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# De-signing Ambiguity

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**Abstract** | The present paper challenges the way ambiguity is made understandable in William W. Gaver, Jacob Beaver, and Steve Benford's disambiguation of ambiguity (2003). Rather than assuming ambiguity to be an epiphenomenal relation between designed artefacts and their users, which seems to be the argument presented in *Ambiguity as a Resource for Design* (2003), the present paper finds ambiguity to exist firstly, and at a higher intensity, in the primordial stages of design practices. As such, this paper proposes that ambiguity is primarily a condition of the not-yet-designed artefact. In this way, whilst celebrating their innovative work, the present paper differs from Gaver, Beaver and Benford on two accounts. Firstly, by claiming that all things in the world are inherently ambiguous, and secondly by prioritising the role of ambiguity in the process of designing.

**KEYWORDS | DESIGN ONTOLOGY, AMBIGUITY, GLASS FRIGGERS, BRICOLAGE**

# 1. The purposeful noise of ambiguity

In Ambiguity as a Resource for Design (2003), ambiguity is presented an effect that happens between networked entities. Gaver, Beaver and Benford's world view proposes that designed artefacts exist in a cultural world-space, and that people — as audiences and users — are social in that world-space with those artefacts and each other. From this quasi-atomist perspective, ambiguity is framed in three broad classes. Firstly, "ambiguity of information" concerns the designed artefact. Secondly, "ambiguity of context" concerns the cultural world-space. Thirdly, "ambiguity of relationships" concerns people's relationships to the artefacts in that space (2003, p. 233). Surprisingly, considering they are arguing for the resourcefulness of ambiguity in design, with each of these broad classes, the role of the designer and the process of designing have been largely under-acknowledged.

As such, this notion of ambiguity resonates closely with the now much derided Shannon-Weaver mathematical model of communication (1948). In that model, a form of information (the artefact) is distorted by a source of noise (ambiguity) before reaching its destination (audiences and users). At a cosmetic level, if using ambiguity as a resource for design, the designer would ostensibly intensify the "noisy" qualities of communication. Gaver, Beaver, and Benford give an example of Desert Rain, a virtual reality game installation that features "rain curtains" which are "screens made of water through which performers and players physically pass" (2003, p. 234). The shimmering spray of water interferes with displayed images. As such, in an attempt to make sense of the images, a participant must "decode" the ambiguous "messages" displayed and distorted by the "noisy" screens.

Whilst on the surface there is something primitive in this metaphor of disturbed linear communication, their paper also proposes something more complex. They daringly concede that designs are not closed units, which for a long time has been the modernist designer's ideal illusion. Instead, they claim, designs are open and multistable, and may exist beyond the designer's intent. Consequently, when they undermine the apotheosis of artefacts confined to exist within designer-given determinate possibilities, they are in the same motion also emphasising the indeterminate kinetic pluralism of designed artefacts. They give an example of Projected Realities, which is a project designed to increase the awareness and presence of elderly residence in Bijlmer, a Dutch housing estate. Projected Realities is made up of "Sloganbenchs" and "Imagebanks", which are installed in the Bijlmer area. A scroll of fabric with handwritten slogans from the elderly residents is inserted into the back support of the benches, each slogan is associated with a set of images which are displayed on the Imagebank's five monitors. These two elements were also wirelessly connected so that "the slogans on local Sloganbenches could be summarised by the images showing on a single roadside Imagebank" (2003, p. 234). In this way, the designers have intentionally made an ambiguous open system that insists on an audience's interpretation.

However, it is curious that Gaver, Beaver, and Benford do not consider the presence of ambiguity before the more determinate production of a system of benches and monitors.

