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A Design Encounter with Thing Theory

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ABSTRACT Bill Brown's seminal essay "Thing Theory" in the special issue of *Critical Inquiry* (2001) spurred a new fascination with materiality across the academy and served as an explicit invitation to examine things themselves, "before ideas, before theory, before the word" (2001: 16). Brown's essay pushes things to the fore, emphasizing their role in shaping human subjects while being shaped by them. Building on the underlying premise that things are of value, and therefore it is essential for design to wrestle with thing theory, this special issue of *Design and Culture* sets out to explore the significance of such a theory for the disciplines of design. Can thing theory help shape new research horizons for design studies, and in turn, if the primary task of design is shaping things, can design help (re)shape thing theory?

KEYWORDS: materiality, agency, thing theory, the material turn, object–subject relations

Do we really need anything like Thing Theory the way we need narrative theory or cultural theory, queer theory or discourse theory? Why not let things alone?

Bill Brown, "Thing Theory" (2001)

Can one have a theory of things where "things" stand for the most evident category of artifacts both tangible and lasting? Certainly I confess that when I took up a post as a professional academic in the field of material culture studies in 1981, this seemed to be the limit to the ambition of those studies.

Daniel Miller, "Materiality: An Introduction" (2005)

There is not, and can never be, one 'correct' or 'right' theoretical position which we may choose to study material forms or to exhaust their potential for informing us about the constitution of culture and society.

Christopher Tilley, "Theoretical Perspectives" (2006)

Theories of Things

There is no doubt – as indicated in the quotes above and in the work of archaeologists, anthropologists, material culture scholars, designers, historians, and cultural theorists – that we are not quite certain about why and how to think about the things with which we spend our lives. Things only seem to confound us, as do the ideas we conjure to understand them, and the words we use to describe them. Questions of what things are, what they do, how we perceive them, and what they mean to us have dogged scholarly minds from the pre-Socratic Greek philosopher Anaximander (ca. 610–545 BCE) to contemporary Slovenian thinker Žižek (1949–). The theoretical examination of things is by no means new, but it seems to have gathered renewed attention in philosophy (Harman 2005; Verbeek 2005); sociology and political science (Latour 2005; Bennett 2010); literary criticism (Lamb 2011); art history and social sciences (Daston 2004); and anthropology (Henare, Holbraad, and Wastell 2007; Miller 2013). In the *Oxford Handbook of Material Culture Studies*, Dan Hicks and Mary Beaudry offer a sweeping overview of this recent surge in writing about "material culture, objects, materiality, materials, things, stuff" (2010: 2). The authors correctly point out that "Today, things are everywhere in the social sciences and humanities: from history and geography to literature studies, philosophy and sociology" (2010: 2). The groundswell of scholarship on things in the humanities and the social sciences, often referred to as the "material turn," pushes for the agency of things and re-imagines the roles of material objects in social systems by questioning the object–subject polarity.

Since the Enlightenment, we have tended to divide the world ideologically along material or non-material lines. Western culture has positioned things, bodies, and objects – material entities – as both inferior to and in service to words, ideas, and the mind – non-material entities. Recent scholarship that questions these dichotomies has moved toward “the erasure of the familiar conceptual distinctions between the natural and the social, the human and the non-human, and the material and the cultural, divisions that are all in the first place, predicated on the immaterial/material divide” (Joyce and Bennett 2010: 4). This material turn implies two things: (a) objects need no longer be considered secondary to subjects, the word, or the idea and (b) if contrast with subjects is no longer a defining characteristic of objects, how do we reconceive objects in their own right? In an article titled “Beyond the Dualist Paradigm,” anthropologist Susanne Küchler suggests that we may need “a synthesis of opposites, as here between mind and matter, which draws attention to a potentially new way of perceiving the world” (2008: 101). Theory that helps us understand what things mean will blur the sharp lines that divide the object and the subject, and perhaps engender new ways of thinking about things.



If, as recent scholarship seems to suggest, things are not merely representations of something else (signs or symbols), then they possess power “in their own right as a consequence of their specific material properties ...” (Joyce and Bennett 2010: 5). They also possess agency (Latour 2005; Verbeek 2005; Hoskins 2006; Hicks and Beaudry 2010). And if things have an agentic role, then we should examine what they *do*. This idea is central to the actor–network theory (ANT), developed by Michael Callon, Bruno Latour, and John Law in the late 1980s as a social science examination of technology. ANT asserts that “society, organisations, agents and machines are all *effects* generated in patterned networks of diverse (not simply human) materials” (Law 1992: 380). For Latour, agency refers to the capacity of “making some difference to a state of affairs” (2005: 53). This agency can take multiple forms: it gives things the power to “authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid and so on” (Law 1992: 72).

