



# Operative fields of the Artificial

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This article investigates the composite phenomena of the artificial in examples from literature and science, exploring the interrelations of narrative and spatial creation. It introduces the sciences of the artificial to the narrative architecture of fictional space and applies the terminology to the structure of the narrative form itself.

The late 19<sup>th</sup> Century symbolists and decadents in art and literature shared a particular interest in the artificial. The artefact plays the role of merchandise or fetish: the object is negotiated against a background of pure desire. The artificial may imitate nature in form or function, deceive the eye, or even attempt to upstage the natural model, using any productive means or materials for this purpose. The French author Joris-Karl Huysmans provides a narrative space where the artificial ingenuity and creativity of Baron Des Esseintes is described. The novel *A Rebours* (Against Nature), was published in 1884, and represents the essence of the symbolist infatuation for the artificial. The Baron is in voluntary exile from the excesses of Parisian

urban and social life. His new geographically isolated existence is stripped from everything except artificial pleasures. Huysmans describes an architecture entirely created for escape into imagination by the aid of artificial and mechanical arrangements. This type of complex systems, whether they are digital, social, political or economic organisations, is the central object of research in Herbert A. Simon, professor of computer science and psychology at Carnegie Mellon Institute. Simon, who published the *Sciences of the Artificial* in 1969, was awarded the 1978 Nobel Prize in economics. His descriptions of the artificial will be discussed together with scenes from *Against Nature*, as the conceptual meeting of the “science of Simon” and the “artifice of Huysmans”. The French hermeneutic philosopher Paul Ricoeur investigates the text as an artefact, while identifying the different form and threshold conditions this particular form of object, the narrative, can take. His philosophy can be considered part of the hermeneutic tradition, dealing with theories of metaphors and the problem of the narrative, in analysis and writing. His identification of different

representational strata of a text is compared to the terminological system of Simon.

### The Maker of All Things

The axiom “Art imitates Nature” may help us to determine the nature of the artificial. In Aristotle’s *Physics*, animals, plants and the elements exist by nature, i.e. they have a nature by form and matter and behave “according to nature”. A property of Nature’s subjects is the inherent principle of motion and change. An artificial product, according to Aristotle, has not “in itself the source of its own production”. If a bed would be planted as a seed it would not grow a bed, but may sprout a plant, which would only potentially become a bed in the hands of an artist. If it does not have the form of a bed, it can not be called a work of art: the wood has by nature, in its matter, the potential to become an artefact but the form which would determine its nature as a bed is not there without artificial production. Since matter and form in natural objects are given, artefacts are always made from matter with an intention, a form. Nature acts towards her ends in the same way as the artist works towards a desired function: Art imitates Nature.<sup>1</sup>

Socrates asserts that there is only one Creator, “the maker of all the works of other workmen” and his creation of every object exists only as one. The artificer is only making a particular object, a semblance of the one Idea that only the true Creator can define the essence of. This creator only makes one essential object of every idea, and not a multitude of particular ones. That is the work of imitators of the second degree, craftsmen. When speaking of painters and poets, they are confined to represent only the image of the already once imitated object, why they necessarily take the position of third degree imitators. All art is mimesis in the sense that even the most original object must have an essential one correspondent in the realm of ideas, our own or a supreme creator’s.<sup>2</sup>

In the Christian tradition, St. Augustine explains in his *Confessions* that the first act of creation cannot have been similar to the process of a human craftsman since nothing existed before God, the “Maker of all things”.<sup>3</sup> The divine creative process must then have

been the utterance of the Word. The human artificer, whose body and mind is a creation of God, is provided by God with material from which the goods are made, and the intelligence by which he masters his art. God provided the craftsman with the senses “which are the channels through which his mental picture of the thing he is making is transmitted to the material” that allow the artificer to determine the quality of the product.<sup>4</sup> Men make all sorts of objects, useful or not, as fruits of their imagination, but most of these things surpass the simple requirements and pose a temptation to the eye in being luxurious. St. Augustine asks God to forgive the craftsman who does not see that the beauty which “flows through men’s minds into their skilful hands” really has its origin in God.

The creation of the artificial is an act of balance between man and nature. The symbolist movement



sought in its extreme aestheticism not only to restore the artificial from the “classic” contempt of the imperfection of anything manmade in comparison to the Great Creation, but to surpass the natural.

