Punctum, 4(1): 179-201, 2018

I Just Cut my Finger in a Ninja Fight: The Semiotics and Hermeneutics of the Band-Aid

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In the last decades, semiotic theories have become an important instrument in the designers' toolkit. Influencing theory and practice of an array of design disciplines, ranging from urban design to visual communications and service design, semiotics influenced theory and practice alike. Yet, after realizing the ease with which designers use these theories, as well as some key theoretical concepts ignored by researchers, such as Barthes' 'semioclastics', i.e. the deconstruction of a symbol or a semiotic system, a reframing of design semiotics should be considered. In this article, we wish to present an overall theoretical umbrella of hermeneutic practice, including three layers: classic semiotics, semioclastics and design situation. While the first two present various disadvantages, the third could be an important addition to healthcare design. Taking under consideration that, in general, design deals with questions of usability, we wish to portray the changes in attitude towards the product and its sign, while looking through a 'semioclastics filter'. Furthermore, we would like to broaden the reach and potential of design theory and motivation through a dialogue between semiotic knowledge and hermeneutic interpretation. The shift of attention from the economic or market-oriented approach to a socio-cultural one calls for a different definition of the designer's role as a problem solver. A first step is to view the role of the designer not only as a mediator or a translator of needs and constraints, but as a material and visual interpreter. Focusing on a 'design situation', rather than the designing of a product, leads us to consider various layers of design, one of which is the socio-cultural context and the ability to harness the various design partners in co-interpreting the design situation in a new way and suggest their own interpretation with design tools, methodologies and thinking. Through the design of the band-aid we will show this theoretical and practical shift from semiotics to hermeneutics in the field of healthcare design.

KEYWORDS semiotics, hermeneutics, healthcare design, design situation

DOI: 10.18680/hss.2018.0011

It is what it is, right? The Hermeneutic Shift in Design

'Construction is the art of making a meaningful whole out of many parts. [...] Designing is inventing' (Zumthor 1999: 11, 21).

These two quotes of Swiss architect Peter Zumthor (1943-) accentuate the myriad and possibly conflicting layers of design practice. While on one hand, design is a meticulous and linear process, consisting of imbuing coherence to various parts, while basing one's work on a clearly defined system. On the other hand, design is a fluid, unexpected and imaginative act of creation. The common denominator to these two layers is the necessity of designers to interpret and rephrase their ideas using visual and material tools. While the first vista could be associated with semiotic knowledge and the second with acts of rebellion or disruption, design can be described as hermeneutic in essence, i.e., based on acts of interpretation and translation and not only a linear or a simple solution to a clear question.

Following the political, economic and cultural changes of the 1970s, in the 1980s, a group comprised mostly of Italian designers rebelled against their predecessors and heralded a deconstruction of design language through a post-modernist agenda. Naturally, this approach could be seen through the works of architects from the end of the 1960s, such as Robert Venturi (1925-) and Michael Graves (1934-2015). In industrial and graphic design, these designers, among which the most famous are Archizoom and Memphis, infused what was to their eyes a stagnant design language the essence of visual and material slang. As in a spoken language, slang has a chaotic potential, alongside the essence of rejuvenation, enabling an adaptation, evolution or even revolution of the design language. In the case of Memphis, their use of material and visual slang, as we can see in the designs of Michele de Lucchi (1951-) or Ettore Sottsass (1917-2007), using bold colors and textures, 'cheap' materials, as well as rephrasing objects' configuration, all resulted in embarking on a modified language (Fitoussi 1998, Höner 2017).

Figure 1. Carlton, designed by Ettore Sottsass, 1981, wood and plastic laminate

Imbuing luxurious objects with a connotation of cheap fabrication and Vegas-like identity, the Memphis designers rose over an inside joke to an actual reshaping of design language in a resounding act of interpretation (Poynor 2003, Buchanan 1989). However, at least in most of their objects, the extent of reconstruction was limited to the 3D language, since the basic functionality was preserved.

In general, hermeneutics deals with the interpretation of texts and is based on the work of Herder, Schleiermacher, Humboldt, Dilthey and more recently – Hans Georg Gadamer (1900-2002), and Paul Ricoeur (1913-2005). Conversely, a point of change in the view of hermeneutics was established with Heidegger's (2010 [1927]) concept of 'being-there' (*Dasein*). In his view, a way to solve the interpretation paradox, i.e., our inability to find the correct interpretation out of the myriad possibilities, was not to exit the hermeneutic circle, but rather to base our interpretation on basic human understanding. This notion correlates with the difficulties echoing in the semiotic theories of Barthes and Eco. Alternately, in his famous 'hermeneutic circle', Gadamer described the act of interpretation as a continuous dialogue between the writer, the text and the reader (Gadamer 2008, Høiseth & Keitsch 2015).