The material turn encourages us to move away both from objects that are understood to exist only in opposition to subjects, and from objects that are interpreted as reflections of signs and metaphors. According to the material turn, objects possess agency and exist on their own merit. Do we then start understanding them as objects per se, as things-in-themselves? As we will discuss later in this Introduction, Bill Brown asks in “Thing Theory” if we can lift things above the object/subject fray – if we can take them beyond theory – and encounter them as things. The current interest in things presents a significant opportunity for new research across a range of academic disciplines. It is clear, as anthropologist Daniel Miller states in the epigraph to this Introduction, that there is a lot of work



to do as the investigation of things stretches its boundaries in new directions. And we recognize, as Tilley mentions as well, that no single philosophical position or methodological approach may be favored over another. Objects and things attract scholars from all walks of the academy, and the field is only richer as a consequence.

The material world presents us a prodigious array of things, which includes both tangibles, such as minute molecules and immense skyscrapers, and intangibles, such as popular social media and virtual games. We wonder which of these qualify as things. Is a physical, tangible body a prerequisite for something to be regarded as a thing? How may we construct theories that explain what things are and also account for their diversity, multiplicity, ubiquity, and agency, or for their relationships with other things and people, their movements over space and time, their biographies, and so on? Devising theoretical approaches to things presents daunting challenges.

If we imagine the lives of things progressing through production, distribution, and consumption cycles, then the humanities and social sciences intercept them in the last stage when they enter everyday use. In other words, things typically have been interpreted as objects of consumption, post-production and post-distribution. Much of the work on things and objects from these disciplines, though, makes scant (if any) references to design, and design scholarship tends to eschew things and objects in favor of users and experiences. Design research, on the other hand, also examines things in the earlier stages of their lives – during production and distribution. In order to produce comprehensive cultural biographies of things, we need to study them through their entire lifecycles (of production, distribution, and consumption) as well as through a variety of disciplinary lenses. Scholarship about things, therefore, needs to be interdisciplinary; and it needs to inhabit the space of inquiry in which the humanities, social sciences, and design studies intersect.

In the burgeoning interdisciplinary scholarship about things, Bill Brown's groundbreaking essay "Thing Theory" in the special issue of *Critical Inquiry* (2001), in particular, advanced the fascination with objects across the academy. In the essay, Brown proposes a new expansive form of object studies that suggests that things be understood as artifacts with their own substantive currency, and that they be evaluated for more than just their cultural exchange value.

Bill Brown and Thing Theory

Bill Brown opens the discussion by asking whether we should bother things with theory and if we really need thing theory, as we do cultural theory or queer theory. He eventually acknowledges that – willingly or otherwise – "taking the side of things hardly puts a stop to that thing called theory" (Brown 2001: 1). Clearly, according to Brown, thing theory is inevitable as it is neither possible for us to stop thinking about things, nor is it possible to halt the process of theorizing about them. His essay foregrounds things, emphasizing their role in

shaping human subjects while also being shaped by them. Daniel Miller's position that "in material culture we are concerned at least as much with how things make people as the other way around" (2013: 43) is reminiscent of Winston Churchill's observation that "we shape our buildings; thereafter they shape us." Brown and Miller's (and Churchill's) statements refer to **the reciprocity of agency – the fact that people and things configure each other.** "Configure," which is derived from Latin *con* ("together") and *figurare* ("to shape"), captures beautifully the reciprocal form of the engagement between people and things. Indeed, this relationship directly influences how we produce our social structures and cultural forms. **If doing design is a form of making things (typefaces, books, products, buildings, etc.), then it clearly participates actively in shaping agency. Processes of design along with designers – together as actors in a network – participate in configuring things and imparting agency.**

Brown asks if things can exist beyond theory above the subject, in an unfetishized space, in a concrete realm devoid of "dogged ideation" and "unnecessary abstraction" (2001: 1). In other words, can we release things from objects that are tied to subjects; can we examine things without methodologically fetishizing them; can we recognize the concrete materiality in things? While these questions elude clear answers, they fuel conversations about what constitutes an object and what constitutes a thing. Brown suggests that things are the amorphousness from which objects materialize; they signify a latency of sorts. And, he continues, they also are that which is excessive in objects – that which gives them value, a fetish quality and their totemic stature. It is frequently the activity of design – thinking and making – that overvalorizes things. It is typically through processes of product design, branding, packaging, and advertising that things gain fetish value.

