Design and stigma: the relation between mobility aid and stigmatization of older people

Abstract

Walking aids are part of the material culture of older adults. If, on the one hand, they bring security to this population, on the other, they trigger a stigmatization process that generates negative emotions. This research reflects on the power of design and its ability to stigmatize aging through product categories (canes, crutches, and walkers). The discussion is divided into three parts: I) Things and their meanings, II) The biomedical device and III) The stigma of design. In this way, we present how design knowledge is organized by the biomedical device (medical-hospital aesthetics) and how it stigmatizes mobility aids and the aged body. Finally, from an interdisciplinary perspective, this article has contributed to understanding the stigmatization process through the meanings attributed to materiality (product-body-prejudice-emotions-product).

Keywords: mobility aids; biopolitics; prejudice; stigma; aging.

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Design e estigma: a relação entre o equipamento de auxílio e a estigmatização do idoso

Resumo

Os equipamentos de auxílio à marcha fazem parte da cultura material do sênior. Se por um lado eles trazem segurança para essa população, por outro, ativam um processo estigmatizador, produzindo emoções negativas no idoso. O objetivo desta investigação foi refletir sobre o poder do design e sua capacidade de estigmatizar o envelhecimento através de uma categoria de produtos (bengalas, muletas e andadores). A discussão está dividida em três partes: I) As coisas e seus significados, II) O dispositivo biomédico e III) O estigma do design. Dessa forma, argumentamos como o conhecimento do design é arregimentado pelo dispositivo biomédico (estética médico-hospitalar) e como ele moldura um sentido estigmatizante nos produtos assistivos, produzindo assim, o estigma do corpo idoso. Por fim, a partir de uma perspectiva interdisciplinar, este artigo contribuí na compreensão do processo cíclico de estigma sobre envelhecimento através dos sentidos atribuídos à materialidade (produto-corpo-preconceito-emoções-produto).

Palavras-chave: produtos assistivos; biopolítica; preconceito; estigma; envelhecimento.

1 Introduction

In the 19th century, walking aids were associated with wealth, power, and style. However, by the 20th century, they had become a stigmatized device, used predominantly by the disabled, especially older adults. According to Fallon (2020), canes have been met with resistance by older people and stigmatized by society.

Several social conditions contributed to the older population being pathologized, mainly because of the aged body, as opposed to an increasingly faster society, centered on production and profitability. It is essential to note that few investigations address the use of aid devices considering the stigma production process and the way these artifacts are perceived in daily life by older adults (RODRIGUES, 2021).

As a result, there is little interest in personalizing these devices, leading to a standardization of aesthetics based on hospital models. Aging is closely associated with disability and with infirmity and illness. A thorough understanding of aging should not be restricted to its biological aspects but also to its symbolic aspect and social construction (GUFFEY, 2017).

After two World Wars (the process of mass production) and the emergence of ergonomic studies, the meaning of walking aids changed (FALLON, 2020; MEISTER, 1999). The visibility of walking aids as fashionable or ceremonial items declined more rapidly during the interwar period. Canes and walking sticks were used by young adults to climb on horse-drawn carts. Due to the advent of automobiles and public transportation, people no longer need to live in squares or streets. Furthermore, briefcases became more popular than canes as a storage or physical aid (HARRIS, 2005).

Also, to improve living conditions, utensils were created for the millions of convalescents returning from the battlefields. During that period, the practical function of aid equipment gained strength, primarily due to the development of ergonomics as part of the design. Several noble materials were replaced with instruments such as aluminum shafts and rubber tips (FALLON, 2020; MEISTER, 1999).

The cultural changes shifted the social perception of walking aids, which wentfrom a fashion accessory in the 19th century to a device that served medical needs in the middle of the 20th century. Their traditional association with refinement and power was gone, and it became a symbol of aging or disability instead (RODRIGUES, 2021).