Gadamer followed Heidegger by claiming that an interpretation is the result of a dialogue between the past and the present, echoing the very essence of design practice. In the context of design, therefore, the act of material and visual translation lies in the designer's ability to re-contextualize a situation and reframe it by applying a new designed object. While the designed object could be described as material text, the 'readers' of this object are myriad and each poses different challenges to the designer's innovative interpretation.

According to Gadamer, then, a text is naturally embedded in presuppositions. A classic example would be designers' tendency to keep older attributes of new objects to allow the users a liminal period of adjustment to new technologies. German designer's Peter Behrens' tea kettles clearly show this attitude. While clearly electrical, his tea kettles' design mimics the classic look of traditional kettles, allowing for a period of adaptation. Ricoeur (1988, 2006) continues this line of thought, claiming that interpretation is possible, since human beings can communicate with each other, yet to achieve understanding we must correlate between theory and practice. This is critical when dealing with design, due to its various dimensions and key players.

Barthes's contribution (1977) in this context would be the difference between what he calls *langue* (the basic, structural system of language) and *parole* (the ways individuals use this system). In a design context, the *langue* of prosthetic limbs would be its function, while its aesthetic, aims and socio-cultural context (*parole*) would be open to interpretation by the designer. Naturally, reinterpretation of the relation between the two would bring to hermeneutic innovation.

Figure 2. Peter Behrens' kettle for AEG, 1913: The base is wide as if it's on a fire and the handle is still above the vessel to be kept away from fire. Electric kettles nowadays take less place on our working surface and protect our hands from steam by placing the handle on the side

The combination of design and hermeneutics could be illustrated through Gadamer's classic concept of the *hermeneutic circle*. In a nutshell, it means the movement back and forth between the whole and its parts (Grondin 2016). The practice of design, accordingly, is the movement from a complete structure or configuration and its various parts. Another angle to this approach, from a linguistic point of view, would describe design as an act of innovative translation to an existing part of a structural language. Another fitting description would be what Dahlstrom (2015) terms 'the hermeneutic quadrangle', describing language as comprised of four elements – the author (or designer), the text (or object, in our case), the meaning (function and use and the way the object makes us feel) and the audience (various end-users). Naturally, as is clear to every semiotician or linguist, meaning is created through a shared interpretation, or a dialogue between the author and the reader. This complexity is especially relevant to the design process, as a mediation between the designer's approach and the needs of the various design partners (Ventura & Shvo 2017).

'Slang' in design - using humor or breaking the structural language of design to forward change – is, in fact, the research field of the discipline. Experimental design is often used to invigorate a stagnant language and suggest a new interpretation to changing situations. These experiments can evolve to a more mature product that changes the way we perceive situations and norms. For example, the Kinesio Tape, based on the technology of micro-movements helping the recovery of strained muscles, gained tremendous popularity after professional tennis players were seen in major tournaments wearing these tapes. The shift of this product from a professional medical aid to a popular lifestyle statement is echoed in the change from a single color (skin or blue) to an almost endless variety (see figs. 3-4).

Going further from semiotics, through interpretation to deep hermeneutics, is not only changing the color scheme from violet, green and blue to orange and red, but rather changes the design situation itself – from professional sports to everyday reality. This method broadens

the language of design and creates change. Indeed, as in the case of eyeglasses, this shift from a medical product to a lifestyle accessory reduced shame or even stigma from these products.

Figure 3. Kerry Walsh Jennings, USA Volleyball Team, wearing a KT tape bolstering a USA logo

Figure 4. An array of KT Tape colors

As we can see in this famous example, hermeneutic ability is important in design theory and practice, however, due to its broad applicability we wish to focus on one small object – the band-aid. Through the various designs of the band-aid we will present three modes of interpretation, starting with the less complex. We will start with classic semiotics, continue to semioclastics or the breaking of a design system and conclude with our contribution – the *design situation*.