Brown suggests that a new materialism should ask questions about what things do, as we assert earlier in this discussion, rather than what things are. Design, albeit in a very pragmatic sense, asks questions of what people do with things and what things do to people. Design puts those "things-in-motion" that social-cultural anthropologist Arjun Appadurai examines for the "regimes of value" through which they travel. In other words, design helps initiate a process in which design and people encounter each other over the lifespan of an object. Brown quotes Bruno Latour, who proclaims that "things do not exist without being full of people" (2001: 12). Contemporary design research that addresses human-centeredness and participatory practices clearly – but invisibly – embodies this notion that things contain people just as much as people contain things. Our intention in this special issue of *Design and Culture* is to make manifest the interrelationships between things and people by focusing on objects and things, and on design creation and use processes. The question that we ask is what thing theory means to and *for* design. Building on the premise that it is valuable for design

to wrestle with Brown's thing theory, this issue of *Design and Culture* explores the various aspects of this interaction through a series of essays about a range of things (from letterforms and needles to digital devices and the Apollo 13 spacecraft).

Design, Theories, and Things

Things tend to be generally under-theorized in design practice and design research, and their social and cultural significance in everyday life is scarcely examined in detail. If the objective of design studies (and of design research) is to be self-reflexive, and to critique its practice and its products, then this is an area that deserves further investigation. It is clear, though, that if designers are to understand the full import of their activity in a blatantly material sense, then they need to engage theories of things. The response to under-theorization in design, however, cannot be a reductive singular comprehensive theory. This research should be an interdisciplinary endeavor that needs to be located within the larger sphere of social theory in order to expand the discourse of design. Locating objects within theory will advance design's understanding of the material world and also galvanize its self-reflexivity by urging designers to think of things as both material and social entities.

Design practitioners often tiptoe around the edge of theory, but rarely take the plunge. Designing may be understood as a networked activity that includes designers, objects, institutions, machines, and users, and it often begins with a reasonably well-defined design process. Though they may not verbalize it, practitioners are aware, while designing, that objects and things float in transient, in-between states. These in-between, amorphous entities are shaped in part by the designers' interactions with the people, environments, and materials that become part of the process. Practitioners typically understand that these transient forms that take shape while working are important to a productive design process. Design practitioners are also trained to consider how users will interact with the objects they've designed, and how objects may influence users. These user-object interactions are what Brown and Appadurai characterize as human actors who "encode things with significance" and "things-in-motion that illuminate their human and social context" (Brown 2001: 6). It is clear that there is an unfortunate disconnect between the essential aspects of design practice described above and the thrust of contemporary theory about objects and things. Practitioners typically do not theorize these processes. We hope that engaging design with theories of things might encourage them to do so. We have therefore encouraged our authors to weave design case studies into their discussions to help designers grasp how theories of things and design can coalesce in practice.

Design scholars and theorists also sidestep theories about things, although they have championed the "linguistic" or "cultural" theoretical turns. Beginning in the late 1980s, art historians rejected

nineteenth-century “reflectionist,” object-focused art historical models. Jessica Evans and Stuart Hall argue that the “linguistic turn” or “cultural turn” in the social sciences meant that those scholars who analyze visual objects would never return “to the pre-semiotic assumptions of reflectionism” (1999: 2). The evaluation of the aestheticized object in art history, Evans and Hall further explain, has been superseded by theoretical analysis of “visual metaphors and terminologies of looking and seeing” (1999: 2). Design scholars and writers followed suit, fully embracing these tenets of visual theory and rejecting the “aestheticized object.” It is unfortunate that these design scholars rejected the analysis of objects and things wholesale right along with their aesthetic qualities. The linguistic and cultural turns – which claimed that objects are for the most part a collection of user perceptions and responses – led to a repudiation in theoretical discourse of objects in favor of users and their experiences. Design scholars who focus on users and their experiences, then, have yet to address the fertile interrelationships between design and thing theory.