In light of this dynamic, the conditions of use for mobility aids may reinforce potential discrimination and stereotypes associated with aging. This characteristic is in dissonance with the market's tendency to personalize all products for everyday use. (DESMET; HEKKERT, 2007). Moreover, there is a lack of knowledge about emotional and aesthetic factors in products designed for seniors, as they are typically focused on safety, security and on reducing hospitalization risks (ASTELL, 2013; JACOBSON, 2014; PIRKL, 1994; VAES, 2014). More specifically, we intend to examine how the aid equipment bears socially constructed stigmas and meanings that reflect contemporary society. Therefore, according to Papanek's argument, design is the conscious effort to impose meaningful order (PAPANEK, 1971).

To understand the relation between Design and stigma production of aid devices, an interdisciplinary approach was proposed. This article is divided into three parts: I) "Things and their meanings," where Bourdieu, Gell and Miller's concepts are examined to produce meaning; II) "The biomedical device," which emphasizes the production of the senior subject through the thoughts of Foucault and Rose; and III) "The stigma of design" where we analyze the stigma of form/aesthetics using Goffman's categorizations. Finally, by following Norman's approach, we propose possible solutions to the problems raised regarding the design of aid products and aging stigmas.

2 Things and their meanings

According to Deleuze and Guattari, a "thing" is not simply a thread but an aggregation of threads of life (DELEUZE; GUATTAR, 2004, p. 290). It is possible that things are not time-tight because they are movements that entangle different meanings.

Unlike Heidegger's concept of static object quality in 1971, a "thing" is always in a fluid cultural arena and has historicity.

In dialogue with this perspective, although the authors maintain differences, we propose an approach through the concept of "habitus" developed by Pierre Bourdieu. For the sociologist, this concept is defined by a system of socially constituted dispositions that, as structured and structuring structures, constitute the generating and unifying principle of the set of practices and ideologies characteristic of a group of agents (BOURDIEU, 1991). Habitus includes our identity, practices, values and social beliefs and may also be analyzed as the synthesis of a lifestyle.

Habitus, however, does not underlie the subjective constitution but rather guides how artifacts are perceived in terms of meaning and how we respond to objects, whether in terms of pleasure, emotional response, or aesthetic response. It articulates a field of legacy and shared experiences with products, going beyond the simplistic and marketable view of usability where the product provides only a package of benefits through interaction (HASSENZAHL, 2003). Thus, the perception of things is modified concerning an active notion of subjects, which has been accumulated throughout their lives.

We understand a product as something that emerges in a particular time and place and is conditioned by specific knowledge, such as medicine, engineering and design. Norbert Elias (one of the main inspirations of Bourdieu's works) defends that the subject is composed of "layers," fruits of experiences along a life course. The author states, "[…] it is the number of interconnected plans of the subject's society that depends on the number of intertwined layers in a person's social habitus. Among them, a certain layer usually has special prominence" (ELIAS, 2010, p. 120). In other words, we may suggest that in this dialectic between society and subject, the objects have layers of meaning, without neutrality or a "first essence." We can say that because everything has historicity, including a sense of an object.

According to Ecléia Bosi (1994), objects have a significant role in the lives and formation of older adults since they evoke personal and collective memories. Pain,

trauma, stigma and happiness are memorable and defining factors that should be remembered or forgotten in someone's life. The emotional relation between objects has been studied by Donald Norman, who observed how they evoke powerful emotions such as love and hatred, peace and anger, pride and contempt and, ultimately, preferences and indifference. In this act of uprooting feelings, emotions are fundamental in our relationship with things.

In the same way, Tim Ingold adds: "things move and grow because they are alive" (INGOLD, 2010, p. 7). This is because these things are not alive in themselves but are part of a flow, a vital process, which Ingold best defines as "a mesh of lines" – a mesh of countless possibilities. Through a process of signification, as an open system subject to reworking by the subject and to new experiences, new uses, functions and meanings are elaborated. Hence, there could not be a first essence of the product, or an intrinsic essence, because there must be a mediation between subject-thing, which pervades layers of human meanings attributed throughout the history of material culture.