For example, the ambiguity of the brief, “to help increase the presence of older people in a large Dutch housing estate” (2003, p. 234), or the necessary material ambiguity of a bench to afford both sitting and displaying, and so on. As such, because it is not considered how these uniquely ambiguous artefacts came into being, their paper appears to be taking artefacts for granted. It is surprising that Gaver, Beaver, and Benford do not review the consequences of this dynamic open ambiguity for designers specifically. Instead, they generally focus on how audiences and users are now charged with a sense of agency when needing to interpret uniquely ambiguous artefacts. The authors almost exclusively consider the audiences role as the interpretative “decoder” of ambiguous designs, such as “rain curtains” or “Imagebanks” and “Sloganbenches”. They propose that “the work of making an ambiguous situation comprehensible belongs to the person” (2003, p. 236). Whilst this undermines the ambiguous world as it is encountered by designers, it does emphasise the pluralism of designed artefacts and the responsibility of audiences as independent sense-makers (2003, p. 233).

The limit of their study is becoming apparent, it focuses on people interpreting purposively open, and therefore ambiguous, designs. Characteristically, these are designs that — in Shannon and Weaver’s terms — are intentionally “noisy”. Speculatively, however, what happens when closed designs are considered to be open? In other words, from a designer’s perspective, what happens when interpretation does not meet intention? The present paper emphasises an overlooked aspect of the ambiguous world for designers. This is done by considering the creative encounter between a designer’s interpretation and an inherently ambiguous world of potential. This notion is contextualised in the work of Estonian bricoler and model maker Fyodor Šantsõn.

## 2. The world as a collection of oddments

Fyodor Šantsõn is a designer that subverts the closed intentions of everyday designs. Since 1992 Šantsõn has been constructing an enormous model of Narva, a city on the European-Russian border, which was levelled during World War II. The Narva model is laid out in his workshop, which is housed in a now mostly empty town hall — one of the few buildings reconstructed after the war. Šantsõn is a bricoler twice over, first in the original sense as a tinkering handyman, and secondly in Anthropologist Claude Levi-Strauss’ definition as someone who finds a constructive usefulness in seemingly unusable and unrelated artefacts (1966, pp. 16-36). The objects Šantsõn collects, which litter his workshop (Figure 1), are defined by their unforeseen “potential” rather than their determined “given” properties. This is a result of Šantsõn’s designer-interpretation encountering a world of ambiguous potential. By selecting choice elements, and holding them in his studio, he is cutting back the vast surplus of potential resources and is defining his own set of unique materials (Figure 2).

*Figure 1. Fyodor Šantsõn's workstation*

Šantsõn's models are carefully made up of these choice indeterminate bits of stuff, it is what is readily available and easily sourced in Narva, such as Styrofoam, corrugated cardboard, twine, and aluminium foil. Levi-Strauss may have called these ambiguous materials "a collection of oddments" (1966, p. 16). For example, a plastic wallet for holding papers has the potential use, for Šantsõn, to be a windowpane on one of his models, and off-cuts of lace give an effect of chiselled stone filigree. As Levi-Strauss claims, in the tongue of the bricoler, this collection of oddments "may always come in handy" (1966, p. 16). As a designer making sense of his imminent world, Šantsõn is working out of phase with other designer's intentions and adrift from semiotic convention. Even in his construction process, Šantsõn uses medical syringes to clamp and pin parts of his models down whilst he glues them (Figure 3).

Šantsõn also uses archival photographs and architectural drawings, as well as witness testimonies with elder residents (Nikitina, 2013), to lever the ambiguous bric-à-brac into even more determinate and comprehensive forms. To an extent, once the materials have been applied to the model their fluid indeterminacy starts to harden and their newly determined purpose begins to make more sense; twine as window lead, Styrofoam as landscape and brick, cardboard as walls, and so on.

*Figure 2. Fyodor Šantsõn in his workshop.*

It is only after the model gains an apparent totality, after it has shifted from a collection of oddments to a seemingly unified artefact, that Gaver, Beaver, and Benford's classes of ambiguity — as information, context, and relationship — have a foothold. As such, due to their delimiting focus on people's interactions with actual designed entities — in this case, what would be Šantsõn's finished model — the primordial intensities of ambiguity in the design process are misplaced. For example, the word of mouth testimonies, drawings, photographs, written histories of Narva, and Šantsõn's ad hoc practices, are under-acknowledged as a "resource for design" (Gaver, Beaver & Benford, 2003).