Classic Semiotics: On Function, Structure and Language

> The study of this 'spoken' system of objects - that is, the study of the more or less consistent system of meanings that objects institute - always presupposes a plane distinct from this 'spoken' system, a more strictly structured plane, a structural plane

> transcending even the functional account of objects. This plane is the technological one. (Baudrillard 1996: 4-5)

> The concept of culture I espouse, and whose utility the essays below attempt to demonstrate, is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning. (Geertz 1973: 5)

In 1921, a cotton buyer working for Johnson & Johnson named Earle Dickson developed a new bandage for his wife Josephine who kept getting cut and burned while cooking. The need for an ergonomic, flexible and useful object led to this simple invention, used to keep wounds clean for the last 100 years. Seeing that the contemporary bandage made of gauze wrapping and adhesive did not stick to the finger for long, Dickson developed an alternative. By using an adhesive strip, adding a cotton rectangle in the middle, and wrapping it all with crinoline, resulted in what we know as the band-aid. Interestingly, this important invention went unnoticed till World War II erupted and heralded modern medicine. As early as 1951, decorated band-aids specifically designed for children were manufactured, bearing popular icons such as Mickey Mouse, Donald Duck and others (Antonelli 2005). The selling of the first band-aids in rolls did not add to their popularity, resulting in the double bind object we all know and use. In 1954, 3M replaced the band-aid's fabric with plastic, resulting in a sturdier and more sterile product.

Figure 5. 1921, J&J band aid rolls

Figure 6. Generic plastic band aid

In his famous book *The Shape of Things* (1999), Vilém Flusser (1920-1991) reflects on the complex visual-material nature of design. In a brilliant etymological rephrasing he shifts this discipline to 'de-sign', highlighting the importance of signage structure for the deeper understanding of design. We can call it the classical approach to semiotics in design, since the starting point of the designer's role was, in general, that of a problem-solver and translator of ideas into shape and material.

Semiotics is used for the better understanding of objects and determining the best configuration for their function. Designers usually ask how semiotics lead to proper use of the product they design. Using a well-defined sign system, the designer leads the end-user to one option of interpretation from a variety of possibilities, or what is known as *anchoring* (Barthes 1977). Especially in medical products, a clear and intuitive design is considered an important value.

To some extent, we can rely on the user's ability to interpret and decipher cultural knowledge and visual literacy when coming to design a new product. For example, we can all recognize the visual sign of a band-aid and its primary function. Less than a hundred years ago, this fact was not so obvious. We can identify the symbol, along with its signified, its function and we can even assume what is its most popular color. An intelligent use of this system of purveying information gives designers the ability to communicate with users, guiding them to the correct way of using a product.

Figure 7. Street artist DEDE, Band aids across Tel-Aviv:
We can easily read this sign even when its origin has been manipulated

Figure 8. Edda Vardimon Gudnason, Plaster X, brooch, 1994, silver and gold

While designers have been accepting the importance of semiotics to both the theoretical and practical nature of the discipline, it holds many disadvantages, among which its endless layers and culture-oriented interpretation. However, without delving into the well-known attributes of semiotic knowledge, we will use its frame to focus on three distinctive features crucial to the understanding of the theoretical and practical venues of healthcare design. In this field of knowledge, semiotics is manifested in these three fields (usually all 3 combined): *configuration*, *aesthetics* and *materials/technologies*.

First, the structure or configuration of the product is crafted for better functionality, ergonomics and operating. Naturally, in healthcare design, as in other venues of product design, configurations are constantly being tested and improved. These actions enrich the variety and create new aesthetics, promoting the evolution of a product. As we can see in the sophisticated configuration depicted in the next illustration, encasing several functionalities in a single configuration:

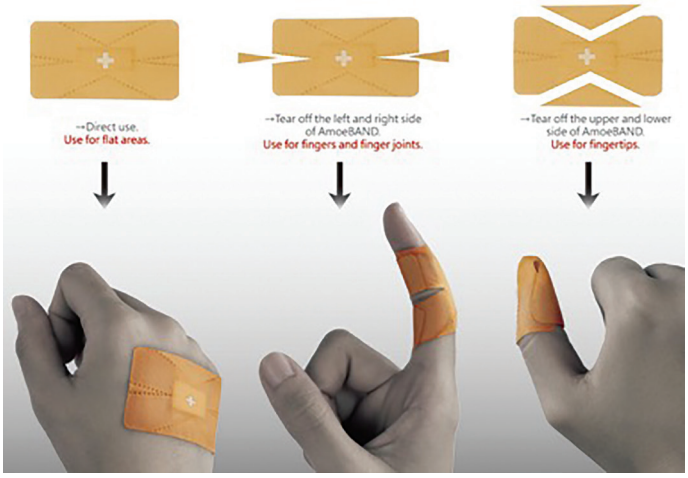

Figure 9. Variety of structures in one product, by AmoeBAND (Designers: TayPek-Khai, Hsu Hao-Ming, Tsai Cheng-Yu, Chen Kuei-Yuan, Chen Yi-Ting, Lai Jen-Hao, Ho Chia-Ying, Chen Ying-shan, Weng Yu-Ching and Chung Kuo-Ting)

Second, the aesthetic values of the product, i.e., in general, the shapes and colors used in a specific design. Naturally, a color-scheme could be functional (i.e., bright running clothes for nighttime)[1] or socially-oriented at a specific identity or other venues of visual communication. For example, the use of color as a functional code (as a function, color changes indicate when it's time to replace the band aid) and as a customization and personalization tool (a set of four different colors to choose from, along the ability to match a social setting with the color of a band aid) like in this AmoeBAND design:

Figure 10. A variety of colours in one product, by AmoeBAND

Third, manufacturing technologies and materials used in a specific design. For example, the innovative materials used by major sports brands, from mesh fabrics and smart textiles to 3D printed parts and IOT that can totally change the product's abilities, like this Corventis bandage.