It is essential to highlight that objects are more than material goods. They are worthy of our pride. Neither wealth nor status is necessarily the reason behind this, but rather the sense they add to our lives. A favorite object may symbolize a positive mental attitude, a token of fond memories, or often an expression of one's individuality. A personal connection is always created between us and an object, whether it is a story, a memory, or another link we have with that (NORMAN, 2005).

The purpose of this section was to present a reflection that denaturalized a static and essentialist view of objects and incorporated them into the social plots and the historical forms of producing meaning. In this regard, an object contains layers excavated and reintroduced in the moving soil of historical and cultural transience. In this way, we understand the centrality of the user experience and its connection with social dynamics.

3 The biomedical device

Foucault argues that truth models result from the relation between knowledge and power within a discursive order operated by devices (FOUCAULT, 1995). The

production of the subject would be an effect of interaction between devices and bodies. In these terms, the notion of the device is fundamental for analyzing discursive and non-discursive practices, as it operates in the power-knowledge-subjectivity triad. The author states that an external power imposes architectural rules, values, laws and discourses on individuals. However, they also become internal. Giorgio Agamben (2009) elaborated on this idea by saying that a device is everything that can be captured, ordered and located, including an aid device for older people. This conception seems to dialogue strongly with Gustavo Bomfim's suggestions about the power of design to construct archetypes and model subjectivities. As he perceived it, it would serve to materialize and perpetuate ideologies and prevailing values in a society. In this way, "the designer, consciously or not, would reproduce realities and shape individuals through the objects they configure, although few accept this mimetic facet of their activity" (BOMFIM, 1997, p. 32).

Endorsed by contemporary work on biopolitics of sociologist Nikolas Rose, we reinforce how we are conditioned by the biomedical device – in the discourses of fear, judgment, stigma, risks and prudence in products that combine technoscience (ROSE, 2001). The author approaches contemporary biopolitics by thinking about the development of biotechnology in terms of how human beings became somatic citizens through various ways of managing life to maintain or recover vitality (ROSE, 2007). Rose provides a valuable reflection on how design knowledge produces biomedical knowledge by shaping the mobility aid, the subjectivity and the perception of the aging body. Figure 1 shows how the device works as it relates to how seniors perceive things: how they should live, what they should do, what they should expect, and what they should fear when it comes to walking aids. This entire product policy is based on both medical and biological data.

Figure 1 – Device web
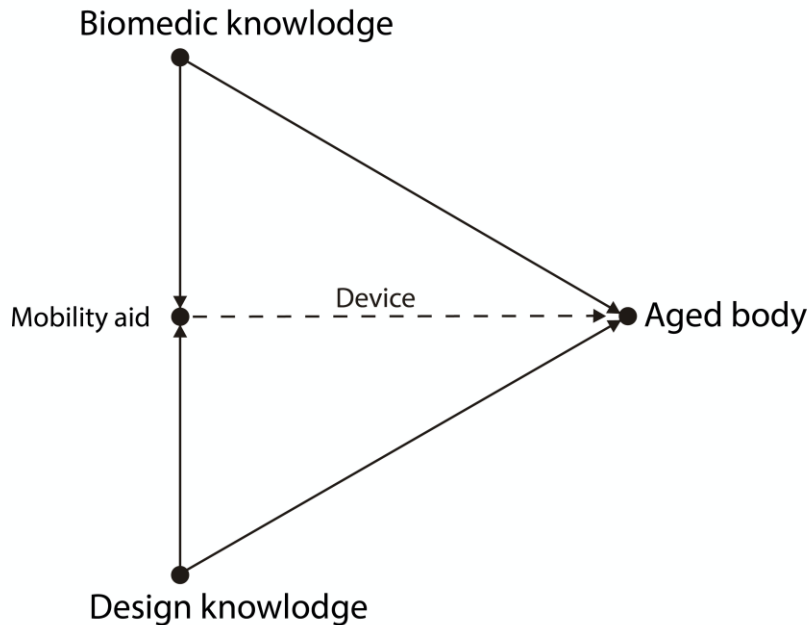
Source: Authors, 2021.