The present paper argues that Šantsõn's primary materials are inherently ambiguous. They then become more determinate once they are arrested in a scheme of meaning, in other words: once they are "de-signed". The loss of ambiguity in that design process is the gain of a set of increasingly determinate properties, such as a 1:100 scale model of Narva. However, the model is not in a state of permanent fixity, rather, it is loose and contingent.

For example, on close inspection, the familiar materials that makeup the model are still clearly recognisable (Figure 4). Such as, the characteristic fluffy edges of cut Styrofoam, the creased aluminium foil laid across an uneven surface, and the ripples of corrugated card, which have absorbed the moisture of acrylic paint.

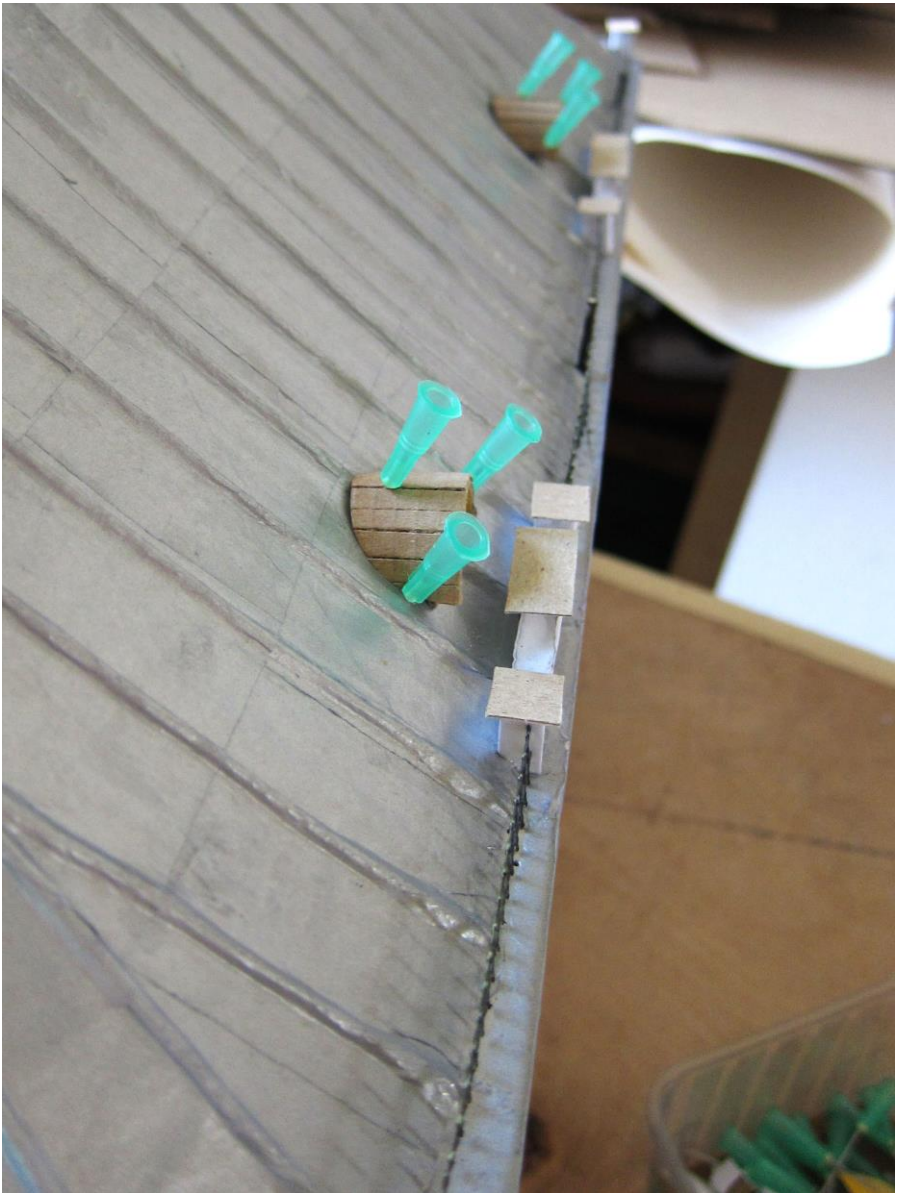

*Figure 3. Close-up of model in Fyodor Šantsõn's workshop.*

The dynamic difference between ambiguously open materials, on one hand, and their more closed de-signed forms, on the other hand, establishes a contrast between the present paper and Gaver, Beaver, and Benford's focus of ambiguity. This can be framed as an ontological disparity, and is reviewed in the following sections, with a specific case study of 19th century British glassblowing. Firstly, a further ontological framing of ambiguity is developed.

