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# Designing Post Nature: Speculating on How Things Could Be

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## **Abstract**

At least since the industrialization and its influential consequences in the twentieth century, it has become difficult or even impossible to perceive nature as untouched without perceiving and contemplating the influence of man. Nowadays, it is almost impossible to maintain the dichotomy nature and/culture, which makes it necessary for designers to expand their self-image.

Throughout history, the relationship between man and nature has become evident in the efforts of the humanism in the 14<sup>th</sup> and 15<sup>th</sup> century and ecology movement since the 1970s. In the term of social design, since the end of the twentieth century, people have been trying to conceive of human beings and their natural, social, political, technical, and economic environment as unified which can only be optimized if all human needs are taken into account in the design. The trajectory of the artificiality from Klaus Krippendorff describes different dimensions of these semantics of design.

With mankind's growing dominance of its environment, the question now arises to what extent elements of a former autonomous nature such as animals, plants or landscapes have long since become cultural products that follow human design intentions through design interventions. Currently, these tendencies of new dimensions and configurations are reflected in the terms speculative design, critical design, or next nature design. The tasks go far beyond the classic design functions such as need fulfillment and problem solving. The requirements of the definition for a *new nature* shift from a philosophical to a creative question that becomes effective and meaningful through the use of intuition, interactive experiments, and collaborative encounters by means of a design discourse.

This paper refers to a current self-image of historically evolved perceptions of mankind / nature relationships to broaden design as a fictional speculation about nature and culture.

**Keywords:** *Cultural History; Design Theory; Speculative Design; Next Nature; Social Design*

## **Introduction**

The Greek term *Agricultura* denotes a combination of soil as a cultivation of the field with the term culture. Thus, the distinction between nature and culture can be justified as the act of intervention in nature. The design of nature for the benefit of humans can be clearly understood by an intention to optimize living conditions in the sense of a modern design concept. In the following, historical understanding of the concept of nature since the early Renaissance are addressed and discussed here. These serve as prerequisites for the current design discourse, represented in a model by Klaus Krippendorff, who sets out the extension of the concept of design from objects to projects and discourses under the term *semantic turn*. Krippendorff's argument that the essence of design lies not in the objectivity of things but in their embedding in language results in a completely new understanding of concepts. Assuming that a traditional

concept of nature is defined by its difference to culture (artificially made by man), its relevance to design should be integrated into Krippendorff's model. This is supported by contemporary models such as those of Next Nature or Speculative Design, in order to understand the historically developed concept of nature as a component of the man-made present.

### The Semantic Turn

Krippendorff's linguistic approach and model the trajectory of the artificiality makes it clear that things are not autonomous or natural, but that people attach value to things or identities such as brands or goods (Figure 1). These values are neither intrinsically contained in the objects, nor are they statically constant. Rather, values are always renegotiated, constantly reinterpreted, simulated, and varied through visual communication in order to be discussed, accepted or rejected by the public. The constitution of a fact in the form of an object, a service, an interface, a network or a platform, a project, and finally a discourse is socially determined through language and discussion. The highest level of trajectory depicts this core of the model as the supreme discipline of discourse. "The trajectory shows the move from the production of functional mechanisms to the constructive use of language. In the course of this trajectory, the causal models of a universe – a single version of what is – are replaced by linguistic models of how multi-verses come to be and are maintained."<sup>1</sup>

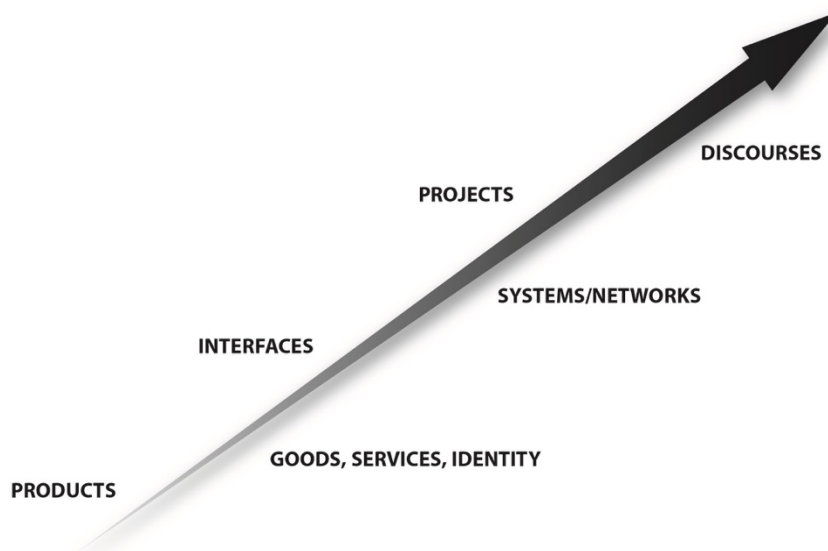


Figure 1: The trajectory of the artificiality by Klaus Krippendorff (Graphic by the author).