Meanwhile, scholars from the social sciences and the humanities have been theorizing about objects and things, but not about *design*. In *Things that Talk: Object Lessons from Art and Science*, for example, editor Lorraine Daston lists the things examined in the volume: “Hieronymus Bosch’s drawing *The Treeman*, the eighteenth century freestanding column, Peacock Island and the Prussian river Havel, soap bubbles, early photographs entered as courtroom evidence, the Glass Flowers at Harvard, Rorschach blots, newspaper clippings, and certain paintings by Jackson Pollock as seen by critic Clement Greenberg” (2004: 10). It is puzzling that few of these things emerge from processes of design; most are art objects (drawings and photographs) and natural things (rivers and bubbles). Even though the activity of design is clearly central to the lives of objects and things, design is practically absent from contemporary discourse about things. And on those occasions when design is considered in this work, it is usually categorized as “art.” Daston, for example, lumps the Glass Flowers at Harvard together with Jackson Pollock paintings. She observes that “thing-making may be rich in surprises relevant to ... questions about ... significance and salience” (Daston 2004) without distinguishing the between the complexions of art-making and design-making processes. The authors in her collection also gloss over the fertile possibilities contained in the interactions that take place among objects, things, designers, design processes, and users. We decided to edit this special issue, in part, because we want to encourage scholars from other fields who write about objects and things to consider design. But we especially want this project to inspire design practitioners and design scholars to immerse themselves in contemporary ideas about objects and things. As Brown asks, “What habits have prevented us – prevented you – from thinking about objects, let alone things?” (2001: 7).

This Special Issue

Things are changing. There is a new interest in materiality in design scholarship. Brown contends that this new discourse of material things grew, not through interest in the things themselves, but by hitching a ride on attendant historical, sociological, or anthropological themes such as the “sex of things” or the “evolution of things” (2001: 6). This materiality parallels the interest in things themselves. So why not the “*design* of things?” Investigating the “sex of things” and the “evolution of things” scrutinizes the lives of things in the context of exogamous factors. Probing “the *design* of things” susses out the endogamous qualities of the object–subject–thing complex – or design. As Brown argues, “Somewhere beneath the phenomena we see and touch there lurks some other life and law of things” (2001: 6).

Building on the current interest in thing theory and the material turn across the academy, this issue of *Design and Culture* foregrounds designed objects – objects conceived and produced through design processes – and designed things – things that are shaped through their interaction with human and non-human forces within a culture. We are not suggesting here that design scholars stress things and objects instead of subjects and experiences. Rather, by emphasizing the roles that things and objects play in thinking, making, and using design, we hope to expand the methods by which we make sense of things and experiences, objects and subjects. We asked our authors to address the interplay among objects, things, designers, design processes, and users. It occurred to us that the best way to do so was to invite scholars and practitioners to discuss design in the context of thing theory and thing theory in the context of design. Things and objects – and the rich relationships between them and us – demand theoretical scrutiny from the discipline of design. It turns out that thinking about how objects interact with human subjects, and how they change, reconfigure, and refashion each other enriches how we designers experience our perpetual dance with the things and objects in our orbits.

Following Bill Brown’s provocative suggestion that “thinking and thingness” may not be as distinct as we imagine, this issue of *Design and Culture* is intended to catalyze theory and design practice in new and unexpected ways, and in the process to coalesce thinking and thingness. Things take shape in the interstitial spaces that develop among designers, design processes, design environments, and user experiences. We have aimed to offer our readers thought-provoking perspectives on the meanings of things as they emerge during processes of production, distribution, and consumption.

The Essays

We feel that designers tend to spurn theory either because the writing style is too thick and inaccessible or because they fail to see its relevance to their work – or both. We argue above that in design theory, emphasizing “design” is often passed over in favor of literary

or social scientific theory. Much of this theory, however, subordinates aesthetic and material qualities of objects and things – and the processes by which objects and things are created and used – to concerns such as the exchange of goods, the function of cognitive processes, or the structures of written or spoken language. Our intention is to help make theory accessible. At the same time, we intend to put design front and center in the theoretical examination of things. We therefore looked for design practitioners and critics to write about theory, and theorists to write about design. We also selected authors with varied backgrounds. Our authors are educators, practitioners, and scholars. Peter Hall is a design critic and journalist whose work focuses on notions of mapping and visualization across design disciplines. Christine Guth specializes in Japanese design history, and interaction designer Giorgio De Michelis designs ICT based systems. Phil Jones is both a graphic design practitioner and critic, and Betti Marenko is a philosopher who writes and teaches about design. We editors are design practitioners, design critics, and design theorists. One of our other intentions was to assemble a varied, international group of contributors – this project includes Italian, British, Indian, and American participants who teach in the UK, Italy, Australia, and the US. We regret that journal special issues typically feature only about five essays: we would have loved to include essays from scholars from other disciplines, or from Asian, South American, American and African authors. We hope that these five essays, though, will make our readers yearn for more work on this subject.