*Figure 4. Close-up of Fyodor Šantsõn's model in Narva Art Gallery*

## 3. From complexity to simplicity to plurality

Gaver, Beaver, and Benford claim "things themselves are not inherently ambiguous" (2003, p. 235), they make a distinction between "ambiguity" and notions of "fuzziness or inconsistency". They claim the latter are "attributes of things" and the former is "an attribute of our interpretation of them" (2003, p. 235). Arguably, they are positioning ambiguity to be more or less an epiphenomenal quality, as if it were a characteristic that arises exclusively from the interaction between an audience and a discrete artefact. They clearly distinguish this from "fuzziness or inconsistency" to mean something more or less ontological, therefore, they seem to be disregarding the actual makeup of a thing's being. This distinction is justifiable, however, because of their inherently user-oriented focus at a quasi-consumerist cultural level. After all, they are writing form the perspective of the Interaction Design Research Studio and The Mixed Reality Lab. If we take seriously the idea that the process of designing products is about de-signing and therefore about reducing the indeterminate surplus of a sign — as they claim, "product designers work to eliminate ambiguity" (2003, p. 236) — then the authors are effectively "de-signing" ambiguity and consequently compromising the key tenet of their enterprise.

From a more designer-centric perspective, a fault line can be exaggerated between intentionally designing ambiguous things and interpretively designing with ambiguous materials and methods. The present paper finds the dynamic complexity of the world to be ambiguous and defines the design process as a practice of abstracting that complexity towards a point of relative simplicity and stability. Alternatively, Gaver, Beaver, and Benford are more concerned with the social plurality of those already designed artefacts. For example, it is clear that the authors are concerned with the *possibilities* of ambiguous cultural artefacts for users. When describing ambiguous information, they claim "ambiguity arises in the way that information is presented" (2003, p. 236). As such, they are asking what the possible interpretations of information are, but not how the information came to being. Similarly, when defining the ambiguity of context, they think of it as the "reconceptualisations of existing technologies" (2003, p. 237), which sounds as if those "reconceptualisations" will always in some way be tethered to the original design's scheme of meaning. Evidently, the more dynamic radical contingency of these designs is being overshadowed by their relatively stable status as already "existing technologies". Finally, they claim that ambiguous relationships "push us to imagine how we might personally use such [ambiguous] products" (2003, p. 237) and that these relationships create the "condition for a deeply personal projection of imagination and values onto a design" (2003, p. 239). Again, their definitions of ambiguity rely on an audience's "projection" onto, and user interaction with, already pre-existing designed artefacts.

Alternatively, from a more theoretically charged perspective of design, is it possible to consider ambiguity as an equally rich *potential* quality in actual practices of designing? That is to ask, can ambiguity not also exist in the primitive stages of design before the possibilities of informational, contextual, and relational ambiguities even manifest? If this is feasible,

then the authority of a designer — traditionally, as someone that casts objects into the world charged with their unique designerly intentions — is diffused into something more situated. Before expanding on this further, a more detailed distinction between the *possible* and *potential* is necessary to further understand what is at stake.