1 See, for example, Blaszczyk, 2012.

Figure 11. Smart bandages, including this one from Corventis, can transmit cardiac data in real time from a patient's body to their physician.

Semioclastics Reframed: From Dreyfus to Deconstructivism

> Thus, etymologically, design means 'de-sign'. This raises the question: How has the word design come to achieve its present-day significance throughout the world? [...] The word occurs in contexts associated with cunning and deceit. A designer is a cunning plotter laying his traps [...] Another word used in the same context is 'technology'. The Greek techne means 'art' and is related to tekton, a 'carpenter'. The basic idea here is that wood (hyle in Greek) is a shapeless material to which the artist, the technician, gives form, thereby causing the form to appear in the first place. (Flusser 1999: 17-8)

> The architect has always dreamed of pure form, of producing objects from which all instability and disorder have been excluded [...] No form is permitted to distort another, all potential conflict is resolved. The forms contribute harmoniously to a unified whole. [...] Any deviation from the structural order, any impurity, is seen as threatening the formal values of harmony, unity and stability, and is therefore insulated from the structure by being treated as mere ornament. (Johnson & Wigley 1988: 10)

The essence of semiotic knowledge lies in the structural system, as the field's founding fathers made clear. However, in a less-known text, Barthes mentioned the ability to disrupt

or even shatter this system, as happened in the famous iconoclasm schism in the Byzantine Empire, naming this process semioclastics. Following Barthes' concept we delved deeper into the possibilities presented by this concept. While the function inherent in the various design practices renders complete semioclastics impossible, open-code design, as well as co-design practices make this concept highly relevant in contemporary design. To a lesser effect, changing or disrupting a layer of the previously mentioned attributes of classic semiotics will result in innovation and creativity, or material and visual slang (Ventura and Shvo 2016).

Following Le Corbusier's (2007 [1923]) consideration of standardized human proportions in his *machine-à-habiter* (or 'living machine'), in the second half of the 20th century, industrial designers echoed the same conclusions. In his seminal book *Designing for People* (1955), American designer Henry Dreyfuss (1904-1972) introduced the influential characteristic figures of Joe and Josephine, epitomizing human ergonomics. Dreyfuss' most innovative approach rephrased the essence of function, shifting the weight of design from manufacture and marketing-oriented aesthetics to identifying the real needs of the end-users, thus, redefining the essence of function in design.

Dreyfuss' book-title echoes a significant shift from designing for the market to designing for people. Furthermore, as we shall see, the transition from semiotics to hermeneutics in healthcare design is also mirrored in the important transition from designing *for* people to designing *with* people. This important shift can be manifested through the potential and ability of the design language - in other words, through semioclastics. Indeed, to understand the potential of semioclastics we wish to turn to a significant evolution in architecture history echoed in the theoretical outline of deconstructivism.

Although its immediate correlation, Johnson accentuates the origin of deconstructivist architecture, not from deconstructive philosophy, but rather as an inherent result of changes within architecture practice. Naturally, in his perplexing and fascinating career, following the quote opening this chapter, Johnson opened a phase of deconstructivist architecture manifesting in a 180-degree change. Following this postmodern agenda, architects such as Philip Johnson (1906-2005), Frank Gehry (1929-), Peter Eisenman (1932-) Daniel Libeskind (1946-) and others, led to rethinking and redefining the very essence of space, exterior and interior, harmony, structure and order (Woods 1999).

