno's concept of function, see: Bürger, *Avant-Garde*, 10-11.

socially useless function of the fine arts—explaining how their utilitarian uselessness does or can actually serve a social function.

This account of the inner-workings of works of art might reveal that the autonomy that enabled art's "splendid uselessness" to be celebrated in the nineteenth century is the same autonomy that enabled its "functionlessness" to function in the way that the modernists envisioned. Although outside the scope of this dissertation, perhaps such an adaptation of autonomy to changing historical conditions could in turn explain art's continued existence to this day, as well as its ongoing prevalence and currency.

Part Two:
Analyses

Norman: Interaction Design

Informed by his formal training in both engineering and psychology, and by James J. Gibson's work on perception psychology, the cognitive scientist and usability engineer Donald Norman developed a comprehensive theory of design, which covers the interrelated focus areas of industrial design, interaction design, and experience design.[36] In his widely influential book *The Design of Everyday Things* (1988, originally titled *The Psychology of Everyday Things*), Norman analyses the various ways in which everyday things "communicate" with the user so that he or she can execute their various functions. Laying the foundation for his theory of design, Norman describes six psychological concepts, or principles of interaction, that designers deploy to constitute the requisite *discoverability* of everyday things.[37] Discoverability is the object's ability to communicate, as Norman puts it, "what it does, how it works, and what operations are possible."[38]

(1) *Affordances*. The first concept of the six is probably the most popularised, and correspondingly, the most commonly misconstrued.[39] Narrowly understood to mean "actionable properties" or "implied uses," Norman's definition of *affordances* (following James. J. Gibson) is in fact a relational one: "an affordance is a relationship between the

36. As Norman notes: "none of the fields is well defined, but the focus of the efforts does vary, with industrial designers emphasizing form and material, interactive designers emphasizing understandability and usability, and experience designers emphasizing the emotional impact." See: Donald Norman, *The Design of Everyday Things: Revised and Expanded Edition*, (Cambridge, MA: MIT Press, 2013 [1988]), 4-5.

37. Note that prior to the revised and expanded edition, the book did not include the concept of "signifiers."

38. Ibid., 10.

39. Some insights that partly explain the popularity of this concept and why it is so commonly misconstrued, can be found in ibid., xiv-xv, 13-14.

properties of an object and the capabilities of the agent."[40] For example, consider the child-proof cap on an aspirin bottle, or how a handsaw affords sawing provided that the user meets its minimal executional requirements, which include an able hand and a basic understanding of the physics of cutting. Simply put, an everyday object affords its function provided that the user satisfies the relevant set of physical and mental capabilities, which for reasons that will become clearer in due course, I will refer to as "inner" and "outer" preconditions.

(2) *Signifiers*. A design signifier, which should not to be confused with semiotic signifiers, is "any perceivable indicator that communicates appropriate behaviour to a person."[41] Norman distinguishes affordances and signifiers by observing that: "affordances determine what actions are possible . . . signifiers communicate where [or how] the action should take place."[42] To use Norman's example, a digital touch screen affords touching all over it, yet a graphic element, such as a button, signifies where exactly on the screen we should be touching.[43]

While some signifiers are graphic, direct, or spelled-out, such as graphic buttons, arrows or door signs labelled "push" or "pull," some signifiers are simply the bare affordances, in and of themselves.[44] That is to say, when affordances are perceivable they oftentimes play a dual role of both affording and signifying. By virtue of being technically crucial for the intended operation, a perceivable affordance may disclose the product's mechanism of operation, which in turn instructs us how to set it in motion. Another of Norman's examples is that by *affording* its opening and closing, the handle on the door is

40. Ibid., 11.

41. Ibid., 14.

42. Ibid., ibid.

43. Ibid., 13-14.

44. Ibid., 18.

signifying how to open and close it.[45] For this reason, the prescription of the user's role is often readily derived from the visibility, and sometimes accentuation or externalisation, of certain elements of the design.

Moreover, signifiers may emerge as the after-effect of certain decisions made by the designer or by previous users: the faded buttons on a keypad lock indicate the series of digits used in particular combination; the curved scuffs on the floor left by the opening and closing of a door indicates that it swings rather than slides open; and—to use another of Norman's examples—the trail formed in the woods by past hikers indicates the best route.[46] Although mostly incidental, such signifiers act as useful clues that communicate the best course of action.

(3) *Constraints*. Constraints communicate in a different—almost inverted—way to affordances: to prescribe our role they *restrict* certain operations, thereby leaving only the desired ones available. Much like affordances, constraints may act as or provide signifiers. Constraints may be physical, but they may also be cultural.[47] Physical constraints, Norman explains, "restrict the possible behaviour: such things as the order in which parts can go together and the ways by which an object can be moved, picked up, or otherwise manipulated. . . . Each object has physical features—projections, depressions, screw threads, appendages—that limit its relationships with other objects, the operations that can be performed on it, what can be attached to it and so on."[48] Consider, for example, how a three-pronged plug will only fit into a three-hole socket, or how its asymmetrical shape will only fit into the socket in the correct orientation, to ensure safe use. Alternatively, consider

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45. Ibid., 18.

46. Ibid., 14.

47. Norman classifies constraints into four classes: physical, cultural, semantic and logical. However, for our intended purposes, semantic and logical constraints can be subsumed under the umbrella term of "cultural constraints," as all non-physical constraints are in fact learned restrictions on behaviour, which exist in our heads rather than in the physical world. For the nuanced distinctions between the latter three classes, see ibid., 125-132.

48. Ibid., 76.

how a shopping trolley will release from its nesting position only when fed with a coin or token, to enforce its return.

In a similar vein, cultural constraints "reduce the set of likely actions"; yet, in contrast to physical constraints, which disable possible actions, cultural constraints are "*learned artificial* restrictions on behaviour" [emphasis added].[49] Given the way in which cultural constraints merely intimate dos and don'ts, for Norman, they are akin to social conventions or norms—unwritten rules that we have *learned* are correct or acceptable, and that therefore govern our behaviour and interactions. He argues:

> Conventions are actually a form of cultural constraint, usually associated with how people behave. Some conventions determine what activities should be done; others prohibit or discourage actions. But in all cases, they provide those knowledgeable of the culture with powerful constraints on behaviour.[50]

To illustrate the distinction between physical and cultural constraints, consider a standard motor vehicle. A vehicle contains a host of physical constraints, such as the requirement of a key to start the engine. However, the way drivers correctly navigate their way on the road is governed by cultural constraints, such as driving on a certain side of the road, stopping at a red light, giving way at a roundabout, not exceeding the speed limit, and so on and so forth (behaviours which in many cases are signified by road signs).[51] By restricting possible behaviours in these various ways, constraints provide strong clues, which is why Norman observes that "the thoughtful use of constraints in design lets people readily determine the proper course of action, *even in a novel situation* [emphasis added]."[52]

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49. Ibid., ibid.

50. Ibid., 131.

51. The requirement of a key to start the vehicle is also what Norman refers to as a "forcing function" and a discussion of which can be found in ibid., 141. For the original description of how cultural constraints govern road traffic, see ibid., ibid.

52. Ibid., 125.

(4) *Feedback*. This is the most interactive of the six concepts as it responds to our actions in real time and communicates their results in a manner that is appropriate to the particular actions, be they correct or incorrect. Positive feedback confirms that we are acting correctly and/or that the system is working properly, in order to eliminate doubt. Negative feedback (or simply the lack of positive feedback in the case of poor design) lets us know that we should adjust our action to yield the intended result, or alternatively, that there is a fault with the system.

For example, when we enter a lift and press the desired floor button, the button may light up to indicate that our request has been registered with the system, and a panel may display the floors as we go pass them to indicate our location and the status of our request. Similarly, animated graphical elements, such as a spinning circle or an hourglass (also known as "throbbers") indicate to us that the system is processing our request, and a "progress bar" may provide more accurate indication of the status of our request. Conversely, if the floor button does not light up or the throbber freezes, we know that something is wrong.

Feedback may be visual, such as flashing lights or animated graphics, but it may also be olfactory, auditory or haptic: burnt or foul odours can let us know that we are over working our blender or that we have a gas leak; clicks, beeps and buzzes can let us know that the turn signal is on or that we have left the fridge door open; vibrations can let us know that we may want to check our phone or that we have entered invalid information.[53]

Feedback may also be natural rather than artificial. The actual upward or downward movement of the lift provides *natural* feedback, letting us know that our request has been registered with the system, and is being processed, as it were. Similarly, the sound

53. Natural gas is completely odourless; yet since it is highly flammable, a fetid gas is added to it as an odourant for the sole purpose of providing negative feedback in the case of a leak.

that the car door makes when shut lets us know whether it has been properly shut or not.[54] Given its intrinsic character, natural *negative* feedback will oftentimes follow failed or too subtle constraints, or the complete lack of appropriate constraints. For example, irregular and turbulent motions, or screeching, grating or otherwise strident sounds (like the one an engine makes when we shift into the wrong gear, or when a mechanical part needs oiling), let us know that something is awry, allowing us to adjust our actions—or the system—accordingly.

(5) *Mapping.* According to Norman, mapping refers to "the relationship between the elements of two sets of things," and is therefore a key concept in designing controls and displays.[55] Some mappings correspond to widely-shared cultural conventions, which is why sliding a control up or turning a dial clockwise leads to an increase in intensity or amount, and sliding the control down or turning the dial anti-clockwise leads to a decrease.[56] Other mappings follow what Norman calls "spatial analogies," which is why the buttons in the lift are arranged in an ascending numerical order.[57] Indeed, spatial analogies are particularly important in designing the layout of controls, as they ensure a clear correspondence between the control and what is being controlled. For example, "to make it easy to determine which control works which light in a large room or auditorium," Norman recommends to "arrange the controls in the same pattern as the lights."[58] Alternatively, for a smaller room, position each control in proximity to the light being

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54. Note that natural feedback may also be deliberately accentuated by the designer for the purpose of signification. The car door latch may very well be designed to accentuate the sounds it emits when properly engaged or not. And as Norman tells us, "natural" feedback may be created artificially, as in the case of electric vehicles, where the absence a combustion engine has led to the artificial addition of sound. The sound is used signify the presence of the vehicle and can thus alert an unsuspecting pedestrian of an approaching vehicle. For a more detailed description of this example, see ibid., 158.

55. Norman, *Everyday Things*, 20-21.

56. Ibid., 22.

57. Ibid., ibid.

58. Ibid., ibid.

controlled. Either way, the position of the light switches relative to the lights will then signify the correct operation. In a similar vein, to make the car turn left, turn the steering wheel to the left; to make Super Mario walk to the right of the screen, tilt the joystick to the right. When mappings follow cultural conventions and/or spatial analogies, it is easier to understand and remember the correspondence, thereby making the object easier to use. Moreover, similar to affordances and constraints, thoughtful mappings can provide clear signification in and of themselves. Such is the case with a pair of scissors: the size of the two holes correspond to the anatomy of our fingers, thereby acting as a signifier indicating how to operate them (two digits in the elongated hole and an opposing thumb in the other).[59]

(6) *Conceptual model.* The last of Norman's six concepts, often referred to as a "mental model," is "an explanation, usually highly simplified, of how something works. It doesn't have to be complete or even accurate as long as it is useful."[60] The classic example that Norman gives is that of the computer "desktop," which displays skeuomorphic files, folders and even a bin on the computer screen.[61] These graphic representations help the user, who normally knows little of the complex innerworkings of software, gain a conceptual model of the system, which in turn helps them make sense of the computer and explains how to interact with it. Therefore, particularly "when we come upon a novel situation, then we need a deeper understanding, a good model."[62]

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59. Ibid., 26.

60. Ibid., 25.

61. Ibid., ibid. Skeuomorphism, according to Norman, refers to the practice of grafting old and familiar ideas on to new technologies for the benefit of "easing the transition from the old to the new". This practice predates digital technologies and is why "early automobiles looked like horse-driven carriages [or] early plastics were designed to look like wood." Significantly, therefore, with skeuomorphic designs, "existing conceptual models need only be modified rather than replaced." See ibid., 159.

62. Ibid., 28.

As Norman makes clear, while conceptual models may be provided through manuals, websites, advertisements, other users, or similar designs with which we have interacted in the past, they should ideally be inferable from the design itself; and the easiest way for a user to acquire a conceptual model is from the perceived structure of the design—particularly from its affordances, signifiers, constraints, and mappings.[63] Such is the case with basic hand tools, which as Norman observes, "tend to make their critical parts sufficiently visible" so that their conceptual—or mental—models are comparatively self-explanatory and straightforward.[64]

Clear discoverability does not necessarily require the thoughtful deployment of all six of the constitutive concepts of interaction; their necessity depends on various factors, such as the complexity or novelty of the technology or the design. Some simple objects—cups, cutlery, pencils—are so intuitive to understand and operate, that they may not require the deployment of all six concepts. Nonetheless, there is significant overlap among the concepts, which are often interconnected and work in concert, so that in many cases the presence of one perforce entails the presence of another.

A Handsaw: An Analysis

To show how these concepts of interaction work together in practice to constitute the requisite discoverability of an everyday object, I am going to return to the example of a handsaw—a simple hand tool that nevertheless clearly embodies all six concepts (fig. 3). Imagine, if you will, that you are faced with this object for the first time—what Norman would term "a novel situation." Upon first impression, the designed quality of the object (as opposed to a naturally occurring object) automatically signals to you that the decisions embodied in it have been motivated by a particular function, and therefore that it possesses

63. Ibid., 26.

64. Ibid., 26-27.

some tool-potential. Consequently, you begin a process of *information pickup*—internally processing the object's properties in relation to your circumstances, in order to discern its exact utility for you.[65]

Upon closer examination, the wooden component at the one end of the object—with its ergonomic palmar shape, smooth surface finish and warm materiality that contrasts with the jagged metal component—instructs you to hold the saw in a particular manner: grasping the handle with four fingers inside and an opposing thumb on the outside, and with the toothed edge perpendicular to the material. More specifically, as in the case of the scissors, the shape of the aperture (and here also the top hump) map onto the anatomy of your fingers, thereby also acting as a signifier that indicates exactly how to grasp the tool. That is, by appealing to your anatomy, including material and tactile preferences for smoothly finished wood over cold jagged metal (i.e., outer preconditions), the tool lets you know to grasp it firmly by the handle; and by appealing to the association of teeth with abrasion (i.e., inner preconditions), you know to position the tool with the toothed edge perpendicular to the material.

In appealing to the user's preconditions to form a discoverability that will prescribe a role in executing the saw's function, the design illustrates the relational nature of affordances. The toothed metal blade possesses sawing potential irrespective of human agency, and can conceivably afford slight sawing on its own, yet the addition of the ergonomic interface—the handle—is what affords efficient sawing and enables the execution of the saw's function. In other words, the addition of the handle component enables the blade component to be powered by human force, thus fully affording *hand* sawing.

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65. For a discussion on the notion of *information pickup*, following James J. Gibson, see ibid., 12.

Next, the pattern of teeth along the blade tells you that a continuous linear motion is called for, and the orientation of the teeth tells you in which direction to apply force. This step exemplifies how a perceivable affordance can reveal the mechanism of operation, thereby playing the dual role of both affording and signifying. If the toothed edge were obscured from view, for instance by the addition of a plastic guard designed to protect the blade and prevent injury or damage while not in use, you would have a much harder time picking up on the functionality of the tool (fig. 4). That is, the perceivability of the toothed edge—particularly when attached to a handle—not only affords sawing, but also *signifies* what operation is possible and how to carry out that operation.