Process philosopher Brian Massumi distinguishes what is "potential" and what is "possible". He characterises "potential" as "the conditions of emergence" (2002, p. 10) and the "possible" as the "reconditioning of the emerged" in such a way that it will "define normative or regulatory operations that set the parameters of history" (2002, p. 10). Considering what is "possible" is the dominant treatment of artefacts in *Ambiguity as a Resource for Design* (2003). Gaver, Beaver, and Benford seem most concerned with ambiguity being mysteriously "evoked" by "the possible interactions of determinate individuals and groups" (2002, p. 10) rather than ambiguity being the "potential" from which designs "emerge". As such, for these authors, ambiguity only happens when we already have cultural artefacts as rigid things that exist in the world, such as slogans, image banks, and benches, for example, in the *Projected Realities* exhibition (2003, p. 234). Therefore, ambiguity is limited to be a thing that can only be "evoked" when the expectations and anticipations of audiences are not met. For example, in their illustration of Anthony Dunne's "unusual" *The Pillow* (2003, pp. 234-235), or when audience's experiences are disturbed and "disoriented" such as in *Desert Rain* (2003, p. 234). In this way, things must have already existed in a "usual" or pre-determined capacity. That is to say, audiences must already know of a "normal" bench, screen, or pillow, for them to later be considered disorienting, noisy, or ambiguous. Arguably, a kind of "and-also" additive quality emerges in this treatment of ambiguity, which promotes the open pluralism of cultural artefacts, but only on a superficial level.

For example, from their interpretation of ambiguity, the artefacts of a pillow, chair, and urinal take on a multiplicity of possibilities when they are "reconditioned" (Massumi, 2002, p. 10) to be display ports, message boards, and sculptures. However, this pluralist ambiguity still relies on a more essential referent for them to be considered "unusual" and "disorienting" in their ambiguity. From Gaver, Beaver, and Benford's perspective, it seems that to be considered culturally "ambiguous", the display port must still essentially be a pillow, and a message board must essentially be a bench, also the fountain sculpture must still essentially be a urinal. It is conceivable that this is what Massumi means by the "reconditioning" of the "emerged". The authors prioritise the ambiguous possibilities of the artefacts external form whilst protecting an essential (non-ambiguous) inner core-like matter of the artefact. This starts to sound like Bruno Latour's, self-admittedly naïve, formulaic definition of design as being "not only ... but also" (2008). For example, "not only" is this a pillow "but also" an "unusual" display port.

Whilst the present paper is in admiration of Gaver, Beaver, and Benford's work in foregrounding the virtues of ambiguity, and presenting this ubiquitous quality of nature as a positive resource for design, rather than a malignant characteristic, it differs specifically on

one particular aspect. It is claimed that things in themselves are inherently ambiguous at an ontological level. It should be made clear at this point that the present paper is not defining an ontologically foisted impasse in this argument for ambiguity in design. Rather, by drawing focus to the process of making designs, rather than the effects of interpreting designs, the role of ambiguity in the pre-production of designs is emphasised. The notion of ambiguity as a primordial design resource that comes from surplus, as is argued in the present paper, as well as a material effect of interpretation that comes from finite cultural abstractions, as Gaver, Beaver, and Benford appear to propose (2003), is best illustrated by 19th century glass "Friggers", which are ambiguous materials of design that also come from ambiguous design practices.

## 4. In the Glasshouse out of hours

In the 19th century, industrial glass production was not mechanised. Instead, glass products were made by skilled workers manually manipulating molten glass from furnaces. During breaks, and after hours, glassworkers were free to use the surplus of molten glass. In Britain, the artefacts the glassworker created from that surplus are known as "Friggers", "Nailsea glass" or "end-of-day" glass, but the term "whimsies" is also used in North America (for an account of Friggers in contemporary contexts see: Zetterlund, 2019). Other than being made of glass, there is no definitive characteristic of a Frigger. As such, the glass artefacts are only classified as Friggers based on their circumstance of production. Glass manufacturer Harry J. Powell bitterly recounts the popularity of Friggers in 1923:

> "The great Nailsea works were famous for the fine quality of their crown window-glass, but are unworthily commemorated in museums and private collections by the rude vases, flasks, jugs, candlesticks and rolling-pins originally made by the glass-blowers in their spare time. They are colourless or coloured, and many are marked, spotted, streaked or roughly threaded with opaque white enamel or crude-coloured glasses." (Powell, 1923)