According to Johnson's approach, deconstructivist architecture does not strive towards demolition or dissimilation, but rather to offer a different option to tackle harmony, stability and unity. Indeed, this approach is clear in the next definition of a deconstructivist practitioner:

> a deconstructivist architect is therefore not one who dismantles buildings, but one who locates the inherent dilemmas within buildings. The deconstructive architect puts the pure forms of the architectural tradition on the couch and identifies the symptoms of a repressed impurity. The impurity is drawn to the surface by a com-

> bination of gentle coaxing and violent torture: the form is interrogated. (Johnson & Wigley 1988: 11)

As Johnson and Wigley (ibid) correctly elaborate, the deconstructivist movement in architecture was not based on a frivolous en-vogue notion of going against nature or their own discipline, but rather on redefining the relation between shape, structure and function. Like their Russian predecessors, Tatlin and his fellow Russian constructivists, they went on a quest for shapes. The cracks in the movement appeared when postmodern architects, produced a commentary on buildings, rather than actual buildings. Naturally, these different approaches clashed regarding the very definition of function:

> The modernists argued that form follows function, and that functionally efficient forms necessarily had a pure geometry. But their streamlined aesthetic disregarded the untidy reality of actual functional requirements. In deconstructivist architecture, however, the disruption of pure form provides a dynamic complexity of local conditions that is more congruent with functional complexity. (Johnson & Wigley 1988: 19)

In this manner, Derrida's deconstruction is understood not as an act of destruction, but rather of destructuring. The essence of 'shaking' the essence of a building or a product leads to the verification of its structure, inherent functions and redundancies. Wigley (1997) continues by suggesting considering three complimenting concepts, interwoven through practice - *translation*, *architecture* and *deconstruction* (understood as another form of architectural addition). However, when replacing architecture with design in this equation, we must address the relevance of the other two concepts. Indeed, deconstruction or semioclastics, as well as translation, are used as modes of practical and theoretical hermeneutic possibilities, shifting the essence of design from actions of mediation to those of deeper interpretation. This important shift is viewed through the shift from design as problem-solving to reframing the design situation itself.

Again, one must remember that Derrida's deconstructivism was based on a binary perception of the past. To create a meaningful, critical nuanced, sophisticated understanding of a text (or a material or visual representation) one had to follow a somewhat contradictory path. On the one hand, we should be firmly committed to the legacy of the past, while on the other hand, seek what this legacy omitted or suppressed (Hill 2007).

Additionally, following Derrida's (1978) famous concept of *différance*, the classic semiotic relation between signified and signifier is strenuous at best. Not only will a signifier lead to more signifiers, but this relation is inherently arbitrary. However, the important point in this matter is that while this relation is arbitrary, it is culturally accepted, i.e., it could change according to shifting norms. Therefore, the material or visual manifestation of "disableness" could be

designed in various ways, leading to crucial design issues of visibility vs. invisibility. In other words, the socio-cultural context affecting the interpretation of a designed product sums to an almost endless array of layer upon layer (Derrida 1987).

There is a correlation alongside a deep difference between Derrida's famous theory and its application to architecture or design. Following Derrida's concept of deconstruction, we can view design as such an act, combining between description and transformation, through the essence of material and visual language. This notion of Derrida's concept could be elaborated in the definition suggested by Royle (2000: 11):

> **deconstruction** n. not what you think: the experience of the impossible: what remains to be thought: a logic of destabilization always already on the move in things themselves': what makes every identity at once itself and different from itself: a logic of spectrality: a theoretical and practical parasitism or virology: what is happening today in what is called society, politics, diplomacy, economics, historical reality, and so on: the opening of the future itself.

Moreover, in an interview conducted in 1993, Derrida, who disliked the popularity of his most famous concept, addressed the definition of deconstruction (in Royle 2003: 25-6):

> [D]econstruction moves, or makes its gestures, lines and divisions move, not only within the corpus [of a writer] in general, but at times within a single sentence, or a microscopic element of a corpus [...] I cannot treat a corpus, or a book, as a whole, and even the simple statement is subject to fission.

The relation between deconstruction in architecture and semioclastics in design is important, since both practitioners focus on their design through a reshaping of a practical system. Another possible relation lies between Barthes' concept and Charles Pierce's (1974) *abductive reasoning*. According to Pierce, contrary to deductive logic, using abduction involves the linear connection between preliminary conception and conclusions. Reasoning and explanation are, in fact, what distinguishes induction or deduction and abduction.

Therefore, the implications to design theory and practice are significant, since following the lines of semioclastics towards hermeneutics, the designer can alter (or deconstruct) a word, a sentence or a whole phrase of the design language. In the material and visual world of design, these will be manifested by innovative disruptive shapes, colors, materials or functions. This shift between the structural language and its manifestations echoes Saussure's famous duality of *langue* (in our case, the classic outline of a band-aid) and *parole* (varying colors or configurations within the structural outline of a band-aid).

Interestingly, the reconstruction attempts of the band-aid targeted at children recalls Gombrich's (1985) classic essay on the hobbyhorse. In this essay, British art historian Ernst

Gombrich (1909-2001) differentiates between imitation and representation. A broomstick in a child's imaginative mind represents a horse, thus making a grownup's comment 'it's not real' stupid and irrelevant. The same principle applies when applying a band-aid, since the major purpose of the band-aid is to allow the child to broadcast to the world 'I am a hero, I have sustained a gruesome injury, yet survived to tell the tale'. As a badge of honor, then, the band-aid's design should take these notions into account. The fact that children often use band-aids only for their decorative and playful elements without actually getting cut or scratched is a deconstruction of the situation and the classic 'proper' function of the band aid.

