# A NATURAL EVOLUTION IN PRODUCTS

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## ABSTRACT

This paper examines incorporating natural elements in product design with an eye toward understanding future marketability of natural and green products. As a result of human and technological evolution, products have developed to meet changing needs, but also to utilize the materials available. Recent trends in product design, supported by contemporaneous investigations into mental and physical health trends, suggest a movement toward the substitution of natural elements for their synthetic counterparts. Materials, colors, and textures that reflect nature seem to have made a resurgence in products markets and producers of durable and non-durable goods are advised to pay heed to this change.

## INTRODUCTION

One of the hallmarks of humankind is the ability to alter the world around us. We have created tools, vessels, clothes, shelters, modes of transportation; we have domesticated wild animals, cultivated the land for food, and even changed the landscape around us to suit our needs or aesthetic desires. Each item created led to new discoveries, new technology, and new exploration. Very few corners of our world today remain untouched by human hands, and when visiting those remote depths we carry with us as many man-made objects as possible.

Modern economies are built on the production of all these items, and thus are built on our perceived need for them. For the economy to grow and thrive, new items are continually created and marketed. With communication technology increasing, we are made ever more aware of new products and why we *must* have them. The rapidity with which new products are invented has increased exponentially, and has left many yearning for simpler times.

Today, it has become fashionable to attempt assessing the impact on the earth we inhabit and on the other living things sharing this world with us. Many of the objects we buy and foods we eat are given stamps of “green” approval, letting us know that the manufacturers have made some concessions to the environment in the production of these items. Companies are now founded on the very basis of being “eco-friendly” and one can buy clothing made from unusual fibers, furniture and flooring from *sustainable sources*, and foods which have undergone minimal processing from their natural forms. Reasons for businesses subscribing to these changes range from marketability to genuine concern for the environment, but regardless of the driving force, the “green” movement has changed the way we do business, and the way we lead our lives.

One question that has only begun to be addressed is how has, and how will, this green movement change humans? Put into other terms, how have these man-made products changed us and will making greener products change us in a different way? An obvious follow-on question asks how a return to natural elements will affect the evolution of products.

## SEPARATION FROM NATURE LEADS TO PHYSICAL AND PSYCHIATRIC DISEASE

Evidence shows that the incidence of certain physical disorders, including cardiovascular disease, diabetes, and other stress- and obesity-related diseases, as well as certain psychiatric disorders, including depression and anxiety disorders, are much higher in societies which rely heavily on highly processed objects and foods. Conversely, comparable societies which rely on more natural foods and individual investment into production, such as the Amish living in the United States, have far lower incidences of these diseases and disorders (Lambert, 2008). As with all human studies, particularly those done retrospectively, there are many uncontrolled variables which could account for these differences. However, recent rodent studies indicate that contact with nature may be a vital component of these differences (Franssen, 2011).

While it has been demonstrated for over 50 years that an enriched environment will enhance the brain and subsequent cognitive function, recent work suggests that different materials used to enrich a habitat can actually change the brain in different ways. For instance, in one study (Franssen, 2011), some rats were housed with rubber and plastic toys (standard enrichment options), while another group was housed with sticks, logs, rocks, and dirt (naturalistic enrichment). Both groups were cognitively enhanced over a control group of rats housed in a bare cage. However, in this study of highly inbred strains of laboratory rats which had no experience with the natural world for at least 50 generations, it was found that just 4 weeks of interaction with natural elements changed these rats' anxiety responses. Baseline stress levels were lower in the naturally enriched groups; however their stress response to a predator odor was much higher than the control group and laboratory-enriched group. Essentially, exposure to natural elements helped instruct these rats' stress systems to more accurately evaluate the potential threat in a situation, allowing them to mobilize a pronounced fight-or-flight response to a potentially life-or-death situation, and to not "sweat the small stuff" in their daily activities. While humans differ from in many ways, there are similarities in the brain functions and biology.

The incidence of generalized anxiety disorder, panic disorder, and other such anxiety-related disorders is currently increasing in today's youth, concurrent with a decrease in time spent in contact with natural elements. Population shifts from rural to urban and suburban areas continue with lessened contact with the natural world. The average amount of time a child spends outside continues to decline with concerns ranging from abduction to allergies; all at the potential deficit of natural surroundings (Louv, 2005). Piecing these data together with the data from rodent research may indicate that our society's fascination with indoor activities, electronics, and even highly manufactured and plasticized toys and equipment for outdoor activities may be contributing to our children's inability to accurately assess threats and deal with daily life stressors.