In the same way, Daniel Miller adds that our bodies, behaviors and feelings may undergo object-mediated domestication as an incredible ability in that objects must go out of focus, lie peripheral to our vision and yet determine our behavior (MILLER, 2010). According to Miller, through this biomedical device- design relationship, one can understand the "prosthetic" quality of products as a physical extension of the body, of the subject. McLuhan also argues that any technology is an extension of the body and this extension requires new forms of relations between other organs and other extensions of the body (MCLUHAN, 1994).

On the other hand, Donna Haraway considers the policies of the body to establish the understanding that there cannot be a dichotomy between technology and biology because there is no longer any distinction between mind and body or nature and artificiality (HARAWAY, 1985). Santaella (2007), in turn, gives other adjectives for the technologized body, including "prosthetic," "post-organic," "post-biological," "post-human" and even a broader term such as "bio-cyber." In his view, the concept of

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"prosthesis" does not address the framework of our relationship with things in the 21st century because "[…] more and more, extensions are adhering to the physicality of our bodies and inhabiting their interiors, indicating a tendency to become invisible and even inconspicuous" (SANTAELLA, 2007, p. 131).

The reality, however, is still very far from becoming part of everyday life, especially when it comes to aid equipment, as we can verify that technology has not yet been fully incorporated into the life of older adults. The cane, for example, has not yet merged with the senior's body to the point that it becomes indistinguishable from a limb but, instead, tries to regain the lost faculties of age in support of something outside the body. In this conception of an "enlarged man" the older person is subdued since these products expand and qualify the capacities of the being.

Mobility aside, which of these products claim other symbolic functions? When thinking about aging, it is important to emphasize the sense constructed in these types of equipment linked to the practices of a given time and society. It states that aging is not only restricted to a biological dimension but also involves sociocultural dimensions that condition the experience of this older group. During this period, the stigma of old age is strengthened in Western society. Additionally, the meaning of products that are used by older people (such as mobility equipment) reinforces stereotypes of the "elderly" (COUPLAND; COUPLAND, 1993).

Vilém Flusser enables us to understand the biomedical device and its relationship with the equipment shape and aesthetics. Further, the designer's ideal was pragmatic. Empathy and moral issues were unimportant in the 20th century. (FLUSSER, 2012). Therefore, the concern of designers at the beginning of the industrial age was to design for physical use, supplying a basic need for mobility. This discursive plot ignored social issues or concerns with the production of stigmas. These conditions might reflect the lack of innovation or standardization, in form and aesthetics, on aid products for seniors (Figure 2). Given this, we argue that the stigma of design crystallizes.

Figure 2 – The medical-hospital aesthetics in walking aids

Source: Adapted from Fetterman-crutches (2019).

Several researchers explore the links between aesthetics and the emotional message of the product. This relation has already been questioned from different perspectives, such those developed by the field of behavioral psychology (CORRIGAN, 2004), including design (ZIEFLE; SCHAAR, 2014) and aid mobility devices (HERSH, 2013). Several factors contribute to stigmatization, such as aesthetics, gender and age appropriateness, social acceptability, sublimation, professional deference, teachers, acceptance of disability and universal design principles (PARETTE; SCHERER, 2004). It is, however, necessary to broaden the discussion regarding the production of stigma through materiality in products intended for older people, understand how stigma is produced and measure its impact.

In this section, we establish a relationship between what we call a "medical-hospital device," the notion of stigma and the subjective construction of older people. Through this intertwining, we could confirm that the aid devices had pathologized

seniors' physical being. Thus, we maintain that design is also one of the agents of production of this esteem.

3 The stigma of design

Erving Goffman defines stigma as a social construct that can be understood between a conflict of virtual identity and the subjects' real identity (GOFFMAN, 2004). Through a social stereotype, the real image of the stigmatized subject is deteriorated, discredited, or inferiorized by people or groups deemed as normal. The word "stigma" carries an eminently negative meaning and often leads to discrimination, marginalization and invisibility of people or groups (BACILA, 2005). Therefore, stigma is a state in which normalization confronts differences, producing various feelings such as affliction, revulsion and even fear. Alternatively, as Zygmunt Bauman suggests, stigma is a cultural product that creates territories, spaces and products that delimit a group. It separates the "self" from the "other" using symbolic and imaginary sets (BAUMAN, 1991).