Deconstruction stands between the breaking of visual and material language, but if deconstruction mixes those signs, we point to a trend that involves the re-establishment of new elements of dialogue between the various actors, which are not outside the rules, but beyond the visual and material rules and use interpretation and imagination for doing it. Therefore, while deconstruction deals with structural aspects, semioclastics also addresses issues of ideology, of social dimensions, etc. and not only the potential in breaking structural and aesthetic rules.

So far, disruptive strategies have been outlined vis-à-vis design thinking. As Dorst (2001) mentions, 'design thinking' has influenced the many layers of design since the early 1990s, mainly in the fields of IT, business and marketing. As in design thinking, designers should not look for a problem since perhaps there is none, i.e., we do not know in advance the 'what', the 'how' vis-à-vis the expected value at the end of the design process. In other words, the process of design research, specifically through a semioclastics or 'design situation' lens, could result in an educated action of 'non-design', i.e., working with design partners to consciously maintain their current reality. However, both terms we use are embedded first and foremost in the socio-cultural aspects of design activity. Our addition to the now somewhat crowded field of design methodologies lies in the articulation of the various design partners influencing the design process.

While design thinking is generally interested in market and organizational attributes, and co-design with the individual relations between and inside communities, design situation strives to combine both, adding a deep socio-cultural understanding based on design anthropology. For example, one of the influences of co-design, which is empathic design (Battarbee and Koskinen 2005) is also relevant in design situation and as a natural part of design anthropology. Indeed, the importance of empathic design lies not only on the importance of taking the end-user into consideration, but also their experiences from a broader phenomenological point of view (Koskinen & Battarbee 2003).

Thus, semioclastics are a trigger leading to the potential of hermeneutics, by skipping over the limited approach of classic semiotics. In other words, semioclastics hold the potential of breaking the language and its rules while enabling reconstruction with new personal interpretations (of the designer or the user). The result of this theoretical shift, which we term 'situation design' combines human-centered design and the potential of interpretation.

Design Situation: The Intricate Dialogue of the Various Design Partners

> In the haiku, the limitation of language is the object of a concern which is inconceivable to us, for it is not a question of being concise but on the contrary of acting on the very root of meaning [...] the haiku is not a rich thought reduced to a brief form, but a brief event which immediately finds its proper form. (Barthes 1982: 75)

Since Dreyfuss' *Designing for People* (1955), socially-oriented design strategies started focusing on the needs and constraints of the end-user. Human-centered design, inclusive design and more, focused on various attributes of the end-user's world. User experience, for example, includes a range of factors from ergonomics, through stigma to sensorial feedback. Sanders and Clappers (2008: 6) highlights the importance of co-design stemming from co-creation, and define the former as referring 'to the creativity of designers and people not trained in design working together in the design development process'. A step forward would be Battarbee's (2004) insightful assertion viewing co-experience design as a combination of meaning-making and experience design. Indeed, following the influence of human-centered design strategies, the importance of understanding the end-user's experience and translating it into a specific meaning is highly important in contemporary design. However, while there is a participatory element to design situation, other principles, such us a deep understanding of the socio-cultural context and frugal design add to this important strategy. Contrary to the view presented by Sanders and Clappers, we view the designer-researcher not as a facilitator or a translator, but an active social actor focusing on interpretation through visual and material means.

Situated in the same human-centered strategies, *design situation* (Ventura 2018a), focuses on a broader definition of a product's function, hence, reframing the definition of design, and thus – the role of the designer. As the understanding of the design process progressed and developed, the essence of design shifted from solving problems to understanding the complexity involved in the myriad socio-cultural layers of design. A first step was redefining the design process not as looking for problems to solve, but rather as a discursive process of understanding various paradoxes comprising design practice (Dorst 2006). Indeed, this shift is mirrored in the shift from classic semiotics through semioclastics' potential to design hermeneutics. Interestingly, while this practice includes both designing a situation and situating design practice in a defined socio-cultural context.

Instead of following the classic definition suggested by design theoreticians and historians, viewing the designer as a problem-solver (Petroski 2007), we offer to see design practice as an act of re-interpreting or re-framing the design *situation*. The difference between a product and a situation lies in the broader outline of the latter, incorporating the various design partners,

as well as the socio-cultural context. As in other healthcare products, the band-aid broadcasts a set of indications linking between our individual body and the body politic (Scheper-Hughes and Lock 1987). The moment we go out the door with a band-aid, a visual and material dialogue is created between ourselves and our social surroundings, leading to our efforts to either camouflage or accentuate the presence of the band-aid on our body.

