Journal of
Professional Communication jpc

# Next nature: 'nature caused by people'

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**Article Info**

*Article Type:*
Commentary

*Article History:*
Received: *2014-03-06*
Revised: *2014-04-25*
Accepted: *2014-05-01*

*Keywords:*
Technobiophilia
Nature
Technology

**Abstract**

Our love of 'nature', also known as biophilia, represents a trusted and ancient baseline in our understanding of the world. But Koert van Mensvoort disputes that idea. Citing examples like electronic plants and lab-grown meat, he postulates that 'nature changes along with us'. How should we respond?

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The Next Nature Foundation is based in Amsterdam and directed by Koert van Mensvoort, a part-time assistant professor who also runs the Next Nature Lab. Connected to the Industrial Design Department of the Eindhoven University of Technology, the lab consists of around 10 design teachers and 60 design students. "Every semester we run projects ranging from designing lab-grown meat, to wild robotics, musical instruments that grow, the design of intimate technologies and more. Our goal is to grow a methodology on how to design, build and live in Next Nature," (van Mensvoort, n.d. a) writes Mensvoort.

Human ideas about nature often have a contradiction at their heart. Most of us accept that adaptation and change are inevitable evolutionary processes, but we also like to believe that the natural world offers a reliable baseline which can be returned to in uncertain times. In the centuries of the Industrial Revolution this notion was regularly tested with stories of human intervention wherein interference with that baseline was shown to result in dire consequences. Jekyll



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and Hyde, Dr Frankenstein's creature, and even the eugenics experiments of the early 20th century, were all cautionary tales about what would happen if humanity meddled with the natural world.

But what do we mean when we speak of something as being 'natural'? Most people would say that we comprehend the idea almost intuitively, but it has a long and complex history, as I found when I was researching my book *Technobiophilia: Nature and Cyberspace*.[1] After a lengthy search for a simple and usable definition, I chose to go with the view of poet and environmentalist Gary Snyder, for whom the term 'nature' is usually interpreted in one of two ways. The first, he says, is in the outdoors, in which it means,

> The physical world including all living things. Nature by this definition is a norm of the world that is apart from the features or products of civilization and human will. The machine, the artifact, the devised, or the extraordinary (like a two- headed calf) is spoken of as 'unnatural.' (Snyder, 1990, p.8)

His second meaning is much broader. It takes the first definition but adds to it the products of human action and intention to produce a concept which refers to "the material world or its collective objects and phenomena," (Snyder, 1990). "As an agency," he writes,

> Nature is defined as the creative and regulative physical power which is conceived of as operating in the material world and as the immediate cause of all its phenomena. Science and some sorts of mysticism rightly propose that everything is natural. By these lights there is nothing unnatural about New York City, or toxic wastes, or atomic energy, and nothing – by definition – that we do or experience in life is 'unnatural.' (Snyder, 1990)

Snyder prefers to use this second, broader, meaning, and I too have chosen to use it as my baseline.

The Next Nature Network sets out to produce a series of provocations whose focus is clearly upon the products of 'the material world or its collective objects and phenomena.' It is a collection of digital and print publications, games, software and events, which explore the changing relation between people, nature and technology. The aim is to "visualize, research and understand the implications of the nature caused by people," ("What is Next Nature,"

1. See Thomas, S. Technobiophilia: nature and cyberspace, Bloomsbury, 2013, Chapter 2 for a full discussion

n.d.). Contributors include Rachel Armstrong, Bruce Sterling, Kevin Kelly and numerous other artists, scientists and researchers, but van Mensvoort is the key instigator. He holds Masters degrees in both science and art - a Masters of Science (MSc) degree from Eindhoven University of Technology (1997) and a Masters of Fine Arts (MFA) from Sandberg Institute, Amsterdam (2000) – and a PhD from Eindhoven University of Technology (2009), all of which combine to make him an archetypal arts/science hybrid. He writes:

> The discovery of Next Nature has been the most profound experience in my life so far. It is my aim to better understand our co-evolutionary relationship with technology and help set out a track towards a future that is rewarding for both humankind and the planet at large. (van Mensvoort, n.d. b)

Beautifully designed and brightly coloured, the website and the book stylishly present signals for the future. In the language of future foresight, a signal is a small indicator of change or innovation that could herald a significant and influential trend, but could equally lead to a dead end. Almost all of the projects covered in Next Nature perform this service, scooping art and science news from around the world and presenting them in the signature Next Nature format - a stunning photograph accompanied by a paragraph or two of text. Some may lead to dead ends, some may not, but this is probably not of concern to the collective, whose job is simply to share what they find. For example, in the "Hypernature" section we see a large string nut being wired for sound in a lab. Adjacent to it is a brief description of David Benqué's speculative "acoustic garden." He has designed,

> A variety of plants that are able to produce sounds. Such as parasitical plants that feed of (sic) other plants and grow big shapes filled with gas produced by special bacteria. This gas creates a high-pitched sound when it escapes under pressure. Or a string nut that, combined with insects that can chew in rhythm, can create all kinds of sound frequencies. Through selective breeding techniques different frequencies and volumes can be achieved. By grafting – a very old technique that allows you to grow different species of plant out of one tree trunk – you could create a complete harmony in one tree. ("Acoustic Botany," 2010)