Nevertheless, imagine you register the teeth, but do not register the slightly perceptible *direction* of the teeth. As you begin to saw, you quickly notice that the tool is more abrasive when pushed forwards (away from your body) than when pulled backwards (towards your body). You notice this because the sound, vibration and amount of sawdust that the saw produces when pulled backwards as opposed to when pushed forwards, naturally provides *negative* feedback—letting you know that you are not using it correctly. The particular direction of the teeth, therefore, forms a physical *constraint* protecting you from sawing in the wrong direction and accidentally injuring yourself by pulling the handsaw too hard out of the material and towards your body. In other words, since you may not register the direction of the teeth, or register the direction but fail to translate it into a prescription of correct behaviour (pushing rather than pulling), a constraint has been built into the design to *enforce* the correct behaviour.

This analysis illustrates how the various concepts, which are intimately tied to one another through the function coordinating the design, work in concert to prescribe the user's role as the agent of execution: grasping the handle, placing the toothed edge against a material, and manipulating the hand back and forth. It also illustrates how with a rather simple hand tool like a saw, there is no need for the external provision of a conceptual

model (such as written, graphic or verbal instructions). That is, the simplicity of the technology allows the function of the handsaw to be intuitively discoverable, and the underlying physics of the operation is easily inferable from the design itself. Furthermore, and perhaps most significantly for our investigation, this analysis presents a utilitarian object whose function was initially "unknown," yet was eventually deducible from the role prescribed to us as the agent of execution (i.e., the prescribed manipulation of the saw resulted in the abrasion of material, and thus the discovery of its function). In short, the design relates to our preconditions in order to form a discoverability that will solicit our agency—for without it, the handsaw could not function as a handsaw.

Norman's account of the design of everyday things starts out from the recognition that "all artificial things are designed." He goes on to argue that "whether it is the layout of furniture in a room, the paths through a garden or forest, or the intricacies of an electronic device, some person or group of people had to decide upon the layout, operation, and mechanisms."[66] It would seem to follow from this that since works of art are the product of a process of decision-making in relation to a desired end, they may also be considered designed objects. Given that artists presumably intend for their exhibited works to afford or convey something to viewers, it seems plausible to ask whether a theory of the design of everyday things might also prove informative in relation to the design of works of art. A theory of design illuminates our interactions with everyday things such as lifts, light switches and hand tools. But how might it illuminate the ways in which we interact with and interpret something as potentially complex and multifaceted as a work of art? Norman's concepts elucidate the design decisions of designers and the corresponding behaviour of users, but can they elucidate the creative decisions of artists and the corresponding subjective interpretations of viewers? It is clear that Norman's six concepts

66. Ibid., 4.

will not apply to works of art in exactly the same way as they apply to everyday things. However, they may still prove instructive, perhaps revealing something constitutive about works of art or providing valuable insights into their processes of production and reception.

The opposing point of view is rooted in the tenacious assumption that works of art are wholly original and, by definition, different from anything we have seen before. If every work of art is unique, encountering a new work of art can be said to present us with "a novel situation." That is not say that we arrive *tabula rasa*; works of art exist in a highly instructive context of information and discursive knowledge. In the same way that we encounter the handsaw with a set of relevant preconditions, we normally encounter a novel work of art with some prior knowledge about the artist who created it and the tradition within which they work, or at the very least, with knowledge about the context of the exhibition or exhibiting institution in which the work is displayed. Nevertheless, this view supposes that regardless of any prior knowledge we may have about the context of production and reception, and regardless of any supplementary information (such as curatorial wall texts or audio guides), by their very nature, works of art are required to "speak for themselves."[67]

We can investigate the underlying presuppositions of this view through a thought experiment that treats works of art as isolated objects whose meaning is meant to be discoverable through unmediated reception. What happens if we carry out an analysis

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67. As noted earlier, the conceptual model we form in our minds may be informed by the design itself and any accompanying manuals, but also by any information available to us through similar things with which we have interacted in the past, from more knowledgeable individuals, from the Internet and so on. Norman refers to this combined information as the *system image*. Since it is also the case with a new work of art, as it is with a new product or device, that the artist in not normally present to communicate their intentions and therefore we have to rely on this combined information, by way of analogy, we can think of guided tours, curatorial texts, reviews and so on, as the system image of the work of art. Although a new work of art exists in a highly instructive context through which viewers form conceptual models that help them make sense of the work, as with everyday things, it is still instructive to have the conceptual mode inferable from the work itself (especially since different viewers are equipped with different levels of familiarity and knowledge—i.e., inner preconditions). For Norman's discussion of the system image, see: ibid., 31.

analogous to that which was carried out on the handsaw in the previous section? Is it possible to understand the decisions embodied in a work of art, the intentions of the artist and the meaning—or meanings—that the work is meant to convey? In other words, if the design decisions embodied in an everyday object constitute a discoverability that communicates to the user "what is does, how it works, and what operations are possible," then perhaps the design decisions embodied in a work of art constitute a discoverability that communicates to the viewer what it does, how it works, and what possible readings are implied. It seems evident that analysing works of art using Norman's concepts (i.e., applying the internal processing that reveals the function of utilitarian objects to an analysis of a non-utilitarian object) will not reveal any "utility" as such; nevertheless, precisely because Norman's concepts will only apply to art in a limited way, the places where the analysis breaks down or reveals its points of inapplicability or inadequacy may themselves prove illuminating. We may also perhaps learn whether works of art afford viewers something that everyday objects cannot, and how this is achieved.

Kemp: Reception Aesthetics

With this argument in mind, I now want to turn to an essay by the art historian Wolfgang Kemp, "The Work of Art and Its Beholder: The Methodology of the Aesthetic of Reception" (1986), which was one of the first attempts to extend reception aesthetics from the domain of literature to the visual arts.[68] Read against the grain, Kemp's essay can be understood as an attempt to analyse painting in design terms. It is important to emphasise that he is not directly concerned with the theory of design, and certainly not with theory

68. Wolfgang Kemp, "The Work of Art and Its Beholder: The Methodology of the Aesthetic of Reception," in *The Subjects of Art History: Historical Objects in Contemporary Perspectives*, ed. Mark A. Cheetham, et al (Cambridge, UK: CUP, 1998 [1986]), 180-196. First published in German: Wolfgang Kemp, "Kunstwerk und Betrachter: Der rezeptionsästhetische Ansatz," in *Kunstgeschichte. Eine Einführung*, ed. Hans Belting, et al (Berlin: Dietrich Reimer Verlag, 1986) 203-221.

developed by Norman, whose book *The Psychology of Everyday Things* was published two years after Kemp's essay was written. Nonetheless, both texts are grounded in the conviction that artefacts are designed to realise their functional ends via their respective agents (i.e., users and viewers), and both draw on perception psychology to elucidate the ways in which artefacts communicate with their intended agents in order to solicit their agency. As a result, there are some striking points of overlap between their respective approaches. Analysis of these similarities is potentially useful for our consideration of works of art as designed objects. While Kemp's essay has proved highly controversial, particularly his appeal to the concept of the "ideal viewer," his account provides a useful means of exploring what happens when we consider works of art as "designed," bringing to light some of the problems and limits of this approach, as it well as its advantages.

Reception aesthetics was originally developed as a literary theory that privileged the reader's response to a text over any "objective" meaning, usually derived from biographical knowledge regarding the author or the circumstances surrounding the writing of the text. Crucially, for reception aesthetics a consideration of the reader as an active agent who completes the meaning of the work through their response or interpretation entails a consideration of the reader as an addressee (an "implied" or "implicit" reader) for whom the work is authored.[69] Since its emergence in the late 1960s, reception aesthetics has rapidly grown in popularity among scholars and it has become a well-known interdisciplinary approach for studying the aesthetic reception not only of literary texts, but also other forms of "text" (as in the Latin "woven"), including but not limited to the performing and the visual arts.[70] Its advocates have come to recognise a wider notion of

69. The now common reference to the reader as an "addressee" or an "implied"/"implicit" reader, can be traced to the work of Wolfgang Iser. See: Wolfgang Iser, *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore, MD: JHU Press, 1974 [1972]).

70. The emergence of reception aesthetics as a methodical literary theory is commonly attributed to the publication of several landmark works by the German literary scholars Hans-Robert Jauss and Wolfgang Iser in the 1960s and 1970s. Its expansion into neighbouring disciplines may be marked by the work of Stuart Hall, a British-Jamaican sociologist who in the early 1973 presented his essay "Encoding and Decoding in the

reception, which considers the listener, viewer, and even the participant, as the "readers" of cultural content or textual work woven together by all types of "authors."

In a key passage, in which Kemp seeks to open up reception aesthetics to include works of visual art, he argues:

> Along with the aesthetics of reception, perception psychology shares the conviction that the work of art is based upon active completion by its beholder (see Gombrich's 'beholder's share,' for example)—that is to say that a dialogue occurs between the partners. . . . reception aesthetics enacts its interpretive power in a work-oriented fashion. It is on perpetual lookout for the *implicit beholder*, for the function [i.e., role] of the beholder prescribed in the work of art. The fact that the work has been created 'for somebody' is not a novel insight, proffered by a small branch of art history, but the revelation of a constitutive moment in its creation from its very inception. Each work of art is addressed to someone; it works to solicit its ideal beholder.[71]

However, Kemp also acknowledges that "the particular task of interpreting a work of art according to reception aesthetics starts at the point of intersection between 'context' and 'text'," at the point where the work is brought into a dialogue with both its viewers and their surroundings.[72] Distinguishing between the text's *intrinsic points of reception* and the

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Television Discourse." In the 1998 book *Relational Aesthetics* by French curator Nicolas Bourriaud, the relationality of reception aesthetics is explored to new lengths as Bourriaud examines contemporary artistic practices that are predominantly based on social relations rather than displayed objects. Today, there are countless theories and accounts of reception aesthetics as it relates not only to the performing and the visual arts (including performance art and digital art), but also to mass media and the Internet.

71. Ibid., 182-183.

72. Ibid., 186. It is important to note that "context," for Kemp, can be described on two levels. On the first, which is discussed above, "context" can described as the physical environment. On the second, "context" can be described as the wider sociocultural environment, both spatially and temporally, that influences one's perception. While Kemp describes this level in his text, a perhaps more suitable description can be found in a footnote in Bourdieu's "Forms of Capital" (see supra note 5), in which his notion of *habitus* emerges as analogous: "The cultural object, as a living social institution, is, simultaneously, a socially instituted material object and a particular class of habitus, to which it is addressed. The material object—for example, a work of art in its materiality—may be separated by space (e.g., a Dogon statue) or by time (e.g., a Simone Martini painting) from the habitus for which it was intended. This leads to one of the most fundamental biases of art history. Understanding the effect (not to be confused with the function) which the work tended to produce—for example, the form of belief it tended to induce—and which is the true basis of the conscious or unconscious choice of the means used (technique, colours, etc.), and therefore of the form itself, is possible only if one at least raises the question of the habitus on which it 'operated.' " See, Bourdieu, "Forms of Capital," 256.

context's *extrinsic conditions of access* (or "conditions of appearance" when considered on the part of the work of art), he notes:

> The aesthetic objects are only accessible to both the beholder and the scholar under conditions that are mostly safeguarded by institutions and that, in themselves, require certain patterns of behaviour on the part of the recipient. Extrinsic conditions of access comprise, for example, the architectural surround and the corresponding ritual behaviour expected by the religious cult, the court, or the bourgeois institutions of art.[73]

Therefore, as Kemp puts it, "before the dialogue between work and beholder can even begin to transpire, both are already caught in prearranged interpretive spheres."[74] This can be compared to the way that context affects the discoverability of everyday things, particularly in a novel situation: encountering a handsaw in a workshop would be different from encountering it at a library or even in a kitchen; encountering a gizmo at a tech expo is different from encountering it in an antiques centre; and encountering Starck's *Juicy Salif* in a homeware shop is different from encountering it at MoMA.

Moreover, in further contrast to perception psychology, which considers the process of perception/reception as a physiological one, for Kemp, the viewer "brings more than his or her open eyes to the perception/reception of the work of art": the viewer brings their entire intellectual agency so that their response is made up of more than mere "optical reactions."[75] Indeed, in the same way that a user brings their inner preconditions to their interaction with an everyday thing, a viewer brings their inner preconditions to their dialogue with the work of art. It is from Kemp that I earlier borrowed the term *inner preconditions* to denote the user's mental make-up (and correspondingly "outer" preconditions to denote their physical make-up).[76] Since the viewer's reception of the work

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73. Kemp, *The Work of Art*, 185.

74. Ibid., 184.

75. Ibid., 180.

76. Ibid., 182-183.

of art is largely determined by the dialogue that the work is designed to enable (at least under its original conditions of reception), the artist must design the work to appeal to the viewer's inner preconditions; otherwise, a dialogue will not occur and the work will remain incomplete.

The artist, according to Kemp, deploys *forms of address*, such as pictorial composition, perspective, and depicted figures or elements, which orient the viewer, direct their gaze, and focus their attention in preconceived ways.[77] These provide clues indicating to the viewer how to read the work. Through forms of address, the work must communicate, include or amount to, what Kemp calls an *offer of reception*—one that is capable of "activating the beholder to take part in the construction of the work of art."[78] By using forms of address (the creative design decisions embodied in the work of art), the artist invites the viewer to respond to—or receive—the work of art in a suggested way; to perform a certain role that will construct or otherwise complete the work of art.

Following notable proponents of classic reception theory, Wolfgang Iser and Hans Robert-Jauss, Kemp describes the *aesthetics of indeterminacy*, or the *blanks* of aesthetic representation, as the overarching and most intractable form of address that the work deploys to form an offer of reception that will activate the viewer to take part in its construction.[79] For Kemp, both conceptualisations refer to the notion "that works of art

77. Ibid., 187-188.

78. Ibid., 187, 186. Note that Kemp makes a slight distinction between an "offer of reception" and a "precept of reception." Whereas the former is more suggestive and refers to the ways in which the work is set up for a general reception (for example, through pictorial perspective), the latter refers to instances in which the work addresses the viewer more directly. Kemp gives the example of Nicolaes Maes's painting *The Eavesdropper* (1655), where the main figure is stares out directly at the viewer and—with a finger to her mouth—gestures to them to keep quiet. Since such instances are rather specific and somewhat rare, I will be using "offer of reception" as a blanket term for denoting the artist's intended reception of the work.

79. Ibid., 188.

are unfinished in themselves in order to be finished by the beholder."[80] Quoting Iser, for Kemp, these "blanks"

> are the unseen joints of the text, and as they mark off schemata and textual perspectives from one another, they simultaneously trigger acts of ideation on the reader's part. Consequently, when the schemata and perspectives have been linked together, the blanks 'disappear.'[81]

While here Kemp is citing classic reception theory, which pertains to literary work, he develops his theory in relation to works of visual art, and specifically to the inner communication of pictorial representation (or "intrapainting communication").[82] Following Iser, for whom the unwritten parts are what invite the reader to "read in-between the lines," as it were, thereby allowing them actively to participate in the construction of the text, Kemp considers "the invisible reverse side of each represented figure," or the "path that is cut off by the frame," as features that invite the viewer actively to participate in the formal and narrative construction of the painting.[83] Simply put, since pictorial depiction is normally spatially and temporally limited to a single perspective and a single moment in time, paintings can only depict a partial view of the object, figure or scene of representation, and therefore require the viewer to fill in the "blanks" in their mind's eye through "acts of ideation."

