



**By John H. Takamura Jr., IDSA**

john.takamura@asu.edu

John Takamura is an assistant professor of industrial design in the College of Design at Arizona State University. With over 15 years of industrial design practice experience, his teaching focus includes product design experience, product branding and design management.

Mapping the Mysterious Interrelationships Between Products and Brands

# THE PRODUCT DESIGN GENOME

It took 13 years and an international consortium of six countries to decode the human genome. Since the project's completion in 2003, the human genome has had a profound impact on the hard and soft sciences as well as on society as a whole. The concept of DNA as the fundamental building block of life and its subsequent metaphor has even made its way into the business consulting world, evident in such terms as *organizational DNA* and *management DNA*. The metaphor's impact in the product design field is also growing, especially in brand development with the *brand DNA* concept.

By adopting the DNA metaphor, many parallels in the mysterious interrelationships between genes and the traits of organisms and between brands and the attributes of products become apparent. You could even go as far as to say that a product design genome exists, which designers and design thinkers have yet to map for future generations.

## **Brand DNA Metaphor**

In recent years, many books and articles about branding and brand strategy have referenced the DNA metaphor. In *4-D Branding*, Thomas Gad writes of the "genetic programming that creates brands," something he refers to as *brand codes*. According to Gad, a brand code, a play on the idea of genetic codes, is akin to a company's DNA—those factors that make the company unique, such as brand

essence, voice, promise, products and service as well as the beliefs and interpretations of the customers. By establishing DNA, companies can futurize their brand.

In *Strategic Brand Management*, Jean-Noël Kapferer states that "a brand is both the memory and the future of its products." Furthermore, the analogy of a brand with genetic memory, or code, is absolutely central to understanding how brands function.

In short, based on the existing literature, brand DNA can be defined as *the words and perceptions of users contained in memory over time*. This definition not only references the user's, or consumer's, involvement in the brand and product interrelationship, but it also depicts a brand as a dynamic evolving entity that lives and adapts to its environment rather than something static, inert or unresponsive.



### **The Meaning of Information within DNA**

In the early '90s, the term *product semantics*, coined by Klaus Krippendorff and Reinhart Butter, helped define the meaning of information transferred through product forms. The authors stated that the mantra of product semantics was not "form follows function" but rather "form follows meaning," and that designers are part of an equation involving the designer and the user.

In their 1993 *Design Management Journal* article "Where Meaning Escapes Function," Krippendorff and Butter describe the method of semantic transfer, where through an analysis of verbal images, the designer can create forms that transfer the meanings of words independent of the functional performance of the product. This semantic transfer concept emulates the intentional information genes transfer within organisms.

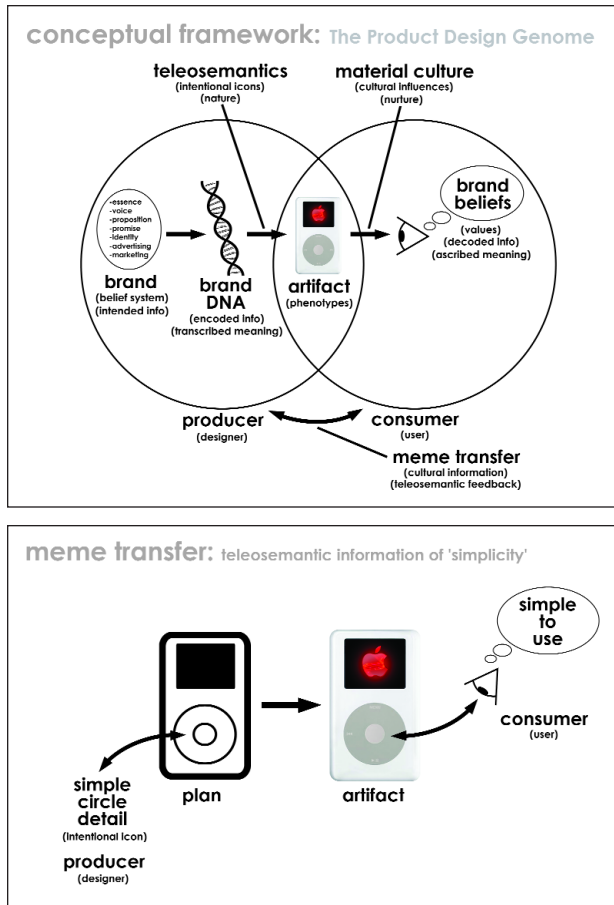
Richard Dawkins, the noted biologist and author of *The Selfish Gene*, describes human interaction and the transfer of ideas in terms of the gene. He coined the term *meme*, now defined in the *American Heritage Dictionary* as "a unit of cultural information, such as a cultural practice or idea, that is transmitted verbally or by repeated action from one mind to another." Princeton University's WordNet 2.0 defines a meme as "a cultural unit (an idea or value or pattern of behavior) that is passed from one generation to another by non-genetic means (as by imitation); 'memes are the cultural counterpart of genes'."