Peter Hall inaugurates this special issue with “When Objects Fail: Unconcealing Things in Design Writing and Criticism.” In this essay, Hall draws upon ideas from Latour, Serres, and Heidegger, as well as Brown’s observation that we can look *through* objects, but that things that fail us “can hardly function as a window.” When we investigate why design fails, Hall argues, design criticism moves away from its “obsession” with “style, form, movements and biographies,” to forms of analysis that divulge the design thing. Hall argues that design writing’s focus on style can be traced to three factors: “the classical notion of the ideal form, the Cartesian subject separated from the object, and the adulation of the present.” Using case studies of design failures – the *Challenger* and *Columbia* space shuttle disasters, the Aramis “personal rapid transit system,” the Concorde airplane, and the Node chair – Hall sidesteps the three delimiting factors mentioned above in order to extricate the things from the objects under discussion. He concludes by pointing out that fundamentally he is arguing for “the end of modernity, and ... the end of the idea that social matters and science and technology matters are separate.”

Christine Guth likewise considers the interconnectedness of social matters and technology in “Theorizing the *Hari Kuyō*: The Ritual Disposal of Needles in Early Modern Japan.” Guth argues

that thing theory's Western-derived form of ontological distinction between subject and object doesn't apply well to the character of relationships between people and things in Japan. She argues that, according to Brown, the failure of a design object accentuates the distinction between thing and user, while in Japanese culture the failure of a design object draws attention to the animistic qualities that liken the thing to the user. Guth uses actor-network theory (ANT) to explicate needle disposal rituals – or *hari kuyō* – and the creation and use processes of needles in Japan. In this discussion of the social lives of needles, she demonstrates how needles share the gendered and hierarchical social spaces and potentialities of sentient beings.

Giorgio De Michelis also interrelates social spaces with objects and things through actor networks in “What Design Tells Us about Objects and Things.” He cites the ancient Germanic governing assembly, or “Ding,” which is the linguistic root of the English word “thing.” In order to understand how assemblies function as things, according to De Michelis, first we need to distinguish between objects and things. De Michelis uses Brown's notion that we cannot easily pin down the thingness of objects or the object-ness of things. Design, De Michelis argues, offers a valuable way to understand how objects and things operate within social spaces. He elaborates: “When we put a letter in a mailbox, the mailbox is the object we use for sending letters ... The very same mailbox is a thing if we consider it beyond its functional role.” He demonstrates in the last part of his essay that design practice involves “the development of a design object as a means for creating the design thing that will be delivered at the end of the process,” and that “The design object can be envisioned as an evolving web of things created, imported or modified by designers.”

Phil Jones also focuses on design processes and objects in “The Graphic Thing: Ambiguity, Dysfunction, and Excess in Designed Objects.” Jones interprets Brown's definition of things and objects through the lens of George Lakoff and Mark Johnson's “embodied realism,” in which our bodies mediate the production of meaning. Jones thus presents both graphic design things – “entities ... [that have] an extra-phenomenal existence that is unknown or even unknowable” – and objects – “entities ... that are more certain and which emerge through a process of interpretive attention” – as “embodied mental constructs.” The ambiguity of things, Jones argues, may be partly due to how “thingness” in graphic design objects correlates to perception of their “materiality and transparency.” Jones presents examples that flesh out his ideas, including Paul Elliman's typeface *Bits*, Mervyn Kurlansky's *Krazy Kaps*, Stephen Johnson's undergraduate project on emergence, Richard Olsen's book *Double Bind*, and Muji objects. He ends by arguing that things and thingness can be understood as by-products of perception – of meaning construction processes – rather than as qualities that exist independent of human agency.