For Kemp, and in keeping with classic theories of reception aesthetics, these blanks—what is left out—are often more essential to the intended reception of the work than what is explicitly there, and "this state of unfinishedness or indeterminacy is constructed and intentional."[84] Pictorial representations are inherently limited to a single

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80. Ibid., ibid.

81. Ibid., ibid.

82. Ibid., 186.

83. Ibid., 188.

84. Ibid., ibid.

plane and to the confines of the canvas, which flatten, "crop" and "freeze" our frame of view: as a result, they *perforce* offer only a partial and incomplete representation of an object, figure or scene. Therefore, this prevalent conviction in the indeterminacy of the work of art as something that is designed (i.e., "constructed and intentional"), seems to point to a different motivation of the work. Kemp's description of the aesthetics of indeterminacy—"meaning that works of art are unfinished in themselves in order to be finished by the beholder"—is telling.[85] Formulated this way, the phrase "in order" suggests a device or strategy on the part of the work of art or its designer, meaning that the indeterminacy is a form of address selected for some unique quality or aptitude rather than an inescapable reality of the medium. One may therefore wonder whether the acts of ideation triggered by the indeterminacy of the work are meant to do more than merely complete the object of representation (i.e., the formal meaning or the story depicted).

In recognising the relational nature of creative production, wherein no absolute or definitive meaning is inherently embedded in the text by the artist, but rather is produced in its relation to the reader, reception aesthetics seems to be in line with the modern conception of art that I discussed earlier—i.e., the recognition that works of art are inherently open-ended. Additionally, in focusing on the response of the reader and their ideational role in the production of meaning, while underscoring their position as an addressee for whom the work is carefully authored by the artist, reception aesthetics seems to be able to reconcile the modern view of the work of art as open-ended with a speculative consideration of it as a designed object—i.e., as a disciplined and purposive endeavour on the side of the artist that is nevertheless designed to facilitate a process of subjective meaning-making on the side of the viewer.

85. Ibid., ibid.

Nonetheless, Kemp's account of reception aesthetics presents us with major difficulties, many of which stem from his deeply problematic notion of the "ideal beholder." This notion implies that there is a single, ideal reception of the work.[86] This reduction, in turn, does not allow for the plurality of interpretations that can be generated by the work being received by different people (and of course in different contexts). In ignoring the relational nature of works of art, the notion of an ideal beholder therefore seems to stand in contradiction to both the modern view of works of art as open-ended and the central tenet of reception aesthetics according to which the work's meaning is produced in its relation to the viewer.

Significantly, however, Kemp recognises that "author and recipient do not deal with one another directly, as is the case in the daily occurrence of face-to-face communication." Rather, quoting Hannelore Link, he notes that

> author and reader [and beholder] do not know one another, they have only to think of the respective other. In doing so, both carry out an abstraction from the real individuality, as it is present in the factual dialogue.[87]

Such a description does not seem problematic in and of itself, and this type of abstraction of the addressee makes sense when we think about the relational nature of cultural artefacts and their underlying process of design. For example, when setting out to design a consumer product, the standardised nature of mass-production often requires the industrial product designer to design a "one size fits all" product, as it were, and in so doing, they have to think of the average or "ideal" user.[88] For consumer products, which

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86. Or, to overstate the case, the notion of an ideal viewer implies that the meaning of the work is reducible to the intentions of the artist.

87. Kemp, *The Work of Art*, 183.

88. In order to suit the largest possible number of users, some consumer products—most markedly, wearable items—are made available in a range of sizes or are designed to be adjustable or customisable. Other consumer products may be produced in several design variations, each catering to the needs or preferences of different world markets. Nevertheless, unless a design is tailor-made or made bespoke, such accommodations inevitably entail a certain degree of abstraction.

are designed to fulfil a specific utilitarian function and usually appeal to basic, even universal, outer and inner preconditions that most humans in a given society have in common, the notion of an ideal user is useful and does not necessarily pose a problem.[89]

That said, "an abstraction from the real individuality," which Kemp quotes and which seems understandable under the conditions of indirect communication, does not imply the same exclusivity of reception that his "idealisation" of the viewer does. While the notion of an ideal *user* safely suggests that a consumer product has an ideal use, the notion of an ideal *viewer* still controversially implies that the work of art has an ideal reception.[90] It therefore remains problematic for works of modern art, which are usually conceived for a heterogeneous and often international viewership, and are designed to afford different readings to different viewers. So while the notion of an ideal user applies to an everyday thing, such as a handsaw, can the notion of an ideal viewer ever apply to a work of art?

While Kemp recognises that the context also affects aesthetic reception, and that each viewer brings their own inner preconditions, his notion of an ideal beholder still seems to override these other variants of reception. Even if we consider a scenario wherein an artist designs a work for a specific geographic area, and even for a specific location (such as in the case of site-specific art, for example), which arguably entails an audience that shares some baseline inner preconditions, the notion of an ideal viewer still

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89. This statement needs to be qualified because in some cases a consideration of the average, able-bodied user, may exclude those with certain physical disabilities from using certain products, which is indeed a problem. A noteworthy example in this regard, which offers an alternative way of thinking or looking at things, is that of the brand OXO. The philosophy at OXO, a brand best known for its arthritis-friendly kitchen utensils, is that if a product is designed for the extremes, the average user will fall somewhere in the middle. That is to say, if the OXO peeler is designed for those who suffer from arthritis, and therefore has a bulkier and softer grip, then it will be more comfortable for everyone.

90. This statement also needs to be qualified because although suggesting that a consumer product has an ideal use, and therefore that its function is reducible to the intentions of the designer, is indeed less controversial than suggesting that the meaning of a work of art is reducible to the intentions of the artist, one may still take issue with an intentionalist approach to utilitarian function. As discussed earlier, an artefact has a function *de jure* but it may also fulfil other functions *de facto*. Moreover, Parsons and Carlson will argue that a stronger statement discounts not only any "accidental" functions, but also and more crucially, the "proper" function of the artefact in question (see supra note 25).

standardises a certain set of expectations. It discounts the fact that inner preconditions, which are shaped by age, gender, race, class, previous life experiences, and so on, vary widely between one individual viewer and another. And if not all viewers share the same inner preconditions, how can the artist design the work to meet a set of pregiven expectations?

Acknowledging this tacit problematic, Kemp notes:

> The fact that many works of art in modern times were destined neither for a concrete location nor a specific addressee does not suggest, however, that analyses undertaken in the aesthetics of reception are without objects. The consideration of a more open reception situation can have as informative an effect on arriving at an interpretation as the information that derives from context-dependent studies.[91]

Alluding briefly to a classic study by the artist and art theorist Brian O'Doherty, Kemp suggests that the "more open reception situation" of our modern times can be regarded as the " 'white cube,' the gallery space which supposedly recedes to the neutral background in order to let the works of art be effective 'by themselves'."[92] As Kemp notes, following O'Doherty, the white cube space has "tremendous power of definition" that influences the appearance and therefore reception of works of art: works of modern art are customarily accessible within an architecturally basic, bare and sanitised setting, wherein works of art are readily received as divorced from the context of everyday life. As an extra measure of extrinsic mediation, a square white plinth, a glass vitrine, or a rope barrier, are often added to further differentiate between the surrounding space and the object of aesthetic contemplation. These measures are what Kemp terms "context markers." Broadly defined, a context marker indicates the context of reception and thus "transforms the work into a piece of art."[93] Taken together, all these physical means of institutional display let the

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91. Kemp, *The Work of Art*, 185.

92. Ibid., ibid. For O'Doherty's study, a series of essays which originally appeared in 1976, see: Brian O'Doherty, *Inside the White Cube: The Ideology of the Gallery Space* (San Francisco: The Lapis Press, 1986).

93. Ibid., 192.

agents know that the displayed objects are intended for a different kind of interaction than everyday objects, and accordingly, that they require different patterns of behaviour: perhaps most notably, refraining from touch. Therefore, although the archetypal white cube space does provide a more "open" context of reception, the extrinsic conditions of access and appearance that it imposes nevertheless influence how we receive and interpret objects within that setting.

What Kemp refers to as an "extrinsic condition of access," namely the social convention that prohibits touching, is what Norman considers to be a "cultural constraint." As noted above, cultural constraints are "learned artificial restrictions on behaviour," governing for example the way drivers navigate their way on the road even in the absence of any road signs. By way of analogy, we can think of modern art's prohibitive conventions as cultural constraints designed to govern the way viewers navigate their way through the gallery space. Likewise, we can think of what Kemp considers "context markers"—the plinth, vitrine, and barrier rope—as signification devices, or what Norman calls "signifiers." That is, while these devices—to one degree or another—physically constrain access to the works on display, it is primarily through signification that they prescribe the "correct" behaviour within the gallery space. Otherwise put, they appeal to our inner precondition that associates the gallery space with the cultural constraint on touch. As prohibitive signifiers, they are simply more effective than a literal sign that spells out "please do not touch the art." To continue with the road analogy, the context markers can be thought of as analogous to road signs, which act as reminders of the cultural constraints on road behaviour.

These conventions that influence the way we receive and interpret works of modern art also influence their process of production. Consider how although an artist may design a work to tour internationally (i.e., neither for a specific location nor a specific addressee), the universal architectural convention of the white cube space, and its

"corresponding ritual behaviour," means that the artist nevertheless designs the work to be received in a particular context, which constitutes a "prearranged interpretive sphere," as Kemp puts it. Kemp does not venture any related analyses in his essay, but it would be informative to examine how in the context of an "open reception situation," under the white cube's conditions of access/appearance, artists design works of art in order to solicit the agency of an unspecified addressee in their completion.

What would happen if we take Kemp's account of reception aesthetics, in which he extrapolates the principles of literary reception to the reception of figurative seventeenth-century graphic arts, and attempt to extend it to some abstract and conceptual works of twentieth-century modernism? And what would happen if we attempt to extend—or indeed stretch—his account not only from one period to another, but also from one medium to another? If we seek to extend Kemp's account to twentieth-century sculpture, will it be overextended or stretched too thin? And if so, where exactly would the seams begin to burst?

Every medium has its own limits of representation. Just as the blanks of pictorial representation enable a two-dimensional work to be completed by the viewer, so the blanks of sculptural representation enable a three-dimensional work to be completed by the viewer. This is true not only on the denotative level of mimetic representation, but also on the connotative level of narrative representation. In the same way that the viewer of a painting is asked to complete the reverse side of a figure or the path cut off by the frame, the viewer of a sculpture may be asked to assume that a part is solid or holds liquid when in fact it is hollow or empty, or that that a part is made of a certain material when it is evidently made of another (i.e., the viewer may be asked to assume that pigmented resin represents marble, or that laminated wood represents plastic). On the connotative level of narrative representation, the viewer does not fill in the blanks of the representation itself (the formal meaning), but of the story behind the representation (its artistic meaning),

particularly when the representation is abstract or loosely figurative. This connotative level, therefore, is of particular importance in relation to the "formal puzzles" of modern art.

Oldenburg's *Saw*: An Analysis

I have suggested that the comparison of Norman's theory of design with Kemp's theory of reception aesthetics reveals some surprising continuities, primarily, that the way in which the meaning of a work of art is completed by the viewer is comparable to the way in which the function of a consumer product is executed by the user. As we have seen, designers deploy *concepts of interaction* that appeal to the user's preconditions in order to constitute a *discoverability* that will instruct the user in executing the functions of everyday things. This is comparable to the way artists deploy *forms of address* that appeal to the viewer's preconditions in order to constitute an *offer of reception* that will instruct the viewer in completing the meanings of works of art. In short, both Kemp's and Norman's theories are grounded in the conviction that artefacts are designed to realise their functional ends—be these utilitarian or non-utilitarian—through the relation with their respective agents (i.e., viewers and users).

Given this parallel, it is intriguing to ask what would happen if we consider Kemp an ally in the speculative exploration of the work of art as a designed object, and simultaneously draw on these two markedly dissimilar pieces of writing to analyse some selected works of modern sculpture. Perhaps if we think of the viewer of works of art as if they were the user of everyday objects (i.e., read works of art as if they were objects of use), this might help us to elucidate the ways in which artists solicit the agency of an unspecified viewer in the more open reception situation of the modern gallery setting. Assuming, as Kemp seems to suggest, that from its very inception a work of modern art is designed to address an unspecified viewer in order to solicit their agency in its completion,

then from our position as an addressee perhaps we may be able to look at a particular work and read the role prescribed in it for us.

From our analysis of a handsaw, we learned that the user's role in the completion of the work hints at its function by disclosing its mechanism of operation. In the more complex case of a work of art, perhaps here too we might be able to deduce its function, approximate it, or at least learn something more about it (for surely, as previously discussed, the form of such an intentional object as a sculpture follows *some* function). That is, we should be able to deduce how something operates from its appearance, and in turn, deduce what it does from how it operates, translating the operation (the "how") into the work's functional identity (the "what"). By way of analogy: if form indeed follows function, then by following the proverbial trail of breadcrumbs, we should be able to trace the final result (the form of the work) back to its point of departure (the function underlying the inception of the design process).

To explore how reading a work of art as if it were an object of use may work in practice, and what insights such an analysis may yield, I am going to carry out an analysis of a work by Claes Oldenburg. Best known for his supersized Pop representations of everyday things, which grew increasingly monumental over the course of his career, Oldenburg provides an exemplary initial case study since his sculptural practice already explores the work of art as a designed object. Unlike many of his other large-scale sculptures, *Saw (Hard Version II)* (1971) was designed to be exhibited in a white cube space rather than the outdoors; its specific design and installation has a clear relationship to the architecture of the gallery space as it leans against the interior wall (fig. 5).

Oldenburg's representation of a handsaw stages a problem for us by presenting a recognisable utilitarian object, yet on a non-anthropometric scale, and featuring the dysfunctional and surreal twist of a folded blade with blunted teeth. Given the context of reception (i.e., the modern gallery setting as opposed to—for example—a workshop), we

realise that this deformation is clearly no production-line anomaly, but rather the embodiment of a series of intentional design decisions. Yet, what exactly are these design decisions, and what function or functions might they serve?

Most striking is the decision to deform the familiar handsaw through the change of scale, the folding of the blade, and the blunting of the teeth. This deformation clearly poses physical constraints on the possibility of hand-sawing. Much like with the utilitarian handsaw, where the constraint on sawing backwards enforces the correct behaviour of sawing forwards, here it seems as if the constraint on sawing altogether enforces the correct behaviour of engaging with the work in a way that does not involve *any* physical interaction, that is to say, aesthetically and intellectually rather than physically. Norman observes that:

> with the proper use of physical constraints, there should be only a limited number of possible actions—or, at least, desired actions can be made obvious, usually by being especially salient. Physical constraints are made more effective and useful if they are easy to see and interpret, for then the set of actions is restricted before anything has been done. Otherwise, a physical constraint prevents a wrong action from succeeding only after it has been tried.[94]

If so, according to Norman's own criteria, the physical constraints in Oldenburg's *Saw* are even more effective than those in the utilitarian one: by "being especially salient," even cartoonishly exaggerated, the non-anthropometric scale and folded blade with blunted teeth prevent the wrong action of hand-sawing from succeeding *before* we have even dared to try it. That is, merely using the deformed *Saw* to enact the conceptual—i.e., *mental*—model of a standard handsaw in our mind's eye, will evoke negative mental feedback that signifies the wrong action. By contrast, this is not the case with the utilitarian handsaw, where the ever-so-slightly perceptible direction of the teeth may prevent the wrong action from succeeding only after we have actually tried it. It seems, therefore, that the decision to

94. Norman, *Everyday Things*, 125.

pose a physical constraint on physical interaction is designed to divorce the form from its utilitarian function, thereby rendering the handsaw unusable, and consequently rendering the user a viewer.