Dawkins states that "Memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain." As with Krippendorff and Butter's semantic transfer, Dawkins' memes exemplify the similarity between the transfer and propagation of genes and the transfer and propagation of meaning through artifacts.

### **Toward a Product Design Genome**

The DNA metaphor best illustrates the multifaceted aspects of brands by providing a lens through which brands can be seen as living, breathing, evolving organisms. As new theories about DNA emerge, more applications for the DNA metaphor are arising. For instance, informational theories about DNA have uncovered further connections between the inner workings of organisms and their development of new traits.

Ruth Millikan, a noted philosopher of biology and author of *Varieties of Meaning*, has used informational theory in her study of the intentional information present in genes. Millikan, oddly enough, uses terms such as *producer* and *consumer* to describe the intentional function of genetic information in the development of physical traits in organisms. She refers to this as *teleosemantic theory*.



Top: The producer-consumer and product-brand interrelationships  
 Bottom: The transfer of brand memes

Teleosemantic theories that reference a producer and consumer relationship within the gene also help illustrate the actual designer (producer) and user (consumer) relationship in product design. The teleosemantic, or intentional, information in human DNA can be likened to the intentional brand information imbued into products. Product design, in fact, transfers the belief systems of brands to consumers through products that are imbued with cultural meaning. This transfer of information, or memes, utilizes the teleological feedback systems that product designers already employ, such as user observations, user interviews and ethnographic studies, to understand and change cultural values.

One of the main criticisms of product semantic theory is that there can never be a true one-to-one direct translation of

the designer's intended meanings to users as is possible in the semantics of written or spoken language. Teleosemantic theory, on the other hand, describes a process where although intended meaning exists those meanings are also open to interpretation. Just as genetic interpretations can lead to mutations or unexpected traits, the teleosemantic transfer of brand information can lead to new brand beliefs by consumers through their interpretations.

The DNA metaphor is also useful as a model for consumer interaction. The process illustrated in the top, left diagram applies Millikan's producer-consumer approach to illustrate how genetic brand information is transferred through a product. The process begins when a company's DNA, or brand attributes, is transcribed into the brand DNA. This brand DNA is then teleosemantically transferred through the product design process to the consumer who interprets the brand information transforming it into brand beliefs (consumer attitudes and interpretations of the brand).

Apple clearly transfers its brand DNA through the design of its products (see bottom, left diagram). The design of simple details, such as the perfectly circular touch pad, illustrates how Apple communicates one of its core brand elements of simplicity, or ease of use. Consumers worldwide believe Apple's products are simple to use partly as a result of the transfer of the brand's simplicity meme through its product design efforts.

### Unlocking the Future

The physical form produced by a product's DNA through the environmental influence of material culture clearly demonstrates the flexibility of the DNA metaphor as a model for consumer interaction. It underscores product design as an integral agent able to alter consumer perceptions, which leads to cultural change. Further investigation and understanding of the inner workings of the relationship among brands, products and consumers will ultimately assist in the development of better product design methods.

The DNA metaphor will also help bridge the many disciplines involved in product design by providing designers with a more dynamic way of viewing their role in the process. It will help designers better understand their influence on material culture and their impact on brands. As product designers and brand strategists discover more details about the genetic makeup of brands, perhaps one day in the near future six countries will form an international consortium to explore and map the product design genome—and unlock the mysteries of the product-brand interrelationship. ■

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