Let us consider the evolution of the band-aid's design. From the 1920s to the 1950s, the evolution manifested mainly in the materials used - from gauze to cloth to plastic and back again to more sophisticated fabrics. However, while the various ergonomic and manufacturing hurdles (not to perfection, as we all know, thinking of applying a band-aid on a joint) went through a steady process of improvement, the more interesting change should be addressed through redefining the situation behind the product. We are not interested in this process as a marketing oriented approach (for example children's brands that apply their characters on the surface of band-aids), but rather on reexamining the design situation to better understand and redefine it.

Figure 12. 3M pop colored and shaped band-aids

In Figure 12 we can see that a bright color scheme shifted 3M bandages from a purely medical product into a consumer product, shifting the gaze from its medical function to its aesthetic value. By that, it is suggesting a different approach to the situation behind using these band aids: from a medical situation that asks to be discreet and hidden to an extroverted one, connected to daily life, yet using design to highlight one's presence.

Another humorous example are the band-aids in Figure 13, manifesting a different and more sophisticated approach based on redefining the hermeneutic stance of the situation. Clearly, the designers focused on the mundane question presented to any wearer of a band-aid – 'what happened?'. Offering suggestions ranging from 'shark bite' to 'ninja attack', this product offers the wearer a whimsical approach to a previously defined 'medical' or overtly mundane situation, presented through a 'designerly' lens on the band-aid itself.

Figure 13. What happened? The band-aid answers instead of the wearer

Another, richer and more sophisticated approach can be seen in Figure 14, designed by Help Remedies. This innovative company identified three main issues relating to healthcare design. First, redefining the function of daily healthcare issues is critical in contemporary urban settings. In a daily, mundane situation, when having an allergy or a headache, we don't need a huge pack of pills, but only a small amount. Second, the packaging of daily and mundane healthcare products should correlate with other consumer products we buy, therefore, not heralding the product's medical function. This change is easily viewed through the venue in which we buy these products - i.e., the drugstore or supermarket, rather than a clinic. Third, most importantly is the redefinition of the boundaries of the design situation. For example, a cut should not end solely in the action of cutting off the blood flow, but could also help others. Therefore, the package in this innovative design, includes an envelope in which the user deposits a drop of their blood, from the cut. This is sent to a bone-marrow database, offering the option to save a life.

These examples help in broadening the scope of the designer's potential not only as a mediator or a translator of needs and constraints, but as an interpreter of socio-cultural situations. Our solution, with implications both in the theoretical, as well as the practical spheres, lies in combining two major concepts of *design as interpretation* and *design situation*. The importance of relating and trying to understand at first-hand the different world-views of the design partners stand at the heart of design anthropology. Design could be understood in line

with Clifford Geertz's (1973) call for deciphering cultural rituals as cultural texts. The meaning of design as interpretation is going beyond the use of semiotics, or, indeed aesthetics, to create user-centered material languages, to the realm of hermeneutics. By applying this innovative frame, we define the designer not as a re-definer of products, but rather as a socio-cultural interpreter, with the ability to transform a broader vista of designed solutions. The shift from classic semiotics through semioclastics to design hermeneutics is embodied in the design situation, as we have seen. Indeed, the possibilities of language breakage which is semioclastics enable designers to reconfigure and reframe the design situation. This in turn, creates a deeper impact on our daily routine.

Figure 14. Help remedies: using the situation to enlarge bone-marrow database

Conclusion: Imagination as an Extension of Hermeneutics

> A relevant translation would therefore be, quite simply, a 'good' translation, a translation that does what one expects of it, in short, a version that performs its mission, honors its debt and does its job or its duty while inscribing in the receiving language the most relevant equivalent for an original, the language that is the most right, appropriate, pertinent, adequate, opportune, pointed, univocal, idiomatic, and so on. (Derrida 2012: 368)

Following Derrida's quote, we must ponder the question of 'relevant to whom', as well as how should we do it? What is a good translation of a design situation? The essence of the an-

swer lies in the agentic abilities of the designer and the harnessing of ideology in the practice of design. The designer's role in this case, shifts from deciding what is a good translation to negotiating and maintaining a dialogue between the various design partner in each design situation as we have seen earlier. Moreover, designers should keep in mind all the possible signs and meanings and decide which interpretation they want to use to create new meaning to a situation, using design tools and methods. Thus, the transition from semiotics through semioclastics to hermeneutics is not only style-oriented, but most importantly ideology-driven. The transition of the designer's role from a problem-solver to an active interpreter is crucial in contemporary design and especially so when dealing with healthcare design. The shift from creating a (hopefully) better-product to influencing the patient's very definition of their situation is significant.