When we encounter the work within the context of the gallery setting, we are already preconditioned not to touch the work. In fact, the cultural constraint on touching works of art is so deep seated that in those cases in which we are expected to physically interact with a work of art, we require the presence of an explicit signifier stating "please *do* touch the art."[95] It could, therefore, be argued that given the context of reception, there is no need for Oldenburg to deform the handsaw or even to represent it: simply placing a normal-sized, off-the-shelf, unmodified handsaw in the white cube space—especially on a plinth or behind a vitrine—should be enough to divorce its form from its utilitarian function, thereby rendering it "unusable," and consequently rendering the user a viewer. Why then might Oldenburg have sought to impose an additional physical constraint on physically engaging with the work?

One way to try to explain this is to consider this open reception situation as another type of "novel situation." Imagine someone who wondered into a rarefied gallery space in 1971 and who was preconditioned to associate the form of a handsaw with the affordance of hand-sawing, yet not preconditioned to associate the space they were in with the prohibition of touch. In such a case, the deformation would seem indispensable for rendering the user a viewer.

If we were to further develop this scenario and imagine that the gallery goer does not register, or fails to correctly translate, the constraints into the prescription of non-physical interaction, and consequently attempts to put Oldenburg's *Saw* to practical use, the actual negative feedback that would transpire would finally tip them off. However, this

95. As, for example, in the case of Carl Andre's floor pieces, which are often accompanied by clear signage inviting visitors to step and walk on the works.

pushes the scenario to the realms of the ludicrous. Instead, it makes more sense to think of the very absence of any feedback as a deliberate signifier. That is, the only negative feedback that Oldenburg's *Saw* conceivably offers is the *lack* of positive feedback, and *vice versa* (as in the case of "poor" designs); yet since no technical feedback is required for its static operation, it seems more appropriate to say that the work offers "anti-feedback," which signifies its physically non-interactive nature.[96]

Another—perhaps more plausible—way to explain Oldenburg's decision to impose physical constraints despite the fact that the work is designed for the gallery setting where we are already preconditioned not to touch the work, is to consider what else the deformation of the handsaw does, and how it further guides our non-physical interaction with it. Perhaps the decision to deform the handsaw is designed to do more than prescribe non-physical interaction by way of physical constraints, but also to prescribe, by way of signifiers (or indeed signifying constraints), what exactly this non-physical interaction should consist of. That is, perhaps by emphasising the restrictive nature of the work, the deformation overtly undermines the object's perceived utility, thereby indicating that our role in executing the function of Oldenburg's handsaw specifically involves actively questioning its function as a work of art. Norman contends that "creative designers incorporate the signifying part of the design into a cohesive experience."[97] This is what

96. The meaning of "anti-feedback," which stands in opposition to "feedback" yet is distinct from the mere lack of feedback, can perhaps be further elucidated by the term *anti-affordances*, which stands in opposition to "affordances" yet is distinct from the mere lack of affordances. As Norman explains, "glass affords seeing through," but "the blockage of passage can be considered an anti-affordance—the prevention of interaction." This is the reason why glass is used for museum vitrines, so viewers can see the artefact on display but be prevented from physically interacting with it. In this sense, the blockage of passage is different from things that glass does not afford by default rather than by design, like knitting or mopping. Similarly for feedback, in the context of art analysis, the prefix "anti-" may denote the thoughtful absence rather than a negligent lack. Note that "anti-feedback" is not a term that Norman uses in his book, and is my own coinage based on, and hopefully in keeping with Norman's theory. For Norman's definition of "anti-affordances," see ibid., 11.

97. Norman, *Everyday Things*, 19.

Oldenburg's handsaw does insofar as it signifies our intellectual role by exaggerating the existing constraint on executing its utilitarian function.

Thus far, we have considered the decisions Oldenburg has taken in deforming the familiar handsaw, yet we ought also to consider those elements of the familiar handsaw that Oldenburg has decided to retain, for these too are design decisions that are also informative about his rationale in producing the work. Most evident is Oldenburg's decision to retain the general configuration of the toothed blade and handle, as well as the classic shape of the handle. Although the handsaw's original mapping of the handle to the hand's anatomy no longer signifies the operation in this overtly non-anthropometric handsaw, in retaining the general configuration, Oldenburg's *Saw* nevertheless embodies clear mapping that provides signification and supports the conceptual model. That is, the elements of Oldenburg's *Saw* carefully map onto those of the utilitarian one, thereby establishing a corresponding relationship between the two artefacts, and providing a legend, as it were, which helps us to read or decode the work. In other words, by visually denoting a recognizable referent, the mapping forms the legibility of the artistic representation; our attention is drawn to both the consistencies and the inconsistencies, which, when juxtaposed, foreground the artistic meaning or significance of the representation.

To illustrate how Oldenburg's mapping supports the work's conceptual model, recall how the graphic representations that form the "desktop" interface map onto real-life objects—folders, tabs, files—to establish a conceptual model. Although, as Norman points out, this simplified model does not provide a complete or even accurate explanation of the complex innerworkings of software, it is nevertheless useful in guiding our interaction with the computer and helping us to make sense of it. Similarly, the artistic representation that forms Oldenburg's *Saw* maps onto the utilitarian handsaw, and although this too does not provide a complete or even accurate explanation of the complex innerworkings of art, it is

nevertheless useful in guiding our interaction with the work. In both cases, in order to solicit our agency and effectively prescribe our role, the form of the design follows the function, or the "technology," of the utilitarian referent, although it has an utterly different mechanism of operation.

Since we are preconditioned to associate the general configuration of the ergonomic handle and toothed metal blade with the functional category of handsaws, it seems that by appealing to these preconditions, Oldenburg's design forms a deliberately false offer of reception that conflicts with our subsequent expectations. Oldenburg's *Saw* (which omits the "hand" from its title and leaves just the "saw," thereby alluding to the action of sawing) may conceivably be handled, yet it will not afford hand-sawing; the uncanny denotation of hand-sawing exists only to amplify the constraint on physical interaction, which in turn affords a *cognitive dissonance*.[98] The term "cognitive dissonance" refers to a person's psychological state when reality confronts them with a new notion or an idea that is inconsistent or that contradicts an existing—usually strongly held—one, consequently impelling them to re-evaluate their attitude or behaviour in order to reconcile the contradiction and alleviate the psychosocial stress or discomfort.[99] In the case of Oldenburg's *Saw*, the contradiction between the function of its utilitarian referent and our non-interactive role as agents in its execution, leads us to question its functionality and the decisions embodied in it. In relation to our inner and outer preconditions, therefore, Oldenburg's *Saw* does not afford the same function that its utilitarian counterpart does:

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98. Further testifying to Oldenburg's intention of activating the interacting agent through sight alone, is his later handsaw from 1996, tellingly titled *Saw, Sawing*, and located at the "Big Sight" International Exhibition Centre in Tokyo. Created in collaboration with his long-time collaborator Coosje van Bruggen, this architecturally-scaled handsaw, poses an even "greater" constraint on hand-sawing, as it were, and is typical of the duo's signature strategy of supersizing everyday objects to pose a signifying physical constraint that prescribes the viewer the role of interacting with the object only mentally. Replacing the constraint of the folded blade, is that of the sunken blade, and interestingly, the teeth of this handsaw are much more jagged, as if its sheer monumentality is enough to signify the restriction on its utility.

99. "Cognitive Dissonance," *Oxford Dictionaries, s.v.*, accessed March 18, 2021, https://www.oxfordlearnersdictionaries.com/definition/english/cognitive-dissonance.

rather, it appears to have been designed primarily to afford its contemplation.[100] Given our familiarity with the utilitarian handsaw, we have described Oldenburg's handsaw as "deformed"; however, given the efficiency with which it prescribes the (non)interacting agent their intellectual role, we could in fact describe it as "well-formed," in that it is designed to afford only its contemplation.

In short, as with the utilitarian handsaw, Oldenburg's handsaw contains clues to its function in the form of affordances, signifiers, constraints, feedback, mapping, and a conceptual model. With the utilitarian handsaw, these communicate to the addressee their role in hand-powering the saw, which discloses the mechanism of operation and, in turn, hints at its function. Accordingly, is it possible that with Oldenburg's *Saw*, our intellectual activity is that which "powers" its mechanism of operation? Is it possible that our cognitive dissonance, the ensuing questioning of the object's function, or—alternatively—the questioning of our own perception or cultural preconceptions, somehow fulfil the object's social function as a work of art?

Given the relatively abstract nature of art as a social construct, translating its apparatus and functions into functional terms is not such a straightforward process. Nevertheless, by evidencing the design rationale behind artistic production and reception, the application of design concepts to the analysis of a non-utilitarian object does seem to lay the foundation for such a process. By comparing both analyses, we can see that despite the varying functional nature of the objects, both result from a process of design, which involves making decisions in relation to the preconditions of the assumed—albeit

100. Of course, it could be argued that Oldenburg's *Saw*, like many works of art, was designed to afford other things, such as its exchange-value (e.g., when sold to a collector) or cultural capital (e.g., when displayed in one's home to indicate social status. See supra note 5 for Bourdieu's "objectified state" of cultural capital). Nevertheless, if we consider the actual properties of *Saw* and the design decisions embodied in it (particularly in relation to Oldenburg's oeuvre, in which representations of everyday objects are repeatedly scaled up to divorce their forms from their functions), then it is arguably the affordance of a cognitive dissonance that gives it its cultural identity, which may in turn afford these other economic or cultural functions.

unspecified—agent, and relative to the goal of fulfilling the function at hand. Put differently, it is clear that the products of both practices—sculpture and product design—are at some level instrumental and manifest a *relational* design process.

Disembodied Spectatorship: From a Physical to a Cultural Constraint

Oldenburg's strategy can be traced to the historical avant-garde, specifically to Dada and Surrealism. Consider iconic sculptures by earlier avant-garde artists, such as Marcel Duchamp's *Bicycle Wheel* (1913), Man Ray's *Gift* (1921), Salvador Dalí's *Lobster Telephone* (1936), or Meret Oppenheim's *Object* (1936) (fig. 6-9). Be it by mounting a bicycle wheel upside-down on a stool, gluing tacks to the sole of an iron, enveloping a tea set in fur, or laying a modelled lobster over the receiver of a telephone, the artists retrofit an extraneous element, or combine two familiar yet disparate objects that mutually disable each other's utility, in order to render the useable unusable and consequently render the user a viewer. While these works employ early avant-garde devices such as the "readymade" and "assemblage," Oldenburg's work builds on a long-standing tradition of prescribing intellectual engagement by posing physical constraints on using everyday objects as one normally would.

Appropriating the everyday objects themselves rather than representing them through artistic means as Oldenburg does, speaks perhaps to the historical avant-gardists' acute aversion or resistance to the supremacy of aesthetic verisimilitude that reigned before them, and their desire to break with that tradition as radically as possible.[101] Displaying the objects themselves rather than labouring over a "technical" procedure that results in their artistic representations, seems to be the polar opposite, and accordingly most suitable for

101. That is not to say that Oldenburg's Pop representation does not break with the old tradition of aesthetic verisimilitude. On the contrary, Oldenburg chooses to represent everyday objects through artistic means rather than appropriate them precisely in order to criticise the tradition of aesthetic verisimilitude and its inadequacy in representing the latent and more culturally significant aspects of everyday objects.

an art that aims to operate—as Duchamp puts it—"in the service of the mind" rather than in the service of "retinal" pleasure.[102] Nevertheless, both Oldenburg with his Pop representation of a handsaw and the early avant-gardists with their assemblages, or "assisted readymades" as Duchamp suggested, deploy the design logic behind Norman's concepts of interaction design to author a similar experience for the viewer: "I know what this is, I know what that is…" and then the surreal twist poses a physical constraint that brings about a cognitive dissonance, and in turn leads to a state of questioning or contemplation.[103] All these works feature a follow-able logic that at a certain point goes astray and consequently brings the viewer to the proverbial cliff edge: it makes sense . . . it makes sense . . . and then it stops making sense and triggers acts of ideation that possibly complete the works. Perhaps it is the simplicity of the manoeuvre—this timeless negation strategy so strongly associated with the historical avant-gardes—that makes these works so iconic and exemplary of modern art.

In revealing how essential intellectual engagement is to our role as (non)interacting agents, and therefore to the successful operation of modern art, Oldenburg's *Saw* and the works of assemblage discussed above, raise questions about the actual function of the

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102. Duchamp as quoted in H. H. Arnason and Marla F. Prather, *History of Modern Art: Painting, Sculpture, Architecture, Photography* (Fourth Edition) (New York: Harry N. Abrams, Inc., 1998), 274.

103. Duchamp as quoted in William C. Seitz, *The Art of Assemblage*, (New York: Museum of Modern Art, 1961), 46. Consider the following ways in which the assemblages embody Norman's concepts beyond physical constraints: since the original conceptual models of the familiar objects form the basis for the false offers of reception, which guide the correct non-physical interaction with the assemblages, they can be said to serve their system images (see supra note 67). With an appropriate system image readily available by virtue of the appropriation, a subtly evocative physical constraint is enough to evoke a strong mental negative feedback that signifies a wrong action. That is, enacting the imported conceptual—or mental—model in our mind's eye (imagining riding a stationary vehicle, ironing with a spiked iron, placing a snappy lobster next to our ear, or sipping from a furry cup), elicits a negative visceral reaction that prevents the wrong action (cycling, ironing, phoning, sipping) from succeeding before we have even dared to try it. Perhaps then the conceptual models of the assemblages can be understood as taking you from point A to point B in your mind, ironing out kinks in your psyche, connecting you to yourself (or to someone right next to you rather than someone far away), and suggesting alternative cultural rituals —all discursive rather than utilitarian functions. In each of these cases, the mapping supports the modified conceptual model: be it the reverse mapping of the wheel and seat, the tacks that are mapped onto the flat surface of the iron, the elongated bulky lobster that is mapped onto the elongated bulky receiver, or the fur mapped onto the tea set in a way that preserves both its recognisable form and its expected spatial arrangement (a cup and teaspoon on a saucer).

prohibition of touch within the white cube space.[104] Customarily, we are discouraged—and indeed prohibited—from touching museum or gallery exhibits. For fragile historical artefacts, the reason seems self-evident; however, given the often durable nature of modern works of art, and given the typically mass-produced nature of the readymade, which lends itself well to reproduction or replication, the blanket prohibition invites critical enquiry.[105] Moreover, given the rapidly and ever changing function of art, we would be remiss not to consider whether the underlying reason for the continued enforcement of this prohibition from at least the mid-nineteenth century, transcends the wish to preserve the physical integrity of works of art and/or inspire a cultural reverence (religious or otherwise). That is, the fact that the prohibition is enforced within the modern white cube space, irrespective of the actual fragility of the art objects, suggests that it serves some other function that warrants its continued enforcement, and that the fragility argument is potentially a specious one.