Betti Marenko wraps up the special issue with a discussion of our rapport with and apperceptions of everyday digital devices in “Neo-Animism and Design: A New Paradigm in Object Theory.” “Traces of animism are evident in the way we talk to our computers, cars, and smart phones,” Marenko contends, “and in our expectations that they will reply ... instantaneously.” She associates what users experience as the “magical” excessiveness of responsive digital devices with Brown’s idea that things are differentiated from objects by “both latency and excess.” Marenko paints a vivid picture of a sensuous, magical, neo-animist world of the Internet of Things – the “uber-connectivity” through which responsive objects sense and process information. She then employs contemporary materialist philosophy both to connect philosophy and design, and to build a strong case for her neo-animist world. Using case studies of digital objects with names like *Oily* and *Molly*, *spimes*, and *blogjects*, Marenko concludes by noting that “What is happening ... is not the insurrection of objects both dreamed of and feared in literature ... objects now begin to animate *not* as we leave the room – as in Hans Christian Andersen’s fables or in Joseph Kafka’s enigmatic story of *Odradek* – but as we enter it.”

Conclusion

Just as the process of theorizing things needs to draw from several disciplines, its benefits can extend across disciplines as well. Media and cultural studies can supplement their analyses of the production of media forms with knowledge of design processes. In their study of everyday life and culture, anthropology and material culture can gain a better understanding of the roles played by design and designed goods in processes of fetishization, exchange, and consumption. Theories of things generated in close conversation with design studies can complement and build upon those in the humanities and social sciences, further advancing the increasing engagement between all disciplines engaged in the examination of matter.

References

- Bennett, J. 2010. *Vibrant Matter: A Political Ecology of Things*. Durham, NC: Duke University Press.
- Brown, B. 2001. “Thing Theory.” *Critical Inquiry*, 28 (1): 1–22.
- Daston, L. 2004. *Things that Talk: Object Lessons from Art and Science*. New York: Zone Books.
- Evans, J. and S. Hall (eds). 1999. *Visual Culture: The Reader*. Milton Keynes: The Open University.
- Harmon, G. 2005. *Guerrilla Metaphysics: Phenomenology and the Carpentry of Things*. Chicago: Open Court.
- Henare, A., M. Holbraad, and S. Wastell. 2007. *Thinking through Things: Theorizing Artefacts Ethnographically*. London: Routledge.
- Hicks, D and M.C. Beaudry. 2010. “Introduction. Material Culture Studies: A Reactionary View.” In D. Hicks and M.C. Beaudry

- (eds), *The Oxford Handbook of Material Culture Studies*, pp. 1–21. Oxford: Oxford University Press.
- Hoskins, J. 2006. “Agency, Biography and Objects.” In C. Tilley, W. Keane, S. Küchler, M. Rowlands, and P. Spyer (eds), *Handbook of Material Culture*, pp. 74–84. London: Sage.
- Joyce, P. and Bennett, T. 2010. “Material Powers: An Introduction.” In Bennett, T. and P. Joyce (eds.), *Material Powers: Cultural Studies, History, and the Material Turn*, pp. 1–21. London: Routledge.
- Küchler, S. 2008. “Technological Materiality: Beyond the Dualist Paradigm.” *Theory Culture Society*, 25: 101–120.
- Lamb, J. 2011. *The Things Things Say*. Princeton, NJ: Princeton University Press.
- Latour, B. 2005. “From Realpolitik to Dingpolitik: How to Make Things Public.” In B. Latour and P. Weibel (eds.), *Making Things Public: Atmospheres of Democracy*, pp. 14–41. Cambridge, MA: MIT Press.
- Law, J. 1992. “Notes on the Theory of the Actor-Network: Ordering, Strategy and Heterogeneity.” *Systems Practice*, 5: 379–93.
- Miller, D. 1994. *Material Culture and Mass Consumption*. Oxford: Blackwell.
- Miller, D. 2005. “Materiality: An Introduction.” In D. Miller (ed.), *Materiality*, pp. 1–50. Durham, NC: Duke University Press.
- Miller, D. 2013. *Stuff*. Cambridge: Polity.
- Tilley, C. 2006. “Theoretical Perspectives: Introduction.” In C. Tilley, K. Webb, S. Küchler, M. Rowlands, P. and Spyer (eds), *Handbook of Material Culture*, pp. 7–11. London: Sage.
- Verbeek, P. 2005. *What Things Do: Philosophical Reflections on Technology, Agency, and Design*. University Park, PA: Pennsylvania State University Press.