We identified the occurrence of stigmatization of older people in three ways: the first related to physical deformities (motor, visual, hearing, body disfigurement), the second related to behavioral deviations (mental disorders, memory loss, loss of libido) and the last related to tribal stigmas (belonging to a group, center or institution for older people). This brings us to add a fourth way, which is linked to the stigma of design that surrounded the material culture of this age group, such as canes, crutches and walkers, all of which are considered material-historically symbolic items since their form evokes the archetype of the "old" throughout the twentieth century.

In other words, everything that gravitates around this product was composed of socially constructed meanings. Furthermore, there are already several categories to think about stigma, for example, public stigma, self-stigma, stigma by association and structural stigma (ARJAN *et al.,* 2013). However, no significant studies address the relationship between stigma and design through a debate on subjectivity. Thus, it is essential to understand that stigma is also related to materiality as it produces prejudice about a certain group (ALLPORT, 1954).

Goffman also categorized individuals between discredited and discreditable. The discredited individual has different characteristics from the normal ones, which lead to insecurity, reactivity, malaise and denial processes (GOFFMAN, 2004). There are, however, specific characteristics that distinguish the discreditable from those that are normal. In this sense, there is an alienation of their condition, that goes unnoticed by the subject, regarding a Western representation of old age. Therefore, Goffman, Ainlay, Becker and Coleman (1986) examine the historicity of the perception of stigma and its variations according to society and culture. As a result, they bring to light how power relations create and internalize stigma by defining what constitutes "normal" and "abnormal." Therefore, products can be essential in producing self-esteem, depathologization and de-stigmatization.

A varied set of studies demonstrate which factors impact the stigmatization process of aid devices, such as the aesthetics of traditional products over modern ones. The emotional reactions that occur when the individual is observed using equipment in front of other people, as well as the emotional differences between users and non-users regarding the product (CARNEIRO; REBELO; NORIEGA, 2019; GAFFNEY, 2010; VAES, 2014). In a domestic context, for example, there is evidence of resistance from older adults to accept aid equipment due to the stigma the product evokes. They are reluctant to use it until they are forced due to physical needs or medical orders (RODRIGUES, 2021).

However, the problem with prescribing aid products is the association between the product and the "role of the sick," activating the stigmatization process (GAFFNEY, 2010). Therefore, exposure can lead to an internal conflict about using equipment in the pre-senior or better-named "aging phase". The early stages are the most delicate when interacting with mobility aid because it can trigger discomfort, anxiety, fear and even abandonment of the product (PARETTE; SCHERER, 2004).

Thus, with the experience of using an aid device, older people become more attentive to their body, distinct from the standard and healthy body, in a cyclical product-body-prejudice-emotions-product association (Figure 3). It is in this process that stigma can be enhanced using aid products. The senior's position in this discursive order is directly related to this scheme. Stigma is established due to this expectation, which

confronts the ideal with reality. The stigma is generated from the expectation around the aged body. In this scheme, the mobility device evokes the archetypes of old age since they are images and representations already materialized in the social imaginary.