Expanding on the nature of extrinsic conditions of access/appearance, which as noted earlier "are mostly safeguarded by institutions and that, in themselves, require certain patterns of behaviour on the part of the recipient," Kemp notes:

> All these mechanisms of transmission and mediation are part of firmly established conventions or result from practical necessities and cannot, or only rarely, be understood as a particular achievement of either a work of art or an artist.[106]

On such an account, the prescription of aesthetic and intellectual engagement, achieved by the historical avant-gardists and their assemblages through physical constraints, can in the case of Oldenburg's *Saw* be understood as a sociocultural convention that results from

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104. By the "actual" function of the prohibition of touch, I referring to what according to Parsons and Carlson's criteria will qualify as the "proper" function—the thing that the prohibition does that has sustained it to this day or has allowed it to remain in force (see supra note 23).

105. It seems reasonable to suppose that archaeological artefacts are protected by the prohibition of touch due to their fragility, it is important to note that this too has been the subject of critical enquiry. I will discuss this in more detail later in the dissertation.

106. Kemp, *The Work of Art*, 185-186.

functional considerations. Is it possible, therefore, that in order to more efficiently prescribe the correct behaviour of engaging with works of art only aesthetically and intellectually, the institutions of modern art have turned the object-specific physical constraints of the avant-garde assemblages into a blanket *cultural* constraint on touch that pertains to all works within the context of the white cube space?

Compared to physical constraints on touch, which require material and creative resources on the part of artists, as well as a ritualistic resignation on the part of the (non-)interacting agents, a blanket cultural constraint on touch creates a shortcut that proscribes physical interaction effortlessly and without delay. The cultural constraint on touching works of art leaves only the one possibility of viewing them available, thereby quickly and automatically prescribing our role as (non-)interacting agents, and presumably streamlining modern art's multiplex sociocultural mechanism of operation.[107] Consequently, the rather abstract apparatus that is the individual work of modern art, potentially meets its functional end more efficiently.

Moreover, by supplementing or entirely removing the need for a physical constraint, an institutional proscription of physical interaction presumably frees artists to focus on other aspects of their work. Audiences in the early twentieth century were not yet accustomed to encountering everyday things within the gallery setting, and so it stands to reason that the historical avant-gardists focused their artistic efforts on devising the strategy of proscribing physical interaction by means of physical constraints. Conversely, and owing in part to the precursory work of the historical avant-gardists, audiences in the nineteen-seventies were already preconditioned to relate the prohibition of touch to *anything* encountered within the gallery setting, thereby freeing Oldenburg (and perhaps neo

107. Our role vis-à-vis the actual work of art may be non-interactive, yet this leads us—as Bourriaud would argue—to interact with each other, and perhaps it is in or through this subject-subject discursivity that the work of art fulfils its social function.

avant-gardists in general) to divert artistic efforts back to transforming materials and forms, and refining the intellectual prescription. Although it is the simplicity of the manoeuvre that makes the "one-liner" assemblages so sophisticated and culturally meaningful (to the point where they represent a paradigm shift), the historical avant-gardists nevertheless do something very simple, whereas Oldenburg seems to have more leeway in artistic representation. Once the cultural constraint on touch becomes a baseline extrinsic condition of access/appearance, artists no longer need to appeal to our various inner preconditions in order to pose a physical constraint that prescribes an intellectual role. Instead, since we have become (pre)conditioned not to touch works of art as a default position for aesthetic reception, artists can simply rely on this one universal inner precondition.

While a cultural constraint on touch may afford artists a more advanced starting point and more leeway, may it not also prove limiting or counter-productive? It is in the nature of systemic regulations and universal prerequisites to result in a certain standardisation; therefore, an institutional proscription of touch can potentially result in a standardisation of the art itself, which has to satisfy a set of pre-established extrinsic conditions of access/appearance. That is, if artists design their works of art for a particular "architectural surround and the corresponding ritual behaviour," these may become constraints on the designs themselves.[108] In the most elementary sense, consider how a white wall and a plinth, or the distanced position of the viewer behind a barrier rope, influence the actual appearance of the work and may therefore affect the aesthetic decisions of an artist in terms of the colour palate, composition, and scale. In becoming something that artists work *with* rather than work to achieve, a proscription of touch—required for the work's "correct" aesthetic reception—can potentially diminish rather than

108. See supra note 73.

enhance the sophistication of the design. How then does the institutional proscription of touch and subsequent standardisation affect the aesthetic autonomy of the work of art or the originality and creativity invested in it?

Capri Battery: An Analysis

To further consider how the institutional proscription of touch, and extrinsic conditions of access/appearance more generally, affect artistic production and reception, I want to examine another iconic work of assemblage—a versatile technique by definition whose evolving legacy reflects the artists' adaptation to changing conceptions of art-making. *Capri Battery* by the Fluxus artist Joseph Beuys (1985), consists of a yellow lightbulb plugged into a lemon using a black socket adapter, and accompanied by the tongue-in-cheek inscription: "change battery every 1,000 hours" (fig. 10).

Once more, we see an artist appropriating found objects (which import existing—or readymade—conceptual models) and then carefully reconfiguring or retrofitting them to stage a problem for the (non-)interacting agent. However, in creating and gifting 200 copies of the work, or "multiple" to be precise, which comes encased in a wooden box, pre-assembled and complete with a "manual" that details—or signifies—an executional instruction, it seems as if unlike Oldenburg and the historical avant-gardists, Beuys intends to go beyond the mere staging of a problem.[109] That is, it seems as if in taking the work of art and its reception outside of the gallery setting, and presenting it to the recipient in a pre-assembled form, Beuys intends to prescribe *physical* interaction, which goes beyond the mere mental enactment of the conceptual model and means that the recipient is in fact an interacting-agent rather than a "passive" viewer beholding the staged object. Yet, what is

109. The inscription appears on both the wooden case and a paper insert included with each copy of *Capri Battery*. Beuys's "manual" can be thought of in terms of what Norman calls the system image, which helps to form an appropriate conceptual model for the design (see supra note 67).

this intended to achieve? Why would Beuys decide to make multiple copies of the work or to activate its recipients in an act of assemblage? Perhaps a closer examination of the design decisions embodied in the work can illuminate Beuys's intentions.

We can imagine that upon receiving and unboxing *Capri Battery*, the agent's initial response (perhaps second to surprise) was amusement at the sight of the contents, particularly the twin yellow "bulbs," which at first sight may appear as a non-sequitur. Yet, surely amusement is not the ultimate response Beuys aimed to elicit through the work. What is the rationale behind Beuys's choice of a yellow—as opposed to a red or green—lightbulb, and what is the full impact that he aimed to achieve through this seemingly nonsensical choice? Presumably, this is a colour-coded message, or rather a form of mapping—a way of signifying the agent's role and supporting the conceptual model. As the title and inscription suggest, the work is to act as, or represent, a battery; and in including the standard lightbulb and socket adapter but swapping the socket for a lemon, Beuys's mapping supports the conceptual model of a "lemon battery," which we can all vaguely recall from the third-grade science experiment in which the conductivity of lemon juice is used to power a lightbulb.

Nevertheless, we can imagine that although the agent has the inner precondition of familiarity with the conceptual model of a lemon battery, they may still be apprehensive about acting upon it. Despite the fact that the aesthetic reception of *Capri Battery* takes place outside of the gallery setting, where the cultural constraint on touch is not enforced, the prohibition of touching works of art is so deep-seated that the agent may still approach the handling of the work with a certain degree of apprehension. Moreover, although the agent will not be in breach of the cultural, site-specific constraint on touch, they will still be in blatant breach of the physical constraint on plugging a two-pronged plug into a lemon rather than into its corresponding socket. Perhaps it is for these reasons then that Beuys decides to include a yellow incandescent lightbulb. The mapping between the colour and

shape of the lemon and the colour and shape of the lightbulb is Beuys's way of "winking" at the agent: reassuring them of the intentionality behind the seemingly ill-assorted assemblage of found objects, and eliminating any doubt that they may have as to acting upon the imported conceptual model of a lemon battery and performing a physically interactive role. That is, the two yellow "bulbs," which correspond in shape, size and colour, replace the standard mapping between the two-pronged plug and its corresponding socket, thus serving to unequivocally signify the correct action.[110]

Capri Battery is not actually engineered to function as a lemon battery, although Beuys could have conceivably tweaked the design to that effect. As a result, we can imagine the agent feeling bemused rather than amused when they follow Beuys's prescription to no avail—i.e., to a lack of positive feedback when the lightbulb emits no light. Why would Beuys not go through the trouble of tweaking *Capri Battery* so it would work? Or perhaps we should ask: what is the function of a dysfunctional lemon battery? If we consider the fact that the lightbulb emits no light when plugged into the lemon to be Beuys's intended effect, then accordingly, as with Oldenburg's *Saw*, rather than considering the lack of positive feedback as negative feedback, we may consider it as anti-feedback, which prescribes to the interactive agent their ultimately *intellectual* role. In this case, perhaps the point of a dysfunctional lemon battery—like the point of a dysfunctional handsaw—is to

110. To further elucidate the effect of this mapping, it is worth considering Haim Steinbach's famous series of assemblages consisting of mass-produced objects arranged side by side on colourfully laminated wedge-shaped custom shelves, or what Steinbach refers to as "framing devices." For example, consider *Tongkong Rubbermaid II-1* (2007), which consists of two identical yellow trucks (by the brand Tonka), a wheeled yellow mop bucket (by the brand Rubbermaid), and a dog's black chew toy (by the brand Kong), arranged on a framing device whose segments correspond to their colours, proportions, and positions (fig. 11). Unlike the historical avant-gardists, Steinbach leaves the readymade objects unmodified (i.e., without a physical constraint), and this perhaps explains why he presents them on a plinth-like framing device, which—acting as what Kemp calls a "context maker"—signifies the context of aesthetic (visual) reception. Yet, the unmistakably deliberate correspondence creates mapping that further confirms the intentionality behind the seemingly random arrangement of objects. In this way, the framing device supports the conceptual—or mental—model of a retail setting, wherein objects are arranged on a shelf, and triggers specific acts of ideation around the relationship between the objects on display, consequently linking them together and filling in the blanks—"the unseen joints of the text." Using this dual-mapping (between a plinth and a retail shelf, and between the shelf and the mass-produced objects) to incorporate the context marker into the work is also a way to "incorporate the signifying part of the design into a cohesive experience"—as Norman puts it.

form a false offer of reception: to elicit a cognitive dissonance, which triggers acts of ideation. Just imagine how the proverbial lightbulb that lights up above the agent's head fills in the "blank," so that in Kemp's words, they are "taking part in the construction of the work of art."

With intellectual activity "powering" *Capri Battery*, we may now wonder, as we did when analysing Oldenburg's *Saw*, whether and how the cognitive dissonance, and the ensuing questioning of one's perception or cultural preconceptions, fulfils its social function as a work of art? Given that this assemblage is designed for self-assembly, it is only at a later point of the interaction that the recipient—or user—is rendered a viewer and consequently experiences a cognitive dissonance. In taking the reception of the work out of the gallery setting and removing the cultural constraint on physical interaction, Beuys creates a timed delay on the cognitive dissonance—a slower burn, so to speak. Perhaps, in turn, this triggers more profound acts of ideation or leads to deeper contemplation that fulfils the social function of the work.

Consider the accepted environmental reading of *Capri Battery*, according to which the work is meant to convey the ever more timely message calling for a reconsideration of fossil fuels as a source of energy.[111] This reading is informed by the knowledge that Beuys was a radical ecologist who championed the changing of individual attitudes through artistic production rather than through economic and political reform (a fact that perhaps also explains why this work, like many others in his oeuvre, was designed to be a multiple—i.e., to reach multiple agents, individually).[112] Designed by Beuys on the Mediterranean island of Capri, where the strong sun provides favourable conditions for the

111. "Joseph Beuys: Capri Battery," National Galleries Scotland, accessed 6 February, 2021, https://www.nationalgalleries.org/art-and-artists/68843/capri-battery, and "Capri Battery," Pinakothek der Moderne in Munich, accessed 6 February, 2021, http://pinakothek-beuys-multiples.de/en/product/capri-battery/.

112. David Adams, "Joseph Beuys: Pioneer of a Radical Ecology," *Art Journal* 51, no. 2 (Summer, 1992): 26-34.

cultivation of lemons, the choice of the two round, bright-yellow "bulbs" can be understood as another layer of mapping that validates this reading by alluding specifically to solar power as a an alternative, more sustainable source of energy. Namely, it does this by supporting the conceptual model of the sun as a renewable source of energy: the lemon represents the energy of the sun in its stored form, the lightbulb represents the energy of the sun as a source of light, and together they represent the circularity of the sun's physical mechanism of operation. Indeed, the logic behind this conceptual model of the sun as a battery is implicit in the above conceptual model of the lemon battery, which itself further supports the environmental reading.

On this account then, the choice of a lemon and a yellow incandescent lightbulb—as opposed to a lime and a red fluorescent lightbulb—creates multi-layered mapping that both prescribes physical interaction by supporting the conceptual model of a lemon battery, and triggers a specific and contemplative act of ideation (i.e., the environmental reading) by supporting the corollary conceptual model of the sun as a battery. If the environmental reading is *Capri Battery*'s ultimate offer of reception, and we consider the work of art to be instrumental (at least in the sense that it can be used as a vehicle for social change), then we could say that an agent who is driven to action by the work takes part not only in its construction but also in the literal execution of its function.

Capri Battery demonstrates that although the cultural constraint on touching works of art may constrain certain aspects of the design, it does not necessarily diminish its sophistication or the impact of the aesthetic experience that it affords. In provoking a belated cognitive dissonance, it seems as if the cultural constraint enhances the sophistication of the design and ultimately helps it afford a particularly pointed social commentary and even a call to action. Nevertheless, *Capri Battery* also demonstrates that the cultural constraint does not necessarily simplify the processes of artistic production and

reception, which suggests we may wish to rethink the need for a prohibition of touch in aesthetic reception.

Re-embodied Spectatorship: Towards an Interactive Theory of Reception Aesthetics

Consider how when encountered within the gallery space, for example in a 2018 exhibition in Beuys's home country Germany, *Capri Battery* is displayed on a plinth and inside a glass case, which although it affords viewing, constrains physical interaction (fig. 12).[113] It seems that the function of these context markers is primarily signification: since the work was designed for reception outside of the gallery setting and designed to invite rather than constrain physical interaction, its exhibition has prompted the institutional decision to display it on a plinth and behind glass, to signify to the general audience that despite this invitation the work is nevertheless a piece of art.

One of the things that distinguishes objects that stand in the modernist tradition of the autonomous work of art from everyday objects is that they are meant to afford an aesthetic and intellectual experience; however, *Capri Battery* is successfully designed to afford an aesthetic and intellectual experience without proscribing physical interaction. For this reason, and given the fact that the work is a multiple and consists of off-the-shelf items (meaning that numerous other copies of it are still in circulation, and—more significantly—that it is easily replicable), the institutional display decisions call into question again the blanket prohibition of touch.[114]

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113. It should be noted that this is not an isolated event but rather a common practice across numerous galleries presenting *Capri Battery*.