Against this background of the relations between the creator and the created, the concept of art imita-

ting nature is further complexified by Huysmans.

### **False Flowers**

The examples of the artificial in *Against Nature* serve as the constitutional parts that make up the interface of the mansion, rendered as physical objects and articulated arguments in Huysmans' campaign against the vulgarity of naturalness. Des Esseintes considers the artificial to be "the distinctive mark of human genius" and claims that artificiality should finally replace nature, "to take her place whenever possible".<sup>5</sup> Among the immersive spaces, whose purpose is to augment illusory perception and aesthetic stimulation, are the dining room designed as a ship's cabin and the study, aesthetically and functionally adapted for nocturnal living. Instruments such as the mouth-organ are used in combination with sensory-inducing works of literature and art. As Huysmans shows in the novel *Against Nature*, no engagement in artificial creation is without hazard. Des Esseintes' exclusive excesses has a prize, and it is a mounting sum that will eventually be paid to nature.

The most striking example of transcendence between the natural and the artificial in *Against Nature* is the Baron's collection of real plants that appear to be fake.

This admirable artistry had long enthralled him, but now he dreamt of collecting another kind of flora: tired of artificial flowers aping real ones, he wanted some natural flowers that would look like fakes.<sup>6</sup>

Des Esseintes converts his vestibule to accommodate the exotic plants that fit this description, and at the same time rids himself of the labourious work of imitation. Having raged at nature's "monotonous store of meadows and trees" and her "commonplace display of mountains and seas"<sup>7</sup>, he is trapped in fascination of the horrific and splendid variations of his tropical plants, and marvel at the wonders of mutilation. A conscious act of aesthetic selection results in a collection where every natural item is a representation of something artificial. Huysmans employs analogies from crafted or non-organic materials – plaster, lead, zinc, punched metal, oil-paint, calico, iron – in the descriptions of the texture and appearance of these bizarre plants.

In some plants he sees swords, spears and other weaponry, paddles and oars, windmills, clogs and religious sacraments like bishop's croziers: des Esseintes holds that some "demented draughtsman" must have devised the contours of these unnatural shapes.<sup>8</sup>

### **The hermeneutics of Ricoeur**

As we tread from the dimension of fiction to that of science, Paul Ricoeur's hermeneutic philosophy is helpful. The hermeneutical project of reading involves the roles of the author, the text and the reader. The author is operating with (contextually imposed) intentions, the text is mediating the intention while being independent of the author, but dependent of the reader whose (imaginative) interpretation is, in turn, contextually determined. These roles expand into circular dynamic systems of understanding and questioning, which is not limited to the text, but expands to all social and cultural phenomena. As Ricoeur argues, the theories of imagination and fiction are not just informing the narratively mediated culture, but informing science by enrichment of its conceptual models.

Ricoeur mediates between the world of the text to the scientific model of the artificial. In "the Function of Fiction in Shaping Reality"<sup>9</sup>, he determines fiction as a productive function of imagination, capable of making and remaking worlds. Ricoeur argues that imagination is crucial in the production of both poetic and epistemologic work. The concept of fiction, in his argument, extends from the direct application in language (text) and plastic arts (image), to encompass conceptual scientific tools such as the metaphor and the model. Ricoeur identifies images as derived from perception, either as replicas (mimesis, image with a referent) or fictions (complex idea without a given model). Images, produced by perception or language, is what imagination operates on in order to produce heuristic interpretations. Huysmans applies the narrative method to produce a new world, and he has provided it with a congenial creator of artificial worlds (the baron), constantly arguing for the power of imagination assisted by a carefully designed environment and congenial artefacts. Ricoeur is the link between this fictional example and the sciences of the artificial, having already established that science, claiming to redescribe

reality, need to employ imagination and fiction for its epistemological production.