The self-concept of design is translated by Krippendorff from an objective condition into a linguistic negotiability. In an age when Man has gained access to all domains of nature in both the territorial and physical sense, you no longer have an objectively provided nature as opposed to artificial creation. In the sense of interpretation by means of language and the associated assessment and identity creation of facts, this model should be examined as a guideline for an expanded understanding of design taking into account a current concept of nature.

### Historical Context

The report by Francesco Petrarca on his ascent of Mont Ventoux in southern France in 1336 constitutes a major innovation in the understanding of Mankind's relationship to nature. By

describing the landscape he sees from the top of the mountain, Petrarca creates a purely aesthetic theme detached from work in the field or in the garden for the first time. Nature is addressed and experienced and, as a landscape concept, finds its way into European intellectual history. Despite all the advice of contemporary shepherds and peasants in the area who suspected evil on the summit or could not understand why such exertion was worth it, Petrarca resisted and subsequently wrote a report in which he clearly attributes his motivation to ancient models. In it he refers to a mountain ascended by the King of Macedonia and thus forms a literary testimony as a link between the Middle Ages and the burgeoning Renaissance. As early as 1860, the Swiss cultural historian Jakob Burckhardt described the significance of the new aesthetics introduced by Petrarch. “But the same Petrarca already knows the beauty of rock formations and knows how to separate the pictorial meaning of a landscape from usability.”<sup>2</sup>

In addition, Petrarca describes the efforts of the ascent and the resulting physical agony as an intensification of self-awareness associated with fear and risk. He goes beyond the ancient model, for here he discovers his own inner being as the discoverer of the world and thus as the self-realization of the individual. “For Petrarca, his practical activity is transformed into a theoretical observation and contemplation of the world context brought into being by its creator. Theoria – observation and contemplation – is the means to experience oneself as part of that world context. Where that succeeds, as Petrarca has said of Augustin, observation and contemplation becomes enjoyable. The self-realization of man is confirmed by his ability to take the world for what it is.”<sup>3</sup> The fact derived from this, that observation can result in cognition, can be used here as early proof of cognition through contemplation and theoretical reflection, which is stressed in the design and design theories of the 20th century and especially in the semantic model of Krippendorff.

With landscape painting from the 16th century, the spiritually transformed and experienced landscape is clearly differentiated from nature. Landscape is no longer just the place of events as a backdrop to, for example, biblical places, secular life or ancient narratives.

Another exaggeration is the translation of the art of painting into a walkable and experienceable environment such as in the form of English landscape gardens from the 17th century. By moving and walking in a nature environment equipped with cultural topoi, such as ruins, waterfalls, grottos or artificial islands, it is artificially charged and thus appears to the contemporaries as a painting you can walk through, by which perception is combined with physical activity. On the one hand, the English gardens refer to the *Agricoltura* in the original sense as processed nature, on the other hand, they go far beyond that, culminating in the landscape as a design of sensation and a process of gaining knowledge.

### **Current Concepts: Next Nature**

Mensvoort and Grievink and the *Next Nature Network* initiated by them represent a significant position in the current nature / culture discourse. They propose a classification with regard to decisive developments by means of four concepts:

1. Nature – beyond our control (planets, weather, original organisms such as viruses)
2. Cultivated Nature – in our control (cultivated plants, polished gemstones, genetically modified animals)
3. Culture – made and in control (robots, electric light, telephone)
4. Next Nature – made and beyond our control (internet, computer virus, traffic jam, financial system)

This makes it clear that artificially created goods, techniques and systems are largely

independent. If you follow the statement of Herbert Simon: “To design is to devise courses of action aimed at changing existing situations into preferred ones,” then it is obvious to classify innovations in technology, gene manipulation or brand communication as a principle for the tasks of design or designers. “Our natural environment is replaced by a world of design.”<sup>4</sup> Such statements transform design into an all-encompassing meta-theory and practice. Whether it is land reclamation in the Netherlands or the artificial islands in Dubai, plant and animal breeding for the optimization of yields, 3D printed organs, textiles and foodstuffs or the enhancement of the body by means of prostheses and digital devices - all the phenomena that were originally designated as nature, thus become domains of the artificial.



Figure 2: The pyramid of technology by the Next Nature Network (Graphic by the author).