114. Due to the inevitable decay of organic matter, most exhibiting institution s periodically replenish the exhibit with fresh lemons, and it has been reported that some exhibiting institutions have permanently replaced the perishable lemon with an artificial one made of plastic. See: Pamela Z. McClusky, " 'Why is this Here?' Art Museum Texts as Ethical Guides," in *The Routledge Companion to Museum Ethics: Redefining Ethics for the Twenty-First Century Museum*, ed. Janet Marstine (Oxford: Routledge, 2011), 304-305, and "From Fruit to Frozen Blood — 7 Issues in the Conservation of Contemporary Art," Christie's, published May 25, 2015,

A physical constraint on touch has proved an effective strategy for the historical avant-gardists, and a cultural constraint on touch has proved advantageous for the neo-avant-gardist (at least in the cases of Oldenburg and Beuys). Be that as it may, the insistence on precluding physical interaction with *Capri Battery*, which was designed by Beuys to be touched and handled, suggest that considering the blanket prohibition of touch as a cultural constraint designed to prescribe aesthetic and intellectual engagement begs a more fundamental question: why has aesthetic and intellectual experience been limited to sensory input from the privileged sense of sight?

To answer this question, I want to make recourse to "The Museum as Sensescape: Western Sensibilities and Indigenous Artifacts," an article by the cultural historian Constance Classen and the anthropologist David Howes.[115] Tracing the vicissitudes of multisensory reception in modern museum practices, and particularly the marginalisation of the sense of touch, the authors put forward an historical account that examines the role of the Western sensory hierarchy in the cultural construction of the disembodied spectator.

Prior to the mid-nineteenth century, they note, it was customary for visitors to handle museum exhibits, including shaking and smelling them.[116] This is not to say that museums were not concerned with the consequences of such handling for the exhibits, yet as Classen and Howes explain, they were reluctant to prohibit it "due to the notion that touch provided an essential—and expected—means of acquiring knowledge" as well as a "necessary supplement to sight, which sense was understood to be limited to surface appearances."[117] This is not the case in the modern museum, or what Classen and Howes

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https://www.christies.com/features/From-fruit-to-frozen-blood-7-tricky-issues-in-the-conservation-of-Contemporary-Art-6123-1.aspx.

115. Constance Classen and David Howes, "The Museum as Sensescape: Western Sensibilities and Indigenous Artifacts," in *Sensible Objects: Colonialism, Museums and Material Culture*, ed. Elizabeth Edwards et al. (Oxford: Berg, 2006), 199-222.

116.Ibid., 201.

117. Ibid., 201-202.

label "the museum of sight," where touch is "no longer generally believed to furnish important aesthetic or intellectual insights," and it is only curators, conservators and professional art handlers who are permitted to touch the exhibits.[118]

According to Classen and Howes, the reasons for this change in approach are manifold, albeit interconnected. During the nineteenth century, the popularity of museums grew considerably, with a corresponding increase in the concern for the physical integrity of the exhibits, which were being handled by a larger number of visitors. Pointing out that "the preservation of collections for posterity was emphasized as a *raison d'être* of the modern museum," Classen and Howes explain that museums had to reassess the need for a prohibition of touch.[119] However, as they go on to remark, this prohibition "was also believed to have the benefit of fostering an attitude of respect toward collections and their collectors."[120] This remark calls up the surreptitious disciplinary and authoritative aspects of the rationale behind the prohibition of touching museum collections, which largely consist of indigenous artefacts displaced from their countries of origin under colonial rule.

In concomitance with the growing popularity of museums, the nineteenth century also witnessed the increasing Western association of sight with intellect and scientific reasoning, an association that goes back to ancient Greek philosophy.[121] Accordingly, as

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118. Ibid., 207-208.

119. Ibid., 208. The authors' wording here seems to allude to the idea that the Western paradigm of preservation (of arresting the material state of an artefact) gives museums and other institutions with a colonial legacy the legitimacy to hold on to culturally valuable artefacts, which would otherwise be deemed repatriable. This raises the question of whether preservation takes precedence over allowing first nations to engage and interact with their own artefacts in ways that are appropriate to *their* culture, values, and priorities, and which may include physical interaction and material degradation. In the final article of the same volume, Sven Ouzman comes a bit closer to unpacking this question by considering "The Beauty of Letting Go."

120. Classen and Howes, "Museum as Sensescape," 208.

121. For Aristotle, following Plato, sight is considered the most noble of the senses. This because the distance that is introduced between the perceiver and the object that is being perceived enables the production of objective, rational knowledge. In contrast, the proximity of smell, taste and touch, which are liable to overindulgence, distort perception and produce subjective knowledge. See: Carolyn Korsmeyer, "Taste: Modern and Recent History," *Encyclopedia of Aesthetics*, ed. Michael Kelly (Oxford: OUP, 2008 [1998]), accessed July 24, 2021, https://ezproxy-

Classen and Howes put it, "the 'lower' senses, smell, taste and touch were increasingly associated with the body, and with those peoples [non-Westerners] imagined to live a life of the body, rather than a life of the mind."[122] As the Western association of sight with the mind grew stronger, sight had come to be considered the only appropriate sense for rational people to consult in a bid to understand and aesthetically appreciate museum exhibits. Consequently, "strict bodily discipline was required from museum visitors who were expected to become as close to pure spectators as possible: not to touch, not to eat, not to speak loudly, or in any way to assert an intrusive multisensorial presence."[123] By the mid-nineteenth century, touching exhibits was widely regarded as both materially damaging and "a sign of vulgarity and insubordination—of a lack of civilized behaviour."[124]

In short, Classen and Howes's historical account tells us that for reasons that implicate a host of supremacist and colonialist ideologies, the distal sense of sight became associated with reason and rationality while the proximal sense of touch became associated with bodily pleasures, irrationality and unreliable sensory input. Consequently, during the nineteenth century, the sense of touch (along with those of smell, taste and even hearing)

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prd.bodleian.ox.ac.uk:2460/view/10.1093/acref/9780195113075.001.0001/acref-9780195113075-e-0500.

122. Classen and Howes, "Museum as Sensescape," 206. As the authors expand therein: "Europeans perceived themselves to be the rational, civilized, elite among the peoples of the world. As reason and sensuality were traditionally opposed in Western thought, non-Westerners were, by contrast, imagined to be irrational and sensuous. . . . Early accounts of indigenous peoples are full of references to their reliance on the proximity senses of smell, taste, and touch. The inhabitants of India are said to have a remarkable tactile acuity, African peoples are described as being ruled by their stomachs, Native Americans are stated to have extraordinary powers of smell." It should also be noted that, as the editors of the volume put it following Paul Stoller: "the impact of the disembodied rationalism of Western discourse constitutes a masculine theory of knowledge in opposition to a more embodied and multisensory "female" approach to the world." See: Elizabeth Edwards et al., "Introduction," in *Sensible Objects*, 7.

123. Classen and Howes, "Museum as Sensescape," 207-208. Also, as the editors point out following separate texts by Carol Duncan and Brandon Taylor, the range of everyday behaviours deemed inappropriate within the modern gallery space, which include such things as touching, speaking loudly, eating, running and even changing baby nappies, can be understood as security requirements, but also as "forms of ritual avoidance that constitute the museum as a liminal and transformative space," and which have a wider social function, which can be understood as a disciplinary one. See: Elizabeth Edwards et al., "Introduction," 19.

124. Classen and Howes, "Museum as Sensescape," 207.

has been relegated to an inferior role in the production of aesthetic experiences and the process of aesthetic meaning-making within the modern exhibition space. Limiting the reception of fragile historical artefacts to visual perception stems in part from conservational concerns, yet the wholesale adoption and enforcement of this policy across all modern museums and all parts of the collections (which include the less fragile and more replicable works of modern art), suggests that the reasons it is still enforced are not only anachronistic and amoral, but do not serve the intended social function(s) of modern art and its objects. With a more comprehensive explanation of how and why visual perception has come to be the norm for aesthetic reception, we must ask: is this norm still relevant for art today?

Clark's *Critter*: An Analysis

Up to this point, we have considered the ways in which modern sculptures, which stand in the tradition of the autonomous work of art, solicit the aesthetic and intellectual agency of viewers predominantly through visual perception. Perhaps this is no surprise considering our inherited Eurocentric notions of aesthetic reception, and the concomitant fact that Kemp's theory focuses on visual perception. However, for Classen and Howes, "every artefact embodies a particular sensory mix" and therefore artefacts "must be approached through the senses, rather than as 'texts' to be read or mere visual 'signs' to be decoded."[125] And although the majority of works or art produced today for the gallery setting are still designed for visual perception, modern and contemporary sculptures engage their so-called "viewers" in increasingly interactive and corporeal ways that seem to solicit aesthetic and intellectual agency through multisensory perception. This warrants a further reconsideration of the outdated hierarchy of the senses in aesthetic reception, and

125. Ibid., 200.

correspondingly, a contemporary theory of reception aesthetics that takes into account multisensory modes of reception/perception.

To explore further how a theory of design, conceptualised by Norman's principles of interaction, is germane to the "autonomous" work of art, we must ask how a functional consideration of *interactive* sculptures may shed fresh light on their processes of production and reception. A functional consideration of sculptures that have a radically different relation to the body and the human sensorium, may foreground the particular sensory mixes (and perhaps alternative strategies and devices) that artists conceive to extend an offer of reception that intelligibly prescribes to its addressee their intellectual or otherwise non-technical role in the aesthetic construction or completion of the work. After all, utilising our entire sensorial range is a natural way of acquiring knowledge about the objects of direct experience and making meaning—or "making sense"—of them.

Consider, for example, the participatory practice of Lygia Clark, associated with the Neo-Concretist movement of the second half of the twentieth century. According to curator Christine Macel, Clark has "redefined the work of art, and the experience and perception of a work of art," consequently spearheading "an aesthetic revolution that dissolves the very idea of artwork, artist, and viewer."[126] For Clark, the distinctions between subject and object, and artist and audience, are artificial; and this view is evident in both her sculptural work, which grew increasingly participatory over her career, and in her terminology, with which she referred to her audience as "participants" or "spectators-authors," and later to her works as "propositions."[127]

126. Christine Macel, "Part 1: Lygia Clark: At the Border of Art," *post*, MoMA's online resource, published June 20, 2017, https://post.moma.org/part-1-lygia-clark-at-the-border-of-art/.

127. In relation to her 1964 proposition *Trailings*, but arguably true in relation to her practice more generally, Clark writes: "No more separation between subject and object. It's an embrace, a fusion." It is also in the same text that Clark uses all three terms. See: Lygia Clark and Yve-Alain Bois, "Nostalgia for the Body," *October* 69 (Summer 1994): 85-109.

I shall focus on Clark's *Critters* (also known as *Beasts* or *Bichos*), perhaps her best known series of works, created between 1960 and 1964. These foldable objects, capable of seemingly boundless permutations, have been described by art theorists Yve-Alain Bois and Rosalind Krauss as "geometrical 'sculptures' made of sheets of aluminium hinged together so that the 'viewer' is forced into an unpredictable wrestling match once he or she handles them."[128] Note that in the source formatting, Bois and Krauss enclose the words "sculptures" and "viewer" in double quotation marks. In so doing, they not only allude to Clark's own terminology with which she described her practice; they also affirm her view that traditional and hegemonic conceptions of artistic production and reception are artificial and hence restrictive of aesthetic experiences. The viewer, now a participant "wrestling" with the small dynamic sculptures, almost as in a game of Rubik's Cube, performs a physically active role in completing them.

A closer comparison of a particular *Critter* (namely, *Bicho Linear*), to a Rubik's Cube may help to elucidate the *Critters*' mechanism of operation, and the ways in which they invite and guide the participant's physical interaction (fig. 13). The classic Rubik's Cube, a three-dimensional combination puzzle designed by architect and sculptor Ernő Rubik in 1979, can likewise be arranged in seemingly endless permutations, and is solved when each of its six faces consists of a single solid colour (fig. 14).

Each "cubelet" of the Rubik's Cube is individually attached to an internal pivot in slight distance from its neighbouring cubelets to afford their rotation. The resulting gaps between the cubelets make this affordance perceivable, thereby signifying the possible action of manipulating the Cube through rotary motions. This is comparable to how the hinges of a *Critter* both afford folding its constituent sheets, and signify the possible action

128. Yve-Alain Bois and Rosalind Krauss, *Formless: A User's Guide* (New York: Zone Books, 1997), 158.

of manipulating the work through folding motions. Since Clark could have designed a foldable sculpture with concealed hinges, the fact of their perceivability—or indeed their accentuation—suggests that this signification is deliberate. This conjecture is also supported by the fact that Clark could have simply used readymade hinges and fixed them onto the aluminium sheets, but instead decided to forge the edges of the sheets into integral hinges, and thus—as Norman puts it—"incorporate the signifying part of the design into a cohesive experience."

However, whereas the Rubik's Cube is a game played in the context of everyday life, the *Critter* is a work of art designed to be encountered within the gallery space, where the prohibition of touch is customarily in force. Accordingly, in order to solicit the audience's physical agency, it seems plausible that Clark felt the need to supplement the hinges with another signifier of physical interaction that would reassure the audience that they are indeed allowed—and even encouraged—to handle the work. It is likely that for this reason Clark chose to use aluminium, which is highly susceptible to finger marks when compared with wood, plastic, or many other types of metal. The finger marks left behind by previous participants act as signifiers, thereby helping to extend an offer of physical reception. The more fingerprints *Critter* registers, the better it prescribes to the audience their physical role in its completion. This is similar to how the faded buttons of the keypad lock, the curved scuffs of the hinged door, or the trail gradually formed in the woods, signify the best course of action.

Furthermore, while the hinged structure of a *Critter* affords folding, it simultaneously constrains other possible manipulations. That is, by affording and signifying folding, the hinges not only prescribe the correct action of folding, but they also disable and *proscribe* the incorrect action of—for example—spinning or stacking the sheets. Just as the user of a Rubik's Cube cannot change the position of a single cubelet, but rather must rotate an entire "slice" of cubelets, folding one *Critter* sheet entails a change in the position

of other sheets. Similarly, just as each rotation of the Cube constrains subsequent rotations, so that achieving six solid-colour faces requires rotating the slices in a certain order, each folding of the *Critter* constrains subsequent folds, so that achieving a certain composition of the work requires folding the sheets in a certain order.