The indeterminate molten glass that the Friggers are made from, the surplus of the day, is an ambiguous glowing lump. As if through a process of reductive abstraction, by cooling, shaping, rolling, and hardening into more familiar shapes, such as "vases, flasks, jugs, candlesticks" (Powell, 1923) the more definitive Frigger is educed out of ambiguity. A type of Frigger glass that Powell mentions are typically unusable cultural items, such as glass canes, gavels, and hats. These explicitly useless novelties were the glassmakers' offhand exercises, allowing them to show off and hone skills. With Friggers, we can see how ambiguity is a resource for designers in terms of the use of ambiguous (molten-like) materials. The Frigger is a design that arises from ambiguity with no provision, practicality, or use beyond a process of actualising surplus potential into something finite and more recognisable, much in the same way as Šantsõn's practice.

In practical terms, Friggers demonstrate how the ostensibly formless and surplus qualities of ambiguous molten glass can come to actuality as graspable designed artefacts — pipes, flasks, vases, etc. — through a process of abstraction. There is, however, an inevitable loss in the reductive process of abstraction. In *Ambiguity as A Resource for Design* (2003) the more kinetic characteristics of artefacts are lost. As such, the way that the supposedly ambiguous artefacts they cite — such as the pillow, urinal, and bench — come to thought, as an entity in discourse, is by dismissing their primordial "potential", in Massumi's terms (2002). However, with the Frigger, the possibility of informational, contextual, and relational ambiguity is dependent on the primordial condition of molten excess.

For example, because Friggers have no explicit utility, historically they became loaded with an implicit superstitious aura. There are several examples of Frigger glass being ascribed "apotropaic" properties. Frigger walking sticks (Figure 5) would be hung by the front door of Victorian homes and cleaned daily to supposedly ward off evil spirits. Similarly, Frigger "Witch balls" (Montani, 2019) would be hung in chimneys to protect the houses occupants from the supernatural. Breaking these Friggers was considered bad luck. Gaver, Beaver, and Benford may define this as "informational ambiguity", whereby the "imprecision" of the artefact requires the audience to draw a unique "conceptual focus" and determine their own independent meanings. Furthermore, as an example of "contextually" ambiguous things, which are defined as "products that implicate several interpretations at once" as a sort of "mingling of discourses" (2003, p. 237), the Friggers are not only ornaments, experiments, and superstitious instruments, but they are also props and costumes. Glassworkers from the North Somerset town Nailsea, and Stourbridge in the Midlands, would parade their Friggers. The prominence of the event is apparent in an 1823 advertisement. It details, each participant will parade with "Glass Feathers in his Hat, Glass Stars suspended by Chains and [...] some kind of Glass Ornament in his Hand" (1823). In this context, the Friggers were a proud celebration of the glassworker's creative talents. Extending from this, into the ambiguity of "relationships", defined as designs which provoke their audiences and users to "form intellectual, aesthetic, emotional, and moral judgements" (2003, p. 237), Unionised North American glassworkers would also parade with their Frigger canes. After their Labour Day parading, they traded the canes for drink at local pubs. As a result, many pubs had back-bar displays of glass canes (Magrath, 2018). In fact, most Friggers produced by the glassmakers are presumed to have been sold at the end of the day in pubs to other punters that would use the Friggers as doorstops, paper weights, and ornaments. In this way, the Friggers, which clearly had an emotional value for the glassworkers, were also being judged for their trade value with bar workers, as well as their negotiable utility value with other punters.

*Figure 5. 19th century glass walking stick frigger.*

## 5. Conclusion

Šantsõn's model making illustrates how seemingly rigid substances can be made indeterminate by exploring their ambiguous potential as an infinite resource of design. In this way, by being a designer that works close to the buzzing confusion of the world, he demonstrates the constructive capacity of the design process to materially transform seemingly "given" entities into alternative unintended designs. Friggers, on the other hand, demonstrate that already ambiguous formless things can be made more comprehensible and still have a cultural plurality — as established by Gaver, Beaver, and Benford in terms of contextual, relational, and informational ambiguity — without needing to exist in a hermetically definitive way, or hylomorphically with an essential referent.