This transition from semiotics, through semioclastics to hermeneutics could be easily traced regarding the band-aid's design portrayed in this article. Following the early focus on the function of the product, designers quickly turned to semiotics, articulated, for example, in a series for children bolstering Disney figures. The breakage of the semiotic sphere could be seen in the various bold colorways of various brands. However, a hermeneutic or interpretive shift would be to focus on the very design situation of the band-aid instead of its style.

Architectural historian Charles Jencks refers to a postmodern cultural phenomenon he calls *adhocism*, stemming from *ad hoc*. This approach, following the bricolage tactic of post-modern architecture, is embedded in reconstructing and redefining material and visual languages. Jencks qualifies it as follows:

> But a new mode of direct action is emerging, the rebirth of a democratic mode and style, where everyone can create his personal environment out of impersonal subsystems, whether they are new or old, modern or antique. By realizing his immediate needs, by combining ad hoc parts, the individual creates, sustains and transcends himself. Shaping the local environment towards desired ends is a key to mental health; the present environment, blank and unresponsive, is a key to idiocy and brainwashing. (Jencks & Silver 2013 [1972]: 15)

While this approach is highly interesting regarding architectural theory, it had a broader theoretical impact on postmodern culture. The hermeneutic roots of interpretive design sometimes originate from a need to express one's self or preferences, but can also be used as a strategy to redefine the design situation for it to better suit the needs and constraints of all the design partners (and yes, sometimes these needs are self-expression and preferences, but not always). Rather than a sporadic gust of individualistic creativity, interpretive design is sensitively premeditated, based on needs and conception and targeted to be adaptive in an ever-changing reality, which is the very definition of healthcare.

Svenaeus (2013) interprets the clinical experience between patient and physician as a hermeneutic dialogue, based on the perception of healthcare as phenomenological experience. As we have seen throughout this article, the ethos of healthcare design could well be described along these two intersecting lines. Indeed, from Hippocrates onwards, the rendezvous between patient and physician was based upon a dialectic attempt to define illness through either the prism of cosmology, religion or science. According to Svenaeus, the essence of the medical encounter between physician and patient is embedded in a hermeneutic attempt at interpreting a specific medical situation. Indeed, just as the dialectic relation between the medical staff and patients is a result of a process of interpretation, so is the case of healthcare design. Accumulating the various points of interpretation, comprising of the design situation creates a product of visual and material hermeneutic knowledge. However, in contemporary healthcare, various encounters between medical professionals and patients are conducted through the mediation of designed objects. The ability to intelligently decide between classic semiotics, semioclastics or hermeneutics should be based on a deep understanding of each design situation.

To conclude this article, we would like to present an optional approach for integrating hermeneutic knowledge in the design of the band-aid. When redesigning the band-aid, we must consider the various attributes consisting of this design situation. In which ways will the individual and specific world of the user be mirrored in the design of the band-aid. Moreover, how will this design mirror in turn the various aspects of the socio-cultural environment in which she or he lives and works? The aesthetics of the home differ from those of the workplace, for example. Cultural settings and her/his inner self and self-esteem all should further affect the design of the band-aid. Granting the user, the freedom to choose the design of her or his band-aid, should include the choice of hiding or exhibiting the injury, as well as offer ergonomic solutions to various anatomic 'topographies' (just think of trying to apply a band-aid in the area between two fingers). Furthermore, each situation in which we operate throughout the day dictates differing aesthetics - an office meeting, a session at the gym, lunch with friends or a party all dictate different interpretations of the design situation.

Following these considerations, we would suggest a redesign of the band-aid along three possible designs. First, designing the band-aid as a 'procedural toolbox' following the physiologic progression of the healing process, i.e., the band-aid will be designed from organic scales that will start by sheltering and nourishing the wound. As the healing progresses, these scales will naturally detach and disappear, leaving the healing wound open to the exterior air. Second, from a more functional and phenomenological state of mind, comes a possibility to design the band-aid to mirror the user's mood and various daily scenarios. Using the now very popular 3D printers, the user would be able to download and print a specific band-aid according either to their mood or activity (a session at the gym, a board meeting, etc.). Finally, harnessing smart textiles and new technologies, the band-aid could help the user monitor var-

ious physiologic parameters. Ranging from blood-type, through body temperature to blood pressure, will transform the band-aid to an intelligent and vibrant device.

Be the future of the band-aid as it will, the essence of harnessing the designer's ideology and deeper understanding of the design situation will transform the ways we understand and practice semiotics.

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