Focusing on the evolution of technology, the Next Nature Network provides a matrix in the form of a seven-step pyramid, the pyramid of technology (Figure 2). The lower four levels are differentiated as development stages: design, vision, application, social acceptance through use, up to the vital indispensable technology (level 5), the invisible imperceptible (level 6), and naturalized technology (level 7). Whereas the use of smartphones at the beginning of their introduction was still a luxury activity, they would now be considered one of the vital technologies (Level 5). In addition, technologies such as reading and writing have long become so obvious that they are no longer perceived as such (level 6). As technology fused with nature, the Next Nature Network cites this example: “Naturalized technologies have moved beyond being a vital tool or habit within our society: they are so integrated in our lives we consider them part of our human nature. Perhaps the best example of a technology that is entirely naturalized is cooking.”<sup>5</sup> Through technologies such as cooking, or even clothing and agriculture, people have entered into symbioses with nature that currently need to be re-discussed. But now the question arises as to whether naturalized technologies, which have developed historically, have reached a point where symbiotic cooperation is out of balance. Cooking requires the cultivation of the soil or breeding of animals as a prerequisite for the nature/culture co-operation. But if these are undermined by globalized free economic interests in terms of ruthless profit maximization, then this symbiosis must be re-evaluated differently or

newly.

### Three Levels of the Concept of Nature

American design historian and theorist Clive Dilnot offers a model that brings together the concepts of nature, artificiality, and human life.<sup>6</sup> It is shown how these three concepts and their relations in the cultural and technical history have changed in three development steps (Figure 3). Until 1800, anything artificially made by man was limited. Hand-made things and the treatment of nature were quantitatively and spatially limited. Nature and artificiality were both part of human life. The second scenario relates to industrial culture. In this, Dilnot chooses a spiral as a form of representation for the steady increase of technology as a method in the sense of the exploitation of fossil fuels and global production increase. Finally, it is shown that the contemporary culture elevates the artificial to the former position of nature. Although it contains an interface whereby human life can still be distinguished from nature, both are captured by the artificial. Genetically modified plants are thus both artificial and natural.

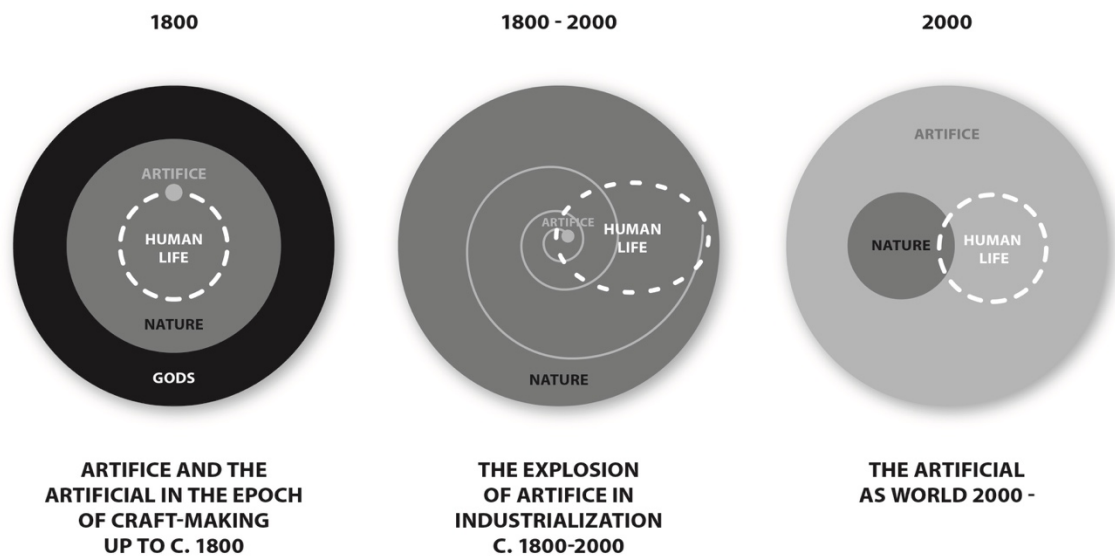


Figure 3: The artificial in human history by Dilnot (Graphic by the author).