### **The Artificial as an Interface**

The science of the artificial is virtually the science of design, Herbert Simon argues in his *Sciences of the Artificial*. Artefacts do not take an opposed position to nature: they obey natural law, they change and evolve according to what we want from them. Evolution is under the influence of synthetic and prescriptive engineering, in a process parallel to natural phenomena under natural laws. The science of the manmade as goal-oriented phenomena must complement natural science: nature and the artificial have always coexisted in civilisation. Artefacts and design likewise, can be characterized in terms of functions, goals, or adaptation. The artefact is contingent to the goal and purpose of the designer. A science of the artificial needs to encompass both human intentions, natural laws and study different disciplines where complex systems and their users interface.<sup>10</sup>

The artefact can be approached in a simple symmetrical model, as an interface between inner and outer environment. This allows us to observe and analyse the performance of the artefact by natural law: when inner environment (its internal construction) is appropriate to the outer environment (where it is placed), meaning internal mechanisms correspond with the conditions for goal attainment, the artefact will reflect its intended idea.

Fulfilment of purpose or adaptation to a goal involves a relation among three terms: the purpose or goal, the character of the artefact, and the environment in which the artefact performs.

In terms of adaptation, of the artefact's congruence with different environments, the true nature of the artefact is in fact an interface, and should thus be the focus of a science of the artificial.

For the definition of artefacts, Simon offers four criteria. First, artefacts are synthesised by man. Second, they may imitate the appearance of natural things. Third definition gives that artefacts may be characterised in terms of functions, goals and adaptation. Finally,

artefacts are often described in both imperative and descriptive terms, especially in the design process.<sup>11</sup>

The behaviour of systems, in relation to the task environment, will rarely be optimised but most often approximated. Goal-directed behaviour simply reflects the shape of the environment. Simon proposes that the thinking man can be observed to behave as an artefact:

A man viewed as a behaving system, is quite simple. The apparent complexity of his behaviour over time is largely a reflection of the complexity of the environment in which he finds himself.<sup>12</sup>

There is a constant negotiation between the simplicity of the system that allows agents to be more complex and the complexity of the environment that allow agents to be simpler. In an overall perspective, the simplicity or transparency of environments is the main goal for any complex system:

The artifice in design is finding simple ways to achieve goals. The artifice in evolution is finding simple ways to achieve perpetuation. The artifice in description is finding simple ways to describe interaction between inner and outer environments of systems.<sup>13</sup>

Where there is an artefact, there is a user. Inner and outer environment are united in the interface. The interface between inner and outer environment is a sliding door between aim and action. There is an interesting likeness of terms between Ricoeur's and Simon's theories. Both disciplines depend on general concepts of hierarchy, memory, expectation and imitation. Most importantly, both Ricoeur and Simon deal with the "internal configuration of a work" related to the "external refiguration of a life", to use Ricoeur's words. With the previous knowledge about the interdependence of the artefact and its environments (as anything that is adapted to some situation), the optimal function of an artefact in relation to its inner and outer environments as well as its own capacity for adaptation, would be achieved if it would fulfil the same set of criteria for mediation that Ricoeur uses to describe a text:

It is a mediation between man and the world (reference), between man and man (communication) and



between man and himself (self-understanding).<sup>14</sup>

The dynamics of transfiguration between the terminology applied in Ricoeur's hermeneutic investigations and the terminology of Simon's studies in artificial creation can be summoned thus:

The central term for their respective studies is the artefact/interface in Simon and the fiction/text in Ricoeur, the operative systems of these instances could be the synthesis (Simon), and the plot (Ricoeur). The corresponding acts of understanding the relations between the different parts of the processes would be simulation (Simon) and interpretation (Ricoeur). From the perspective of environment, we can be readers of a text, as we can be users of an artefact.

### Science of Simon and Artifice of Huysmans

This model may allow us to simultaneously contemplate the different environments. In relation to each of the selected quotes from Simon's *The Sciences of the Artificial*, I will discuss a passage from Huysmans' *Against Nature* involving a description of artificial creation. The creations of *des Esseintes* will find their way into the terminology of the *Sciences of the Artificial*, and in the other direction, from the perspective of Simon, we can approach the agents and methods involved in *des Esseintes'* artificial constructions.