However, this may be where the similarity between the two objects ends; and indeed, contrasting the feedback that results from these above manipulations highlights the essential difference between the two objects. In the Rubik's Cube, the changing appearance of colours provides visual feedback as to the status of progress towards the solution: the greater the concentration of colours is on its six faces, the closer the Cube is to its final intended arrangement. This stands in stark contrast to *Critter*, where its changing appearance does not provide any clue as to the status of progress towards a final intended arrangement. This is not to say that the work provides no feedback, or that there is no correct and incorrect way to interact with it (as we have seen); rather, there is no wrong way in which to *fold* the work. *Critter* provides haptic and auditory feedback to this effect: when the participant folds its sheets, it moves smoothly and quietly, emitting only soft tinny sounds, thereby providing positive feedback; yet, if the participant were to attempt spinning or stacking its sheets, it would put up some mechanical resistance and/or emit screeching or grating sounds, thereby providing negative feedback. Significantly, the fact that *Critter* provides no *negative* feedback when folded, triggers acts of aesthetic ideation that determine the final form of the work, thereby completing it. Faced with the realisation that there is no incorrect way in which to fold the work, the participant experiences a cognitive dissonance that leads them to seek to choose their preferred arrangement—or aesthetic composition. If so, like the Rubik's Cube, *Critter* is designed to guide the participant's physical interaction in a specific way; yet, unlike the Rubik's Cube, *Critter* is at the same time designed to guide the participant in shaping it the way *they* see fit. In other words, whereas the puzzle of the Rubik's Cube can eventually be solved by arriving at its

predetermined solution or final form, the *Critter* will forever remain a "formal puzzle" whose inherent indeterminacy of form is designed to lead participants to their own subjective "solutions" that complete it. In Clark's own words, "the responses, diverse as they are, will be born of your choices."[129]

The comparison with the Rubik's Cube throws the design rationale behind *Critter* into sharp relief, and it helps to explain how *Critter* works and how the participant interacts with it. However, this is not to suggest that *Critter* takes the Rubik's Cube as its conceptual model (not least because the design of the former predates that of the latter). Despite the intricacy and abstract nature of its design, *Critter*'s artistic premise and technical mechanism are simple enough that it does not require any reference to an existing design. As Norman notes above in relation to hand tools, it makes its "critical parts sufficiently visible" that its conceptual model is rather self-explanatory and straightforward.[130] If anything, *Critter*—as its title suggests—takes its inspiration from the dynamic and naturally occurring form of a living organism, that is to say, from the product of an evolutionary process rather than a design process. Perhaps an alternative way to conceive of a conceptual model in relation to *Critter*—a phenomenological investigation of sorts—is to think of *Critter* itself as providing a conceptual model for modern works of art more generally. Despite, or rather in virtue of its interactive nature, as a three-dimensional puzzle *Critter* provides a highly simplified explanation—and therefore a deeper understanding of—how the "formal puzzles" presented by modern works of art actually operate. That is, in inviting and guiding an open-ended process of subjective meaning-making or aesthetic construction through a deliberate (i.e., designed) indeterminacy of form, *Critter* illustrates the process of aesthetic

129. Clark and Bois, "Nostalgia," 99. Again, Clark writes this in relation to her 1964 proposition *Trailings*, yet arguably, her words are equally true in relation to *Critters*.

130. See supra note 64.

reception and provides a heuristic explanation of modern art's underlying mechanism of operation.

Through the various design decisions embodied in Clark's work (its material properties, its hinges, and the feedback that these provide), the participant is prescribed physical interaction; nevertheless, this physical interaction ultimately leads them to perform a distinctly intellectual role that completes the work. As Macel puts it, "the viewer then becomes an author, or rather, the *agent of a perception defined by the act*."[131] On the one hand, this artistic strategy is in keeping with both the modernist and aestheticist views of aesthetic reception, and—as a corollary—with traditional theories of reception aesthetics, according to which the blanks or the indeterminacy of form are designed to enable the viewer to take an active intellectual role in the aesthetic construction or completion of the work. On the other hand, by affording an aesthetic and intellectual experience that is based on multisensory perception, Clark's work demonstrates that intellectual agency can be solicited through more than mere visual perception. In so doing, it challenges the still-pervasive notion of disembodied spectatorship that governs the modernist and aestheticist views of the so-called "visual" arts and their aesthetic reception, as well as traditional theories of reception aesthetics.

131. Macel, "Lygia Clark."

Part Three:
"Good" Art as "Bad" Design

Form Follows Failure

Norman identifies three levels of processing that shape our reception of everyday things: visceral, behavioural and reflective.[132] The *visceral* level responds in a subconscious, instinctual and reflexual manner: pulling our hand away at the touch of a scalding skillet, or spitting out unexpectedly bitter-tasting food.[133] It is at the visceral level that we prefer certain colours, shapes and textures, as well as sounds.[134] Since visceral responses and preferences are hardwired (i.e., biologically preconditioned), and therefore largely shared among diverse users, they tend to inform the decisions that designers make about the look and feel of products.[135] By contrast, a consideration of visceral responses is something that engineers are likely to pay less attention to then designers (and of course fine artists).[136]

The *behavioural* level also usually responds automatically, and is pre-conscious. Yet, at the behavioural level we have a general awareness and we are in much greater control of our responses: although we do not reflect upon opening our water bottle, flicking the light switch, speaking, knitting, or even driving a car, we perform these actions voluntarily and often with great skill and attention.[137] It is at this level that we perform tasks through procedural memory, and also learn new skills and behaviours.[138]

Significantly, as Norman explains, "the behavioural level, which is the home of interaction, is also the home of all expectation-based emotions," such as satisfaction and

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132. Norman, *Everyday Things*, 50.

133. Ibid., ibid.

134. Ibid., 50-51.

135. Ibid., ibid.

136. Ibid., 51.

137. Ibid., 51-52.

138. Ibid., ibid.

relief, disappointment and anxiety.[139] Since the behavioural level works on autopilot and is the home of expectation-based emotion, the provision of appropriate feedback is critical; otherwise, our actions will result in confusion and disorientation rather than clarity and a sense of control.[140] Appropriate feedback, be it positive or negative, provides reassurance and understanding, while a complete lack of feedback leads to a lack of understanding and a lack of control, in turn leading to frustration.[141] In short, as Norman concludes, "feedback is critical to managing expectations, and good design provides this."[142]

In contrast to the visceral and behavioural levels, Norman claims that the *reflective* level:

> is the home of conscious cognition. As a consequence, this is where deep understanding develops, where reasoning and conscious decision-making take place. The visceral and behavioural levels are subconscious and, as a result, they respond rapidly, but without much analysis. Reflection is cognitive, deep and slow. It often occurs after the events have happened. It is a reflection of looking back over them, evaluating the circumstances, actions and outcomes.[143]

Norman acknowledges that good designs integrate all three levels: "Understanding arises at a combination of the behavioural and reflective levels. Enjoyment requires all three". However, he also argues that "to the designer, reflection is perhaps the most important level of processing. Reflection is conscious, and the emotions produced at this level are the most protracted: those that assign agency and cause."[144]

Significantly, these emotions outlive the actual period of usage and determine how we remember our experience of the product.[145] That is, upon reflection, usability problems

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139. Ibid., 54.

140. Ibid., 52.

141. Ibid., ibid.

142. Ibid., ibid.

143. Ibid., 53.

144. Ibid., 53-54.

145. Ibid., 53.

on the behavioural level, particularly toward the end of the period of usage, may outweigh extremely positive visceral responses and put us off using the product again; the opposite also holds, since excellent usability may not be enough to compensate for an unsightly appearance.[146] Similarly, excellent usability may outweigh negative visceral responses so that we keep an object although we do not like the way it looks and feels; and vice versa—positive visceral responses may outweigh usability problems so that we end up remembering the design fondly (as Norman quips, "attractive things work better").[147]

If we accept these three levels of processing and consider them in relation to the production and reception of *Saw*, *Capri Battery* and *Critter*, as analysed above, what might this further reveal about their mechanism of operation, about the design decisions embodied in them, and about the artistic intentions that underlie these decisions? If the emotions produced at the reflective level are "those that assign agency and cause," could we say that in designing an object that produces reflection, the artists prescribe the role of reflecting on our agency and on the meaning of the work of art?

Engagement with *Saw*, *Capri Battery,* and *Critter* stimulates a host of visceral responses: surprise and even recoil at the sight of a giant handsaw, and then relaxation at the perception of the folded, blunted blade; surprise and amusement at the sight of two bright yellow bulbs, and then pleasure at the touch of the soft porous lemon and smooth glass lightbulb; chill at the touch of aluminium sheets, and then surprise and excitement at the way they fold in one's hands. On the behavioural level, the quasi-utilitarian or functional language of these works helps to develop a certain set of expectations—i.e., an offer of reception. However, feedback from these objects, or the lack thereof, renders this a false or illusory offer of reception, resulting in confusion and disorientation. Crucially, however, these negative expectation-based emotions trigger a reflective response,

146. Ibid., 53-54.

147. Ibid., ibid

advancing us to the level of conscious cognition, where deep understanding develops. Put differently, the "usability problems" that we encounter when engaging or physically interacting with the works elicit a cognitive dissonance that seeks reconciliation in reflection, consequently triggering acts of ideation, reasoning, analysis, and re-evaluation.

Norman observes that "understanding arises at a combination of the behavioural and reflective levels." However, he also maintains that:

> good design is actually a lot harder to notice than poor design, in part because good designs fit our needs so well that the design is invisible, serving us without drawing attention to itself. Bad design, on the other hand, screams out its inadequacies, making itself very noticeable.[148]

Since by his own account, good design operates on all three levels, including conscious reflection, the terms Norman uses here are deliberately exaggerated and should be taken with a grain of salt. There are many examples of elegant designs which are so impressive that the user stops to reflect upon their refined aesthetics or clever engineering. Nevertheless, Norman's argument has a moment of truth: we spend far more time and effort trying to work out and understand bad designs than we do good designs. If an everyday object is well designed, we may still reflect upon the design decisions embodied in it, yet if the object is poorly designed, we will *question* the design decisions embodied in it. We may ask ourselves what on earth the designer was thinking, and perhaps—if the design is utterly impenetrable—wonder what it is that the object was even designed to do.

Everyday objects ought to go unnoticed—i.e., be easy and intuitive to interact with, seamlessly leading us from A through B to C. It is only when they are poorly designed, or when they malfunction, that we make a concerted effort to understand them.[149]

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148. Ibid., xi.

149. In this sense, a malfunctioning design is akin to Heidegger's notion of "broken equipment." Parallels can be drawn between Norman's theory of everyday things and Heidegger's theory of equipment, which identifies three modes of encountering objects in the world. For Heidegger, when we are manipulating a utilitarian object "in a hitch-free manner," it exists in a *ready-to-hand* state and we do not consciously recognise it as an independent object. Like Norman's behavioural level, for Heidegger this mode of encounter is not completely without awareness. We

Conversely, however, works of modern art ought to draw attention to themselves. That is to say, they ought to be noticeable. They complicate and extend our engagement precisely in order to invite us to contemplate their meaning and the creative decisions embodied in them. In the case of works or art such as *Saw*, *Capri Battery* and *Critter*, it would seem that "good" art is "bad" design, or, in other words, that a "successful" work of art is a "failure"—i.e., a negation or inversion—of design.

From one perspective, this conclusion simply conflates two sets of normative claims representing different kinds of values. This suggests that the only real failure here is a failure of imagination, which is unable to conceive of a good design that has no clear function. However, from another perspective, the provocative formulation that "good" art is "bad" design might also be understood as a way of describing the constitutive tensions that give much of modern art its transgressive power. The crucial point is that by troubling our reading of its form and thus the decoding of its function, including providing "inappropriate" feedback that frustrates our understanding, each of these works prescribes to the agent a reflective and questioning role, which ultimately opens to a deeper understanding and a rich—possibly enjoyable—aesthetic experience.

It does not follow that any object of indeterminate form—which would ordinarily be deemed a "bad design" for a handsaw, a lemon battery, or a three-dimensional puzzle—

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are aware of performing the task, but as long as things run smoothly, we experience the object in a "non-subject-object form"—i.e., we do not reflect on the object or on our experience of it. However, if the object fails, breaks, or malfunctions, so that our practical activity with it is disturbed, it is "no longer phenomenologically transparent," as it was when in use. When we are forced to step back and contemplate it, the object then exists in an *un-ready-to-hand* state. Significantly, for Heidegger, when the object fails and disturbs our practical activity, our problem-solving mind emerges, focused on resuming the practical activity. This can be compared to seeking a solution or some sort of resolution in order to reconcile a cognitive dissonance when confronted with a false offer of reception. Finally, the third mode of encounter occurs when we contemplate something philosophically or reflect on a fully independent object that is "removed from the setting of everyday equipmental practice" (like a work of art in a gallery setting, removed from the setting of everyday things). For Heidegger, such an object exists in a *present-at-hand* state and becomes a "Thing" rather than a mere piece of equipment. For a useful overview of Heidegger's views, see: Michael Wheeler, "Martin Heidegger," *The Stanford Encyclopedia of Philosophy,* accessed June 23, 2021, https://plato.stanford.edu/archives/fall2020/entries/heidegger.

would make for a good work of modern art. The claim, rather, is that Norman's criteria help to reveal that these works of art are effective because they are indeterminate *by design*. The modernist imperative that governs utilitarian design decisions, dictating that form follow function, also governs the decisions that make these works of art "fit for purpose"; the difference is that their form follows their function in a seemingly roundabout way. The identification of the indeterminacy of form as an inherent part of the work's mechanism of operation is in keeping with Kemp's view that aesthetic indeterminacy is "constructed and intentional."[150]

Significantly, it is the aesthetics of indeterminacy—the blanks—that make the work of art discursive, and therefore fit for purpose. An everyday object should not contain blanks or be indeterminate in form since we do not want to have to guess what it does or imagine what it might mean. We expect it to be readily decodable so we can fully understand it and be able to use it with ease and without delay. Moreover, it is comparatively unproblematic to assume that the designer aims for all users to understand and use their design in a similar manner. However, a work of art is designed to afford a multitude of subjective, open-ended readings, and a plurality of aesthetic experiences. Designed from the outset to be a discursive object whose meaning has to be gleaned, we do not expect it to offer an immediate or transparent correlation between its form and function. On the contrary, we tend to expect (or at least accept) that a work of art resists ready assimilation to a context of use and remains a cryptic affair.

A Broader View

Each of the works of art that I have considered in this dissertation have been chosen, at least in part, because they lend themselves well to a functional analysis due to their explicit

150. See supra note 84.

grounding in a utilitarian register: they feature either everyday objects, their artistic representation, or technical elements associated with them. Nevertheless, although typical of certain avant-garde idioms, these works epitomise a relational design rationale that arguably underpins many other works of modern art to one degree or another. This, as I have argued, is because despite their non-utilitarian nature, works of art are meant to be discoverable—meant to extend an offer of reception that will activate us to take part in their construction or prescribe a role that will successfully solicit our agency in their completion (whatever function this may in turn fulfil).

Striking a balance between the expressive autonomy of the modern artist and the "burden" of discoverability, Oldenburg's handsaw, Beuys's lemon battery and Clark's three-dimensional puzzle, provide readily decodable features alongside more perplexing features. Namely, they communicate through utilitarian language in order to "scream out their inadequacies"—as Norman puts it—and consequently invite their contemplation (i.e., offering a false offer of reception to elicit a cognitive dissonance). Crucially, they cannot "succeed" as works of art unless they set themselves up to "fail" as utilitarian designs—unless they follow utilitarian logic, but only loosely or erratically. Yet, if we take a broader view, we can identify a version of this relational design rationale in many other works of modern art, whether grounded in a utilitarian, a representational, or an abstract register: in order to extend an intelligible offer of reception—a basis for interpretation—they appeal to the agent's preconditions. If the language is too inaccessible, a dialogue will not occur and the work will remain incomplete.

If a work of art were wholly original and completely removed from anything we had encountered before, then it may well be too original to be discoverable through unmediated reception: without institutional framing (such as a context marker) it would risk being inaccessible to our comprehension. Potentially, it would even risk being inaccessible at the level of perception: without any clues on the part of the work of art, we

may not register any tool-potential (a purposiveness or an underlying intention indicating that the object has been designed), and therefore we might disregard the work or dismiss it as "random."[151] However, if the work includes recognisable elements, these give us a "handle" on the work as a unitary whole, making us better equipped to decode its more creative, original, or less recognisable elements.[152] The recognisable elements act as a cipher that helps us fill in the "blanks," so that—almost as in a game of connect the dots—a clear offer of reception emerges.

