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Human Products

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Synonyms

[Human artifacts](#); [Human constructed elements](#);
[Man-made items](#)

Definitions

Human products represent goods (articles, items), ideas, methods, information, and services produced by humans.

Introduction

As sources of data, human products can be analyzed from the perspective of several inclusive fitness-related functions (inclusive fitness is referred here as the abilities of an individual to further pass its genes on to the next generations; Hamilton 1964). These functions can be centered on the individual physiological needs in the physical environment (e.g., clothing for the regulation of body temperature, food preparation, access to water) on intraspecific interactions (couple, family, cultural groups and other types of institutions)

or on interspecific interactions (e.g., human-animal interactions). Having in mind these multiple levels of functional analysis of human products as data sources and being aware that these levels are generally overlapping, a synergic frame of analysis of human products as data sources is proposed here in terms of identifying the connections of human products with individual, developmental, and evolutionary human motives. This synergic analytical frame integrates the model of the renovated Pyramid of Human Needs (Kenrick et al. 2010), the niche construction theory (Laland and Brown 2006, with references to the extended phenotype, Dawkins 1982), the idea of evolved aesthetic preferences (Miller 2001; Tooby and Cosmides 1990), and the principles of Positive Design applied to human products (symbolic meaning connected to subjective happiness and quality of life; Cassais et al. 2016).

Human Products as Indicators of a Pyramid of Human Needs

Maslow's Pyramid of independent sets of human needs (Maslow 1943; immediate physiological needs, safety, affection, esteem, and self-actualization) offers generous possibilities of interpretations of several aspects of human developmental and social functioning, including the human motivation to produce items, methods, and information (i.e., human products) corresponding to their needs.

A revised version of Maslow's Pyramid of needs is offered by Kenrick et al. (2010) in the light of theoretical development at the interface of evolutionary biology, psychology, and anthropology. The renovated Pyramid of Needs highlights the connections between fundamental motives and immediate situational threats and opportunities in human existence, hence anchoring the hierarchy of human motives in the field of modern evolutionary theory (Kenrick et al. 2010). The updated Pyramid examines human motives at three levels of analysis: (a) their ultimate evolutionary function; (b) their developmental sequencing, and (c) their cognitive priority as triggered by proximate inputs.

The most important updated aspect of the Pyramid of Needs is the functional reconsideration of the self-actualization, which is not regarded anymore as a functionally distinct human need. Based on their new interdisciplinary framework of analysis, Kenrick et al. (2010) removed self-actualization from the top of the pyramid and subsumed it within status (esteem) and mating-related motives. In the process of the Pyramid's updating, the authors combined the development level of analysis with the biological framework of *life history theory*, which addresses the trade-offs between the organisms and their environment, in terms of how the time and energy should be allocated in activities and traits that have the potential to maximize their fitness (e.g., Kaplan and Gangestad 2004). Hence, the updated Pyramid includes the following fundamental human motives, starting from the base: (1) Immediate Physiological Needs, (2) Self-Protection, (3) Affiliation, (4) Status/Esteem, (5) Mate Acquisition, (6) Mate Retention, and (7) Parenting. One can notice that the top of the Pyramid contains three reproductive goals, appearing in their developmental order. The authors stress that the later developing goal systems are overlapping, rather than replacing earlier developing systems; once a goal system has developed, its activation can be triggered by salient relevant cues (Kenrick et al. 2010).

The updated version of the Pyramid of Human Needs and the three levels of analysis proposed by Kenrick et al. (2010) provide a frame for the

identification of developmental, individual, and evolutionary data provided by human products.

Several human products are parts of tactics of benefit-provisioning behaviors, which "...are mate retention behaviors that are intended to increase the incentives of staying mated to the current partner and, in turn, deter defection from the relationship. These behaviors can include things such as buying gifts for the partner, altering one's appearance, and different sexual behaviors" (► [Benefit Provisioning](#)). From an evolutionary perspective, a wedding ring, for example, might indicate a resource display within the positive inducement tactic, such as the ability of a partner to provide resources to the female and her offspring and/or intentions of emotional investment – love and affection – in the relation. Also, wedding rings may offer indications about another tactic within the benefit provisioning process, which is the possessive ornamentation, meaning that a male might offer a wedding ring (or another symbolic product) to his female partner to convey to same-sex individuals the status of the relationship (Holden et al. 2014). While a wedding ring can generally be associated with relationship status in nearly any type of human cultures, other forms of human products might be either more ambiguous regarding the information they convey or be presented with specific explanations to the persons expressing interest in the history of the product (e.g., the story of a scarf received as a gift from a former romantic partner in a specific moment of life).