Notably, both of these examples come out of a kind of playful and ad hoc resourcefulness. Šantsõn's curiosity to collect seemingly trivial materials allows him to playfully make sense of a seemingly lost history of Narva. Also, glass Friggers, as a culture of exploration with ostensible waste, have etymological ties to the verb friggle, meaning to muck about, or to masturbate. Despite the seeming disorderly playfulness and lack of formality or structure to these practices, both Šantsõn's work and the craft of Frigger making have been recognised as having genuine cultural and commercial value. Šantsõn's project has earned him the *Valgetähe teenetemärk* (Order of the White Star) (Martínez, 2018), Estonia's highest decoration. Friggers, as end-of-day glass, eventually became a term for commercial glass products with marbling or splatter pattern effects, which has notably been carried over into glasshouses adopting Frigger designs into their commercial product lines.

As such, it has been demonstrated that designers are always already working with ambiguity in varying capacities, such as de-signing ambiguity from complexity to simplicity, and designing for ambiguity by complexifying simplicity into plurality. Furthermore, both of these transformative practices have concrete socio-economic consequences. One aspect of ambiguity that has not been addressed in the present paper, however, is the ambiguity of the designer. Accepting their now diffused authority, designers seem to be themselves increasingly ambiguous figures. In the examples used here, they appear to be archivists, researchers, historians, eccentric performers, trade negotiators, and so on. This confused

identity emerges in line with the recent conceptual reframing of contemporary design, such as being makers of connected ecologies and conditional systems (Maurer, et al., 2013) as well as ontologists designing processes (Kim, 2017).

Gaver, Beaver and Benford have admirably established a constructive connotation to the often-considered odious notion of ambiguity in design. They have critically interrogated and undermined the — surprisingly still popular — notion of hermetically closed designed artefacts. However, as the present paper has argued, it is the preliminary ontological conditions of ambiguity that must now be foregrounded as inspiringly problematic, as Henry Hongmin Kim proposes in *Graphic Design Discourse*, for the sake of innovation and sophistication, designers must become ontologists (Kim, 2017).

## References

Nikitina, D. (2013). *The Miraculous Old Narva*. Retrieved May 2, 2019 from http://www.estonianart.ee/architecture/the-miraculous-old-narva/

Gaver, W. W., Beaver, J., & Benford, S. (2003, April). Ambiguity as a resource for design. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 233-240).

Kim, H., H. ed. (2017). *Graphic design discourse: evolving theories, ideologies, and processes of visual communication.* Princeton Architectural Press.

Latour, B. (2008). A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with special attention to Peter Sloterdijk). In *Proceedings of the 2008 annual international conference of the design history society*. (September, 2008). Falmouth, Cornwall.

Lévi-Strauss, C. (1966). *The Savage Mind*. Chicago: University of Chicago Press.

Magrath, N. (2018). *When the glass workers marched on parade*. Retrieved June 11 2019 from https://blog.cmog.org/2018/09/25/when-the-glass-workers-marched/

Martínez, F. (2018). *Remains of the Soviet past in Estonia: an anthropology of*

*forgetting, repair and urban traces.* London: UCL Press.

Maurer, L., Paulus, E., Puckey, J., and Wouters, R. eds. (2013). *Conditional design workbook*. Valiz.

Massumi, B. (2002). *Parables of theVirtual: Movement, Affect, Sensation.* Durham: Duke University Press.

Montani, C. (2019). *The Science of Witchcraft*. Retrieved May 13 2019 from https://blog.historicenvironment.scot/2019/03/witchcraft

Powell, H., J. (1923). *Glass-making in England*. Cambrige: Cambridge University Press.

Shannon, C. E. (1948). A mathematical theory of communication. *Bell system technical journal*, *27*(3), 379-423.

Unknown. (1823). *Procession of glass makers.* Retrieved June 11 2019 from https://www.bl.uk/collection-items/procession-of-glass-makers-in-newcastle

Zetterlund, C. (2019). *During the lunch break: Conversations on friggers and conditions of making*. Publit

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