### Speculative Design

The London designers Anthony Dunne and Fiona Raby have tried to broaden the concept of design in recent years with their writings and activities with regard to *Speculative Design*. They explain that the future is not something that inevitably evolves, but that the future has a potential to inspire designers to create visions and speculations. Design is always concerned with the future (see quoted statement from Simon above), whereby the optimization of contexts are the declared goal of designer's activities. Dunne and Raby think further. They understand design theoretically and practically as a method for speculation, criticism, and visions of how future interfaces of society, politics, economics, technology, and culture can be shaped. They use the model of Stuart Candy, which differentiates the view of the future with the terms probable, plausible, and possible. In addition, there is a field between probable and plausible in this model, which is referred to as preferable (Figure 4). "Of course the idea of preferable is not so straightforward; what does preferable mean, for whom, and who decides? Currently, it is determined by government and industry, and although we play a role as consumers and voters,

it is a limited one. (...) But, assuming it is possible to create more socially constructive imaginary futures, could design help people participate more actively as citizen-consumers?"<sup>7</sup> By this it is meant that a branch of design is completely detached from the requirements of the market or of companies. The potential of design is extended to speculation on the premise of: How things could be.

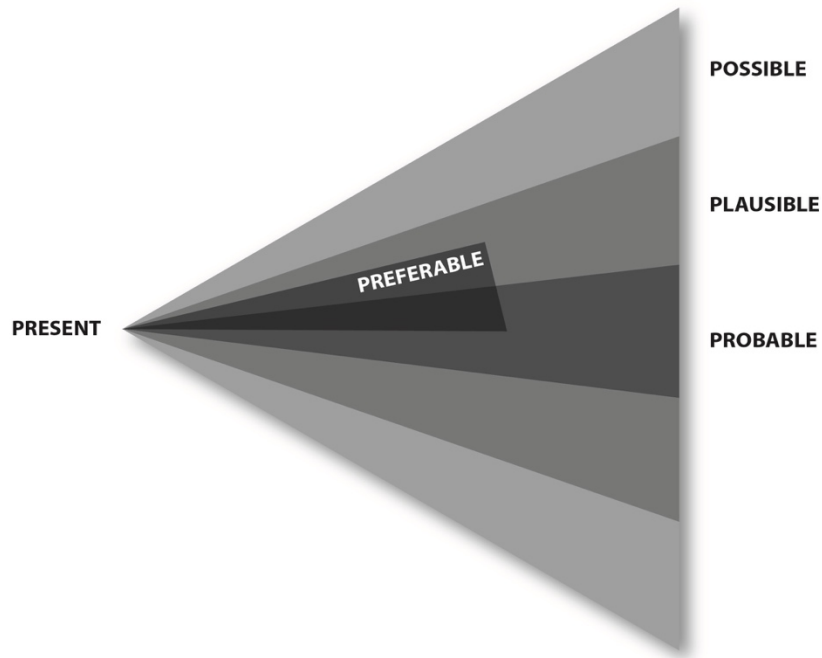


Figure 4: The PPPP model by Dunne and Raby (Graphic by the author).

### **An Update and Extension of the Semantic Turn Model**

If you wanted to further develop the Krippendorff matrix, then you would have to consider the models and definitions presented above and the possibility of their inclusion in the Semantic Turn model. First on the list would be nature/culture cooperation, the pyramid of technologies (Next Nature), and the disappearance of clear boundaries of distinction (Dilnot). According to Dunne and Raby (Speculative Design) speculation, an extended concept of design should be included.

1. Can the dimensions of the classical self-concept of design be thought of or enriched by the discourses on the concept of nature presented here?
2. Is the ecological compatibility of the conception, creation, dissemination, and consumption of human artifacts an indispensable constant, replacing the traditional concept of nature?

Level 1: Within the meaning of the Krippendorff Matrix, objects and products are all at the lowest level. Genetically modified organisms would be added to this. The production as well as the introduction into the disposal chain or the recyclability represent the decisive challenge in the design of objects. Nature manifests itself as an environment to be preserved in the sense of material resources and waste prevention. But this also means that the manipulation of genetic and biological organisms must be reversible or replaceable by natural organisms in their original state at any time.

Level 2: In addition, the design of services and identities in terms of digital

transformation and brand building would also be virulent for the consideration of a nature concept. The digitization and networking with future even faster connections and the expected blockchain technology transform the economy of logistics, energy, housing, education, consumption, travel and entertainment, which is traditionally oriented towards industrial production, at the core of their structures. This transformation goes far beyond the technical conditions. The actual design, according to Krippendorff, takes place in the interpersonal, or in social conventions. The value of goods does not need to be identical to their material value. A disruption that is already taking place and predictably will continue is increasingly destroying the classic industries and the social conventions enshrined therein, such as jobs and leadership structures. Values, services, and identities must comply with both ethical responsibility and an intensity of appropriation and influence appropriate to the living and working environment. Nature emerges in these immaterial dimensions as a measure of the compatibility of human beings with the influence of intentions of economic interests.