If the example of the wedding ring is taken through the multilevel analysis framework provided by the updated Pyramid of Human Needs model (Kenrick et al. 2010), such an item may offer data on two reproductive human motives (mate acquisition and mate retention), but also on the status/esteem motive. Moreover, the acquisition of reproductive-related human products, such as wedding rings, for example, may offer data on the developmental stage of an individual. Hence, a man who purchases a wedding ring is at a sexual maturity stage rather than at an earlier stage of his ontogenetic development. The value of the wedding ring might offer data not only on the status/esteem of the person, but it may also

indicate that a person who can afford to offer an expensive ring to a potential partner probably has no difficulties in terms of the fulfillment of the individual needs situated at the base of the Pyramid (i.e., immediate physiological needs: access to food, water, and shelter).

Human Products as Indicators of Niche-Construction Process

The idea of individuals changing the environment according to their contextual, developmental, and evolutionary needs is a focus of the *niche-construction perspective* (Laland and Brown 2006). The interaction with the environment is considered bidirectional, in that organisms adapt to their environment and they also adapt the environment to their needs. Like other animal species that manufacture nests, holes, webs, burrows, etc., humans can change, adjust, and construct their physical and social environment. Laland and Brown (2006) point out that niche construction implies not only building environmental components, but regulating the environment “*to damp out variability in environmental conditions.*” Hence, human products may convey data on the environmental variability the humans are faced to and the solutions they came up to minimize this variability. The authors argue that niche construction is not an end product of evolution but a continuous cause of evolutionary change (Laland and Brown 2006).

The large variety and intensive dynamic of human products (including digital information) indicates that, compared to other animal species, humans appear to be effective niche constructors that are continuously challenged by the interaction between their cumulative culture and their evolutionary and developmental needs, as well by contextual threats and opportunities (see Laland and Brown 2006). Culture is seen here as “*the ability to acquire and transmit learned knowledge, beliefs and skills and to devise ever more efficient solutions to problems that build on this reservoir of shared knowledge*” (Laland and Brown 2006). While some human products can be interpreted as parts of the extended phenotype of

individuals, based on the effects that the candidate genes for that type of product has on the environment (Dawkins 1982), there are theoretical studies (mathematical population genetics) indicating that niche construction does not have to be based on genes in order to impact the evolutionary process (Laland and Brown 2006). Hence, it is believed that human culture and the process of niche construction have become self-reinforcing and that the transgenerational culture changes the environment in a manner that favors more culture in order for the human beings to fulfill their needs.

Many human products (elements of the constructed environment), specifically ones that are related to the human motives situated at the base of the updated Pyramid of Human Needs (Kenrick et al. 2010), appear to be resistant to transgenerational culture, in that their basic characteristics indicate their original utilitarian function and that they are generally shaped to suit the human bodies (e.g., cups, forks, knives, clothing, socks, beds, chairs, doors). Typically, niche construction in humans can have immediate fitness benefits to the constructor or to those who acquire the products (Laland and Brown 2006). However, some human products (e.g., medical products, nuclear power plants) may have critical consequences for the environment, which can be translated into negative effects on human fitness. Hence, the presence of these types of products in a specific environment may offer data on the negative effects the products can bring to human individuals and other living species, but also on their potential as selective pressures.

Some human products can be transformed by the users according to their specific needs or body characteristics, e.g., a wheel chair can be adapted to the human body shape and posture and clothing can be adjusted to the length of the legs. Other products, even though they do not fit the personal preferences of the users in terms of aesthetic appearance and proximate needs, cannot be reshaped/adapted due to their built-in characteristics or because they represent unique art-work pieces.

The diversity of traits within the same utilitarian category of human products (variations in shape, color, size, etc.) has attracted a lot of

interest toward the analysis of the *aesthetic qualities* of human products in relation to the evolved aesthetic preferences of humans. Such preferences are thought to be based on the aesthetic experiences of individuals while interacting with their environment (in a direction of favoring the inclusive fitness of individuals) and are supposed to be molded by natural selection through the adaptive advantages conferred by emotional responses during the process of problem solving and decision making in relation to elements of habitat (Orians 2001, in Høgh-Olesen et al. 2009). Besides the habitat selection-based explanation of human aesthetic preferences, Miller (2001) has introduced an updated idea of the connection between human appreciation of beauty and mate-choice (Darwin 1874), arguing that many design features of art products may function as indicators of “*artist’s virtuosity, creativity, intelligence, conscientiousness and other important heritable mental and physical traits*” (Miller 2001 in Høgh-Olesen et al. 2009). In other words, Miller (2001) suggests that the aesthetic judgment can be part of the mate-choice process and social cognition, in that art-work can be seen as an extended phenotype of the artist (Høgh-Olesen et al. 2009). Also, the large variation within the same category of products allows individual aesthetic preferences to manifest at the level of decisions about purchasing one variation over others.