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151. Consider the untenable yet fittingly-illustrative invisible ships hypothesis, which aims to explain how the Europeans managed to colonize the Americas in the late 15th century. According to this hypothesis, which draws on the role of the observer in quantum physics, the indigenous Americans failed to register the European ships sailing to their shores, or registered them yet failed to translate them into a potential threat, for they have never before seen anything like it. That is, since the objects resembled nothing familiar, or were conceivably disregarded as something innocuous, they "slipped under the radar." To illustrate with a more contemporary—and factual—anecdote, consider the repeating mishap of gallery personnel mistaking modern sculpture by such notable artists Tracy Emin, Damien Hirst, Gustav Metzger, or Sala Murat, for rubbish, and consequently sending it from the gallery space to the landfill. In the absence of an explicit context marker, the potential agents simply could not differentiate the sculptures—consisting of elements such as cigarette butts, beer bottles and crumpled paper—from random everyday ephemera, and therefore did not register it as works of art (i.e., a designed object embodying purpose, intent, or some kind of tool-potential). Also, it may be interesting in this regard to consider Beuys's *Sweeping Up* (1972–85), a performance piece that included sweeping rubbish left behind by a May Day parade. Initially, Beuys deposited the rubbish on the floor of a gallery space, as a secondary, documentary part of the work. However, in a later display, Beuys displayed the Rubbish in a bespoke vitrine. Although this decision conforms to institutional standards of display, it was Beuys's own decision. Was Beuys concerned that the pile of rubbish would not be registered by the audience?

152. The ideas in this paragraph can be further elucidated by a distinction that Norman makes between two forms of product innovation: incremental and radical. Incremental innovation emerges from a gradual evolutionary process, whereas radical innovation emerges with little or no precedent, usually as a result of a new technological development (e.g., the typewriter, automobile, mobile phone). As Norman notes, while everyone seems to want radically innovative products, these are rarely embraced by users, who may not yet have an appropriate understanding of their technology and the skill to operate them, or they may simply find the prospect of using them too daunting. Conversely, incrementally innovative products are easy to follow and adopt, as they are relatively similar to existing designs. Therefore, what was once a rejected radical innovation, might eventually catch on. In short, radical innovations require too big a leap on the part of the user, and although they are just as important as incremental innovations, and do sometimes instantly catch on (creating a real paradigm shift in society), according to Norman, incremental innovation is not only more common but also more powerful. This distinction can be compared to the characteristic forms of innovation—or originality—in art. If a work of art is wholly original (i.e., too radically innovative), it may not be understood or embraced by audiences, at least not initially. However, if it incorporates familiar or recognisable elements, these give us an entry point into the work, and handles to grab onto as we move through the various reference points encoded in it. The gaps in knowledge are then no longer an impediment to understanding, but rather they make it exciting and rewarding to make meaning of the work. For Norman's discussion, see: Norman, *Everyday Things*, 279-282.

From Modernism to the Contemporary

While the relational design rational that underpins the three modernist case studies is not exclusive to modern art, and can be identified in art from various periods, recent innovations in contemporary art, above all, the so-called "social turn," have shifted the focus away from the autonomous work of art and the ways in which it relates to the audience.[153] The emergence of various forms of collaborative and participatory art, which involve events, happenings and various kinds of activism, and frequently take place outside of the rarefied gallery space, no longer prioritises the production of an object-based design made for visual perception and forsakes reliance on dedicated sites of reception. What does this shift mean for the institutional prohibition of touch, for the role of the audience in aesthetic reception, and for how artists go about designing works of art? Are the conclusions of this dissertation rendered redundant by these recent developments, or can they still contribute to an understanding of artistic production and reception today?

To take one prominent set of examples, the Unilever and Hyundai commissions hosted in Tate Modern's Turbine Hall since the turn of the century, frequently assumed the form of interactive installations, many of which were concerned with pressing social issues: Louise Bourgeois's *I Do, I Undo, I Redo* (2000); Bruce Nauman's Raw Materials (2004); Carsten Höller's *Test Site* (2006); Marepe's *Veja Meu Bem* (2007); Dominique Gonzalez-Foerster's *TH.2058* (2008); Ai Weiwei's *Sunflower Seeds* (2010); SUPERFLEX's *One Two Three Swing!* (2017); Tania Bruguera's *10,148,451* (2018); and Anicka Yi's *In Love with the World* (2021) (fig. 15-23). From gigantic slides through to carousels and swing sets, these works of art, which may be described as immersive environments and even playgrounds, can be seen as extending an offer of reception that prescribes an intellectual

153. The term "social turn" was coined by Claire Bishop in a 2006 article in which she discusses the rise of socially engaged art practices. See: Claire Bishop, "The Social Turn: Collaboration and Its Discontents," *Artforum* 44, no. 6 (February 2006): 178-183.

role through a combination of multisensory forms of address.[154] Bourgeois, Höller, Marepe, Gonzalez-Foerster, Weiwei, SUPERFLEX, and Bruguera, also invite direct touch or a kinaesthetic experience as well as visual engagement. Marepe and Brugera go even further, engaging the visitors' sense of taste and smell by incorporating candy apples and a fetid compound meant to induce tears. Yi also engages the visitors' sense of smell by creating an organic scentscape. Nauman's installation, on the other hand, is characterised by a complete absence of visible work, relying instead entirely on sound. Exemplifying a contemporary understanding of aesthetic agency, which regards the entire body as the organ of perception, these works vigorously negotiate the viewer/user binary. From this perspective, Clark's *Critter* can be seen as a precursor by an artist whose practice was ahead of its time.

Participation and touch are once again central to artistic concerns. However, it is noteworthy that if we look at art produced prior to the modern era, and before the advent of the modern museum, many works of art, and in particular three-dimensional objects, were meant to be touched and handled. For instance: prehistoric figurines were presumably involved in rituals before being buried with the dead; medieval reliquaries were carried through the streets in processions so crowds could reverently touch the hands and feet of the saints; and Renaissance reliefs of narrative scenes were built into domestic furniture.[155] From this perspective, art's withdrawal from utility under Modernism and its

154. According to Kant's theory of aesthetic judgement, art enables a *free play* between the faculties of imagination and understanding—a state which Kant considers enjoyable. A consideration of this Kantian notion in relation to some of the interactive, play-inviting installations listed above, raises a potentially interesting question: could they be theorised as manifesting a contemporary and literal version of aesthetic free play? After all, from a developmental standpoint, the physical activity of play is associated, at least in part, with natural learning processes and the acquisitions of knowledge. For a discussion on Kant's term, see: Ginsborg, "Kant's Aesthetics."

155. For the sake of accuracy, it should be noted that medieval crowds did not touch the body parts of the saints directly, as the reliquaries are sealed containers. Furthermore, the reliquaries may contain other remnants of the saints, such as fragments of cloth or bones from other body parts.

concomitant prohibition of touch, appears to be a discrete episode in the history of art, an inheritance from Aestheticism and related museum practices.

Significantly, a consideration of the design decisions embodied in the three modernist case studies, and the ways in which the artists work with and around the prohibition of touch, suggests that both the prioritisation of vision and the counter-reaction against it form an internal dialectic that is characteristic of Modernism, alongside other problematic yet defining binaries such as productive and unproductive labour, usefulness and uselessness, utility and futility, art and design, autonomy and heteronomy.

A comparison of the three case studies—and particularly Clark's *Critter*, which although interactive still very much stands within the tradition of the autonomous museum object—with more recent works of art that assume the form of participatory, large-scale installations, raises an important question: is the notion of "productive futility," which lies at the heart of this dissertation, taken up and further developed in contemporary art or is its relevance restricted to the forms of modernism that I have discussed? There seems to have been a shift from static and unapproachable objects that afford an aesthetic experience through visual perception, toward dynamic and interactive installations that afford an aesthetic experience through multisensory perception.[156] This would suggest the need for a fully-fledged interactive theory of reception aesthetics. If this is right, then contemporary theories of reception aesthetics, as well as anyone engaged with the interpretation of modern and contemporary art, would still benefit from design thinking, and particularly from theories of interaction design. Finally, consideration of these works

156. As well as the shift in aesthetic reception from visual to physical perception, these contemporary socially engaged works also mark an increasing shift from individual reception and subjective meaning-making, characteristic of modernism, back to the collective reception and "objective" meaning-making, characteristic of sacral and courtly art. This shift in the dynamics of discursivity, which has been expounded by Bourriaud in *Relational Aesthetics*, as well as by Bishop in "The Social Turn: Collaboration and Its Discontents" and later in *Artificial Hells: Participatory Art and the Politics of Spectatorship*, is particularly manifest in Tania Bruguera's *10,148,451*, in which it is only when enough museum visitors are physically interacting with the heat-sensitive floor coating that their bodies reveal the portrait of a young Syrian refugee.

also suggests that contemporary artists themselves might have much to gain from design thinking and from theories of interaction design if they wish to solicit the intellectual agency of their audience through multisensory perception, or prescribe an intellectual role through physical interaction.

These are pointers for further work in this area. However, I hope that this dissertation has shown that although we are used to thinking about art and design as antithetical modes of production, a consideration of their shared history and their respective processes of production and reception, allows us to recognise a hidden kinship or parallelism that provides the basis for a rewarding and potentially generative investigation of features held in common. More specifically, I hope that that this dissertation has shown that thinking about art in terms of design can help to expand the ways in which we normally seek to understand—and make—art, and thus allow us to question some of our most deeply held presuppositions.

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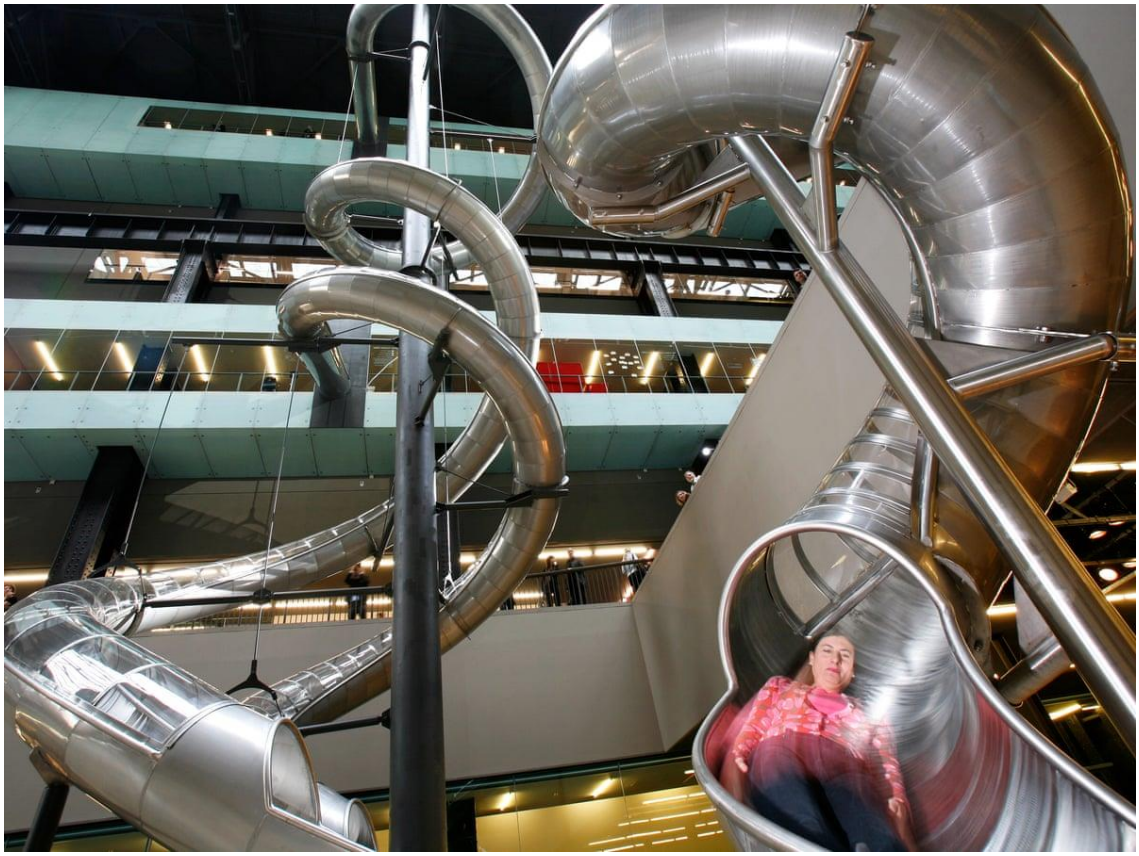

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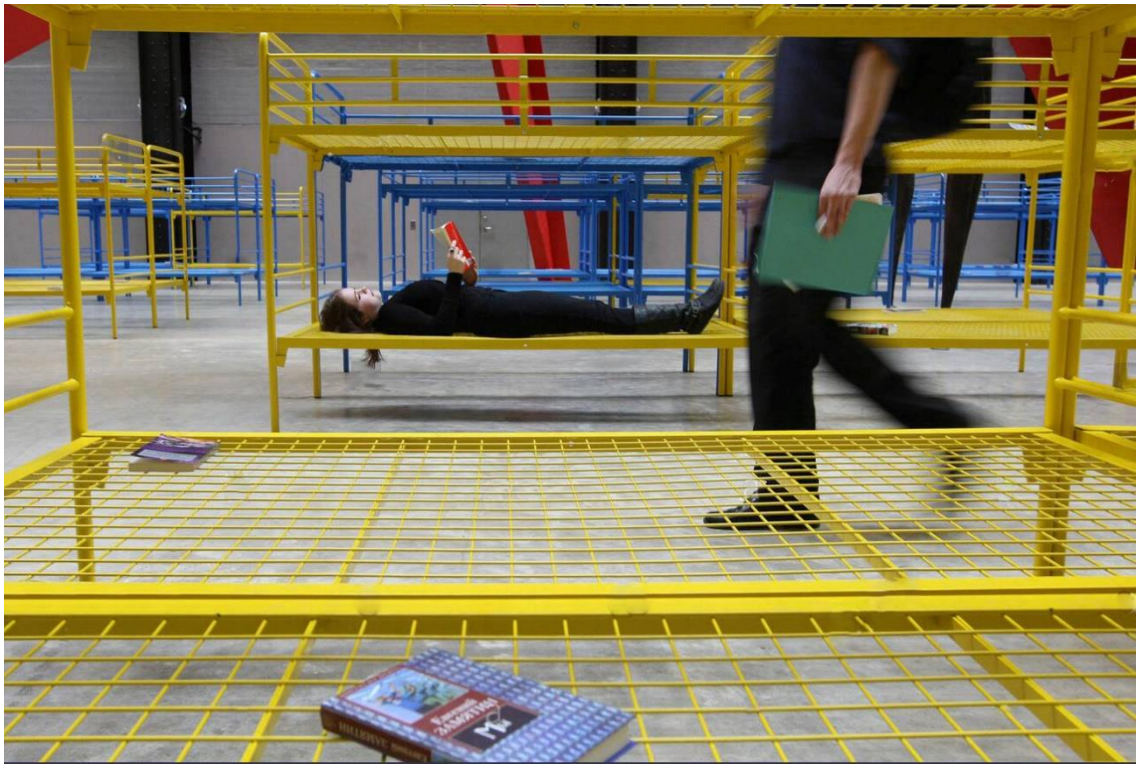

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