Level 3: In Krippendorff's matrix, the third level addresses the interfaces as the basis of social communication. The current supremacy and virulence of social media and the expected fast Internet will fundamentally change the economy and society through artificial intelligence, the internet of things, and 3D printing. It can be assumed that in the future augmented reality will increasingly ensure that the environment (and thus nature) is enriched with information by means of screen- or projection-based interfaces. Our environment is outwitted, in that the concept of the static natural environment must be reconsidered through digital enrichment. However, this maximum capture of people through alternative environments must remain selectable on a voluntary and self-determined basis. Even today, it is becoming increasingly clear that the consumption of virtual and digital worlds, both in the private and in the professional environment, poses problems of overstraining and dependency beyond all natural existence. Alternatives and models for abstaining must be designed and offered. Access to original environments should not only be enabled and maintained, but it must take on the great challenge of augmented reality as a chance and an improvement, without experiencing their absence as a lack.

Levels 4 and 5: The cultivation of vegetables and fruits in urban areas and their sale, urban gardening, co-working spaces and short-term leasing of housing, maker and sharing cultures, repair cafes, and countless other collaborative working, living and learning platforms offer new ways of living together through digital networking. Commercial as well as political networks and projects constitute the basis of interpersonal relationships in the micro- and macroeconomics, as well as in the state-supporting organs such as administration, party politics, diplomacy, journalism, and justice. Formation of opinion through constantly possible liberal statements creates new dynamics in local and global politics. Design and creative achievement is not just about the logic and traceability of communities and their information. It is more important that people trust the facts and narrative to use it for self-determined consumption or the formation and statement of democratic opinions. According to the principles of social design, problems are not simply fulfilled as singular needs (like in step 1 above), but questions are asked about the catalysts and social dimensions. At the core of these social values is always the collaboration of stakeholders and their different structures which form a complex network for the problem as well as the possibilities and abilities to solve it through needs, expectations, and empathy. Thus, a problem space must be transformed into a possibilities space which shifts from needs to the abilities of active subjects.<sup>8</sup> As a result, designers no longer produce exclusively finished products or services, but rather that more or less intensive social ties are increasingly designed to integrate heterogeneous participant fields as infrastructures.

Level 6: According to Krippendorff, discourse forms the way in which facts are stated, written, and how they are dealt with. Regardless of their thematic potential, discourses are not



necessarily bound to specific people, media, techniques or objects. Language, metaphors, and narratives are discussed, opened, linked or shifted based on different understandings and attitudes of groups and communities. All previous levels were more or less embodied by physical, digital, or institutional constitutions. The discourse, on the other hand, constitutes a mental achievement that is expressed in terms of needs, shortcomings, problems or expectations due to various semantics. The constructive use of language opens a linguistic model to many possible realities, and thus a departure from singular truths. In the course of a natural discourse, stage 6 opens a design of the concepts and arguments of nature/culture difference from the derivation of historical views and current debates.

## Conclusion

European art and cultural history offers many views of the concept of nature. The focus here is on the aesthetic difference between what man has created and what exists naturally. This manifests itself in literary texts, fine arts, and different landscape and garden concepts. Since the second half of the 20th century, the concept of design, defined since the Bauhaus period by the design of two- and three-dimensional artefacts, has expanded to include political, sociological, technical, media and digital aspects. At the heart of this extension is the statement by Herbert Simon that design should turn existing situations into desired situations, regardless of whether they are objects or invisible things. Our society does not stop at the design of nature with this intention and in this sense. In this way, nature becomes an object that can be improved, but as a result, we often realize that it can cause greater and new problems. The complete cure of diseases, genetically modified plants, the depletion of primeval forests and global warming do not seem to be interventions optimized by humans. Although the problems can be limited, they then spread in modified form elsewhere.

The models presented here all have in common that they not only address the self-concept of contemporary design, but that they also prove to be suitable to reconcile it with an adequate concept of nature. With the focus on the assimilation of these models with the well-established Trajectory of the Artificiality, a discourse is illustrated that brings together the classical concept of nature with the definitions, ways of thinking, and practices in design. Consequently, nature is defined by the need to preserve it alongside all sorts of artificial alternatives. It is no longer about the differentiation of nature and the artificial, but rather a plea for the parallel existence of both. Although the degree of designer intervention in nature can neither be stopped nor regulated, the preservation of irretrievability of natural origin must be guaranteed under all circumstances. Thus, all stages of the semantic turn can be mapped with aspects of Next Nature or Speculative Nature. This shows impressively the necessary responsibility and forethought of design for a future of an artificial nature.

## Notes

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