Many human products are nowadays a result of mass production (e.g., cups, glasses, makeup, clothing products, etc.) and their authors are individually unknown to the persons that are purchasing them. Hence, the decision to purchase a product may offer data on the needs of the user, his/her aesthetic preferences, and on the qualities of the product that match the search image of the user. However, in some cases, such as art exhibitions and fashion shows, the authors of the products reveal themselves to the potential buyers. In these cases, i.e., having some information about the persons behind the products, the users/buyers tend to pay more attention to the association between the psychosocial characteristics of the producers and the products, and the decision to purchase the product may be based on this association. Therefore, the labels of several successful

human products (in terms of high demand on the market) may offer data not only on the quality of the product itself but also on the socially and economically perceived image of the producer. A highly expensive and rare brand can offer data on the socioeconomic status of the purchaser, thus functioning as a badge of status for the owner of the product.

Human Products as Indicators of an Evolved Aesthetic Preferences

From the perspective of “narrow” evolutionary psychology (e.g., Tooby and Cosmides 1990), human aesthetic preference is considered a *single integral capacity* (or a genetically based set of beauty detectors, Kogan 1994), regardless of the mate-choice and/or habitat selection advantages it might have provided to our ancestors. Hence, one can infer that, besides their primary utility, human products may offer data on the personality-based and culturally-shaped aesthetic preferences of their users/owners and that the products a person is acquiring during specific moments of lifetime may be considered as elements of that person’s extended phenotype. Besides the data on the aesthetic preferences of the user and on the human motives illustrated by the updated Pyramid of Human Needs (Kenrick et al. 2010), human products may also provide data on the personal significance of a product. The personal significance may or may not be related to the aesthetic preferences of the owner of the product.

Human Products as Indicators of Positive Design

Positive Design is possibility-driven design that enables positive experiences in the direction of improving human well-being (Desmet and Pohlmeier 2013). Several studies on symbolic meaning of human products in relation to Positive Design indicate that people from different cultures tend to attribute symbolic meanings to a large variety of products in association with their need for subjective happiness and personal comfort

(e.g., Cassais et al. 2016). Human products with symbolic meaning can provide the users with the following additional functions (besides the primarily utilitarian function), most of them indicating individual context sensitivity (see Cassais et al. 2016): preserve memories, remind of goals of aspirations, and help build and signal identity (e.g., Csikszentmihalyi and Rochberg-Halton 1981). The products that are mostly accessible through specific stages of development (e.g., favorite toys during childhood) can be offered symbolic meaning in associations to those stages. These associations between products and specific stages of development may be recalled later in life.

While the process of decoding the personal symbolic meaning of a human product requires access to data based on self-reports (interview, content analysis of a diary, etc.), some products can offer direct cultural specific information (e.g., flags, badges, etc.). Physical characteristics of human products, such as their solid structure, for example, facilitate their preservation through long periods of time (e.g., cups, printed pictures, miniatures, carpets), which favors the construction of symbolic meaning. The symbolic meaning of a product is constructed by the owner of that specific product (in the direction pointed by the extended phenotype theory), meaning that without the communication of the meaning by the owner, the symbolic meaning may never be revealed to other persons. Some products, such as the personal advertisements, are produced and used for specific periods of time and their content offers clear indications on what individual need from a potential partner.

Personal Advertisements: Sources of Data about Mate-Choice Process

Overall, evolutionary psychologists consider mate-choice a negotiation process between two partners, and the way each sex expresses choosiness in the process of mating may vary across human cultures (e.g., Schmitt 2005; Rusu and Maxim 2009). Compared to other animal species, humans sometimes engage in forms of

mate search in which they explicitly state what they have to offer to their potential partners and what they expect from them (e.g., Pawlowski and Dunbar 1999). One of the most common forms in which an explicit communication in this respect occurs is the market of personal advertisements, either online or via newspapers (Pawlowski and Dunbar 2001). A personal advertisement typically consists of a list of self-descriptive attributes (i.e., words describing the traits of the advertiser) and a list of attributes the advertisers seek in a prospective partner (Pawlowski and Dunbar 1999). Studies of the matrimonial market in different cultures indicate that the descriptive attributes contained in the personal advertisements reflect the gender-biased mate-choice strategies as predicted by Trivers's theory of parental investment (Trivers 1972), which states that the relative proportion of investment in rearing the offspring varies across males and females. This asymmetry regarding the parental investment of each sex is supported by the facts that a female needs fewer mating episodes to fertilize the eggs she can produce during the entire life, whereas a male has the potential to fertilize a much higher number of eggs than one female can produce. Trivers (1972) has argued that, because of this difference, the reproductive success of females tends to be limited by their access to resources needed for the nourishment of each of their eggs, while the reproductive success of males tends to be limited by their access to females. Given these conflicts of interests between the two sexes, it is expected that the mate-search strategies differ between males and females accordingly. There are numerous studies showing that women, as opposed to men, express a stronger preference for attributes referring to resources necessary for the survival and success of offspring developing from their fertilized eggs. Previous investigations indicate that some of the resource-related attributes that women generally seek are: financial wealth, social status, desire for children, and desire for commitment (e.g., Berezkei et al. 1997; Buss and Schmitt 1993). Since all these attributes are age-dependent traits in men (i.e., older men in average have greater access to resources critical to female reproduction; Buss 1989), women usually seek older