Figure 3 – The stigma process in design
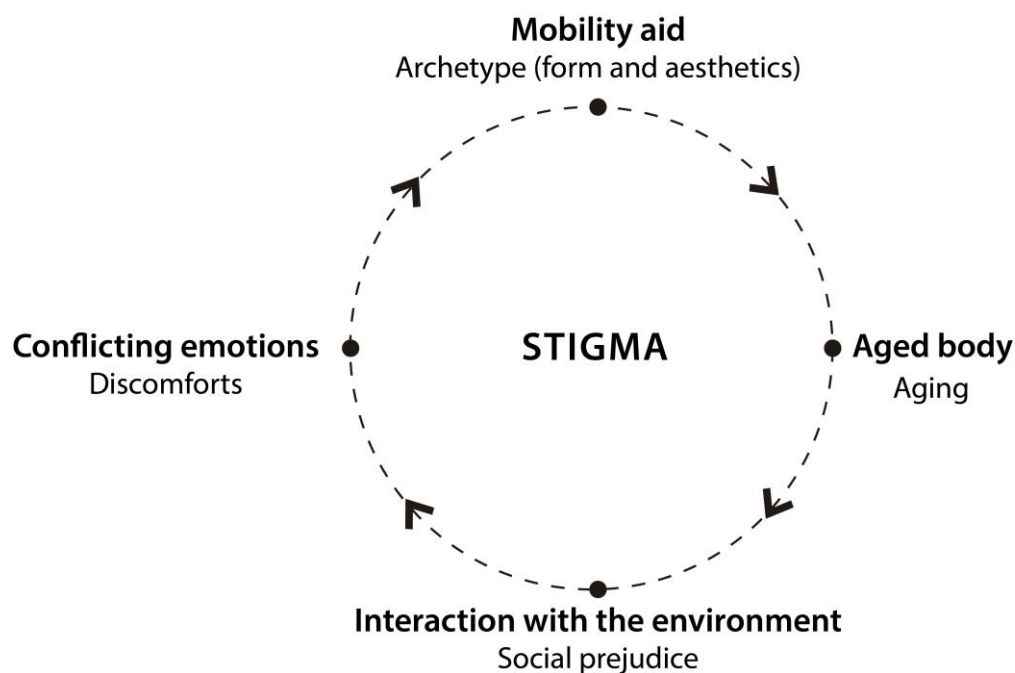
Source: Authors, 2021.

As a final observation, the older adult may also express negative expectations about the experience of using a walking aid. In light of this, at the discursive level, we maintain that aging is considered a pathology, mainly due to stigmatization processes. Under these circumstances, the stigma of materiality plays a central role in this case.

4 Conclusions

This study reflected on the capacity of design to produce stigma through mobility aids. Without wishing to exhaust the discussion, we seek to understand the relationship between design and aging stigma in an interdisciplinary approach. Despite today's efforts to portray older individuals as "active" and "empowered," it is essential to understand aging through materiality, emotions, aesthetic experiences and behaviors. Thus, the stigmatization of products aimed at older people is an interesting field to explore within design. In this approach, it is essential to fight specific patterns of modernity that establish a hierarchy of differences. Therefore, a positive representation could include the terms "active aging" and "healthy aging" that are used in Western culture. These categories were associated with all the mental and physical capacities a person can draw on, including their ability to walk, think, see, hear and remember (WHO, 2020).

Norman (2005) argues that through design it is possible to reflect on the question of identity from the symbolic effects of the products, mainly when a feeling of pride or shame, embarrassment, or comfort is in use. In the same way, Bauman (1991, p. 71) emphasizes the importance of the idea of deconstruction of stigma by Design because "once the signs of stigma are irremovable, a category can only stop being stigmatized if the signifier of the stigma is reinterpreted as innocuous or neutral or if its semantic significance is completely denied and it becomes socially invisible." At this point, the senior subject would not carry a set of stigmas if their marks and symbols were reinterpreted, that is, if the aid equipment was depathologized.

The lack of perspective for aesthetic appeal in walking aids reflects the need for design to understand the habits and preferences of older adults. For decades, the aesthetic appeal has often taken second place, but it seems to be highly relevant to reduce the stigma in products for older adults (LI; LEE; XU, 2020).

The field of design can also be useful in the deconstruction of stigmatizing archetypes of form and medical-hospital aesthetics, proposing new habitus. Thus, an alternative is to minimize the segregation and annulment of the senior subject's identity through personalization, adjustments and choices of the product, seeing it as a fashion

object or, on the other hand, articulating modes of invisibility of the product, so that the stigma of the object is erased. Materiality can break the cycle of stigma in design (product-body-prejudice-emotions-product).

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