Alexandra Daisy Ginsberg is a designer, artist and writer working in a similar area of practice. She collaborates with synthetic biologists and was funded by the National Science Foundation and EPSRC to bring 12 artists

and designers together with synthetic biologists to look to some fundamental questions such as: What does it mean to design nature? How would you design nature? She says,

> I'm operating somewhere between art, design and science, but the fact that it is not yet fixed gives room to experiment. Synthetic biology is such a new field that the role of design is not yet defined. How it could evolve is what I find so interesting. ("Interview," 2013)

As with Ginsberg's work, many of the projects showcased in Next Nature rely on transdisciplinary collaboration. Rachel Armstrong, for example, originally studied medicine but now describes herself as a 'concept and ideas explorer'. She explains in an interview for Next Nature that when she had the opportunity to take a sabbatical as part of her medical training she chose to go to India where she

> Worked with people with leprosy and observed how people could restore their lives by bringing together issues of identity, the body, technology and the natural world through art and technology. So, right from the beginning of my career, I never limited myself to one discipline and when I did I got incredibly frustrated, so that's really how I started. ("Interview: Rachel Armstrong" 2013)

Recently the Next Nature group has engaged with a very controversial project, funded by Google co-founder Sergey Brin, to grow in vitro meat from animal cells (Ames, 2013). They are now in the process of producing the *Meat the Future Cookbook* after raising over 20,000 euros through the Indiegogo crowd-sourcing website. "Before we can decide if we will ever be willing to eat lab grown meat," they say, "we need to explore the food culture it will bring us" ("The In Vitro Meat Cookbook," n.d.). The list of funders shows that most of them are private individuals willing to invest around 30 euros a head to buy a copy of the book, which promises recipes for 'knitted steak' or 'In Vitro Me, cultured from your very own stem cells.' More than any of the ideas discussed in Next Nature, the cookbook conjures up Gothic visions of mad scientists in sinister Victorian laboratories. But it is no fantasy. The first in-vitro burger has already been cooked (Ames, 2013). Van Mensvoort was there to taste it in London in 2013.

The in vitro burger is just one of many transgressive and 'unnatural' innovations which, like transplants, prosthetics, and other enhancements, are seen as dangerous at the time but often become commonplace soon afterwards. It

marks just one more step along the road to accepting that neither we nor our environments are very natural at all. Of course, it was ever thus.

Interestingly, there is a term which seldom appears on the Next Nature website, but which has been deeply influential for many researchers and practitioners looking at the human relationship with nature over the last few decades. In 1984, biologist E.O. Wilson published a book with the simple title *Biophilia*, a study which reached beyond his own discipline and which has since informed the work of a large number of contemporary environmental psychologists, architects, ecologists and designers. The story is that in the 1960s Wilson was studying the behaviours of ants in the forests of Suriname when one day, alone and deep amongst the trees, he was struck by a flash of insight. He later described that epiphany as "in a twist my mind came free and I was aware of the hard workings of the natural world beyond the periphery of ordinary attention, where passions lose their meaning and history is in another dimension," (Wilson, 1984, p. 31). He realized that, in that place, his presence was insignificant, his acts inconsequential. "The uncounted products of evolution were gathered there for purposes having nothing to do with me; their long Cenozoic history was enciphered into a genetic code I could not understand," (Wilson, 1984, p. 32). We are, he realized at that moment, "transients of no consequence on our own planet" (p. 33). He later wrote,

> Although the living world is our natural domain, we came to it late in its evolution and have never fathomed its limits; this ignorance has led in turn to a perpetual sense of wonder which can only grow exponentially since the more we learn, the more mystery we encounter. (Wilson, 1984, p. 34)

And as a result, he believes we are perpetually drawn forward in a search for new places and new life (Wilson, 1984, p.34). It is this process of attraction, forever renewing itself, which he would later call *biophilia*. The term was originally coined by Erich Fromm, but Wilson's fresh definition of it as the "innate tendency to focus on life and lifelike processes" (1984, p. 36) has come to be widely accepted.

Furthermore, just as we are attracted by some elements of nature, so we are repelled by others. The antithesis of biophilia is biophobia, a fearful response to creatures and plants which could hurt us and to places where we might become trapped or vulnerable. Biophobia can come from a genetic adaptation to harmful things, such as revulsion for rotting meat and other dangerous substances, or it may be learned from cultural sources related to individual and community survival, such as knowledge of poisonous snakes

and spiders.

When we contemplate the notion of eating an in-vitro burger which was grown in a lab and has never been part of a whole animal, our biophobic instincts come into play and produce a possibly seductively delicious shudder. We are in the world according to Next Nature, with its glowing trees, electronic plants, and human birdwings. It is smart, cool and enjoyably disconcerting. 'Nature changes along with us' they say. So why not? Let's taste and try.

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