partners. Like the males of other sexually reproducing species, men commonly select their mating partners on the basis of cues that correlate with female fecundity, such as youthfulness, health, and physical attractiveness (Buss 1989; Pawlowski and Dunbar 1999).

Several investigations of personal advertisement markets indicate that these type of human products reflects the evolutionary principles of the theory of parental investment, i.e., male advertisers are more concerned than females about attributes that refer to their partner's fecundity, while female advertisers tend to focus on their future mates' wealth and commitment (Bereczkei et al. 1997; Pawlowski and Dunbar 1999; Rusu and Bencic 2007).

While personal advertisements indicate the proclivity of human individuals to form couples and reproduce, a specific category of human products (e.g., weapons), besides the utilitarian function of hunting animals for survival (food, clothing), indicates the potential of human beings to harm and kill other individuals with the help of weapons.

Human Products (Weapons) as Indicators of Intraspecific Aggression

Buss and Shackelford (1997) start their paper on the evolutionary perspective of human aggression with a reference on the usage of weapons by our ancestors, as indicated by ancient hominid skeletal remains (Trinkaus and Zimmerman 1982). From an evolutionary psychological perspective of human aggression, weapons, as human products and besides their hunting utility, can functionally fit within all the seven intraspecific adaptive problems proposed by Buss and Shackelford (1997) for which aggression might have evolved as a solution: (1) co-opting the resources of others, (2) defending against attack, (3) inflicting costs on same-sex rivals, (4) negotiating status and power hierarchies, (5) deterring rivals from future aggression, (6) deterring mates from sexual infidelity, and (7) reducing resources expended on genetically unrelated children. Within these aggression-related strategies, the

individual decision to use a weapon and the need to purchase such a human product is context-sensitive. Besides the evolutionary psychological explanations listed above (which can be associated with the presence of weapons in human existence), and like other types of human products, weapons may offer data on several other dimensions. These include the degree of mastery a person needs to acquire in order to properly use the product, the aesthetic preference of the user, the possibility to be used by a sole person or if it requires cooperative work, and the degree of innovation of the producer.

Conclusions

Many human products appear to be shaped to suit human bodies and to serve human basic needs (immediate physiological needs), while others seem to be associated with individual, intraspecific, and interspecific needs (with all their proximate, developmental, and adaptive aspects and inferences), such as self-protection, affiliation, status/esteem, mate acquisition, mate retention, and parenting. From the perspective of niche construction theory (see Laland and Brown 2006), human products may offer evolutionary relevant data on the potential of human individuals to control the variability in environmental conditions, in the direction of maintaining specific conditions within tolerable limits for their survival and reproduction, which are the two dimensions defining the evolutionary inclusive fitness. Additionally, the decision to purchase a product may offer data on the needs of the user, his/her aesthetic preferences, and on the qualities of the product that match the search image of the user. A synergic framework for the analysis of human products as sources of data is proposed here, by integrating the model of the renovated Pyramid of Human Needs (Kenrick et al. 2010), the niche construction theory (Laland and Brown 2006, with references to the extended phenotype, Dawkins 1982), the idea of evolved aesthetic preferences (Miller 2001; Tooby and Cosmides 1990; Kogan 1994), and the principles of Positive Design and symbolic meaning (Cassais

et al. 2016). Also, the behavioral flexibility and context-sensitivity showed by human individuals (Buss and Shackelford 1997) should be always taken into account in the process of identifying the potential functions and significance of human products.

Cross-References

- ▶ [Access to Resources](#)
- ▶ [Benefit Provisioning](#)
- ▶ [Clothing](#)
- ▶ [Engagement Rings](#)
- ▶ [Environmental Unpredictability](#)
- ▶ [Financial and Hierarchy Maintenance](#)
- ▶ [Human Tool Making](#)
- ▶ [Nuptial Gift](#)
- ▶ [Parental Investment Theory](#)
- ▶ [Partner-Provisioned Resources](#)
- ▶ [Pornography as a Human Product and a Source of Data](#)
- ▶ [The Extended Phenotype](#)

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