## THE INCLUSION OF NATURAL ELEMENTS IN PRODUCT DESIGN IS MAKING A COMEBACK

Over the past few centuries we have seen an evolution of products away from natural elements. Part of this evolution began in the middle ages as the value of cleanliness in preventing disease became well-known and products which were more easily cleaned increased in value, such as smoothly sanded furniture, metal and stone utensils, and glazed ceramic dishes, rather than rough-hewn versions from the past. The industrial revolution and the technological advances of the past century and a half have allowed us to create products of finer, smoother materials. In the past 50 years the revolution of plastics has changed our way of life, from toys to furniture to food packaging.

While plastic-wrappings and plastic products still dominate much of the consumer culture, evidence suggests that these products are not here to stay. The "hippie-dippy" "granola crunchy" counter-culture, demanding more natural products, is likely giving us a glimpse of the leading edge of product development. Several market sectors provide insight into the extent of "natural" influences.

**Food products**

One way in which people are trying to move toward simpler times is to eat less processed foods. This includes eating a whole food diet, lacking in processed items such as white flour, white sugar, high fructose corn syrup, and other recently developed food items. Highly refined foods, being easy to digest and high in calories (and now low in cost due to evolution in both manufacturing and transportation), are at the crux of both a hot debate regarding the obesity epidemic in developed countries and crusade among ecologists worried about the damaging effects shipping has on the environment. The inclusion of natural foods in one's diet can then become a health issue as well as an environmental issue, and marketing these food products tends to mix the two interchangeably suggesting advertising for both a healthier individual and a healthier habitat for the individual. Producers will have to tease apart multiple issues in order to address the motivations for individuals in shopping for, purchasing, and consuming food products which are more "natural" as well as the extent to which the products will meet them.

**Toys and tools for children and adults**

While many of us have a toolkit in our garage containing a hammer, screwdriver, and a few other assorted items for simple repairs, unlike a century ago few of us make our living on these tools. Instead, many rely on more sophisticated tools to carry out their work and personal lives. The omni-present computer technologies have, in a lot of ways, drawn people away from the rewards of hands-on work and connections to their natural surroundings. However, these same technologies have evolved to enable a reconnection with nature. I-pads, the variety of e-readers, cell phones, and other devices allow a freedom from the traditional "desk top" environment so users can get move about and continue to do their "work". The trade-offs associated with constant connections to the e-world are in some ways counterbalanced by the psychological and physiological benefits gained.

So, too, are the tools for the young. Their tools, of course, are the toys they play with and there is increasing evidence of conscious efforts to produce items using natural materials and/or relying on paints and dyes that better represent nature. Wood and metal replace plastics, in whole or in part for many toys now produced. And, as with adult devices, e-toys are made to be mobile.

**Furniture and appliances**

Perceptions shape valuation, and one key input is the price tag hanging on the item. Furniture is no different, but a return to more natural fabrics, glass, and wood suggest perceptions are excited by a return to nature. Even the color palettes reflect an organic emphasis. Stainless steel kitchen appliances, granite and other natural stone counter materials, ceramic and other tiles dominate the interior design motifs. These trends suggest an earnest desire and return to nature on the part of consumers.

**Transportation**

Luxury vehicles have long incorporate wood paneling, metal, leather—all natural elements—into their design, but many of these elements find their way into mid-level vehicles today. Even pick-up trucks, formerly utilitarian in design, include textures and details communicating a connection to natural elements. Similar applications of the use of natural materials can be found in commercial aircraft and other mass transit equipment.

## A LOOK TO THE FUTURE

As our species races forward in technological advances, we find ourselves in the midst of a revolution, where experiences have moved not only from natural to non-natural products but also into the virtual and abstract world. Product designers and manufacturers will do well to heed the revealed preferences of consumers as they register their needs and wants.

Taken at an aggregated level, the investments made by consumers in longer-lived, durable goods suggest a longer-term view of values. Thus, purchasing such goods which demonstrate a stronger connection to natural elements commits to a constructed environment that is, in itself, more natural. Those products offering less capacity to engage consumers at the appropriate levels will not fare well. Any which respond and encourage a deeper connection will meet their underlying needs.

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