#### Simon: Artefact as an Interface

An artefact can be thought of as a meeting point – an interface – between an "inner" environment, the substance and organisation of the artefact itself, and an "outer" environment, the surroundings in which it operates.<sup>15</sup>

#### Huysmans: the Fishtank Window

An illustration of this argument is provided in the description of the arrangements of *Des Esseintes'* dining-room, a room inside a room, a ship's cabin inserted within the original plan, like a Japanese box. A port-hole window from the inserted room looks into an aquarium that "renders useless" the original window. This fishtank filters the natural light through the water that may also be tinted by colourings according to the season and weather. In this box-in-box room, separated from the outside view by the fish-tank, the Baron imagines himself "between-decks in a brig" gazing "inquisitively at some ingenious mechanical fishes driven by clockwork, which moved backwards and forwards behind the port-hole window and got entangled in artificial seaweed" This artificial window, turned into a space in itself, has two interfaces and separates two sets of inner and outer environment. The meeting-point that is optimised to the Baron, the view outside the mansion is of no interest to him, whereas the fishtank substitutes his imagination as the outer environment of the sea combined with the inner environment of his ship. The system of "boxes" provide "almost simultaneously, all the sensations of a long sea-voyage, without ever leaving home." The system is a weave of insides and outsides, both real, represented and imagined, from every inside or outside, meaning is changes at every surface. The architecture is multiplied into a set of programmed representations of macro-events- it is a simulator.<sup>16</sup>

#### Simon: the Essence of Science

The central task of a natural sciences is to make the wonderful commonplace.<sup>17</sup>

#### Huysmans: the Trappist's Cell

The Baron leaves his former lifestyle and abandons his

Paris home and its luxurious designs. As a consequence "the bedroom had to be turned into a facsimile of a monastery cell". Des Esseintes is however not prepared to give up the luxury of exquisite materials and exclusive textures. The detailed copy of the Trappist Cell is thus transformed into the most visual likeness but realised in materials that guarantees intact comfort in the following way:

to imitate the yellow distemper beoved by church and state alike, he had the walls hung with saffron silk. /.../ The ceiling was similarly covered with white holland, which had the appearance of plaster /.../ as for the cold tiles of the floor, he managed to hit them off quite well, thanks to a carpet patterned in red squares, with the wood dyed white in places where sandals and boots could be supposed to have left their mark.

This method, "to employ cheerful means to attain a drab end", marks the artificial creation that reverses the optical illusion of the stage: "where cheap finery plays the part of rich and costly fabrics". The wonderful is made commonplace when "magnificent materials give the impression of old rags." In Simon's sense, making the wonderful commonplace is to reveal the simplicity behind the mask of complexity. In Huysmans' scene, the simplicity of the commonplace is rendered with the wonderful complexity of luxury. Huysmans reverses the statement. The unmasking of the space is finding complexity in the artificial simplicity. A close tactile examination is required to call the bluff, vision is deceived.<sup>18</sup>

#### Simon: Simulation

It is typical of many kinds of design problems that the inner system consists of components whose fundamental laws of behaviour /.../ are well known. The difficulty of the design problem often resides in predicting how an assemblage of such components will behave.<sup>19</sup>

#### Huysmans: the Decorated Tortoise

Des Esseintes buys a tortoise and has its carapace glazed with gold and gemstones encrusted into its shell. The reason for this extravagancy was that the tortoise

would liven up the dull colours of an Oriental carpet in the Baron's library. The animated design of the animal crawling around, glittering with the added stones, works according to the Baron's plan. After some time, the tortoise lies still, it has died from its artificially augmented beauty. Des Esseintes redesigned the animal solely from the point of view of the "carpet" environment, which in itself would have been a satisfying outer environment for the tortoise. The system of his design relied on the fundamental laws of the behaviour of: a. the texture qualities of jewels and gold and that b. a slow movement would make jewels sparkle against the background colours and c. that tortoises move at sufficient speed to fulfil system criteria (b) and have a natural constitution for the type of decorations in (a). His knowledge of the new "tortoise-gold-jewels"-assemblage is insufficient to predict how its components will behave in relation to each other. This sad example points out the importance of simulation as a design stage to find out what correct premises may imply on the relationships within the system.<sup>20</sup>

#### Simon: Homeostasis

In one way or another the designer insulates the inner system from the environment, so that an invariant relation is maintained between inner system and goal.<sup>21</sup>

#### Huysmans: the Padded Corridors

In order to maintain his isolated existence, Des Esseintes has padded and hermetically sealed the linking space between his rooms and the servants' areas, letting through neither sound, nor smell. The designer has insulated the inner system from the environment, in order to create and maintain an invariant relation between the inner system and the goal. The mutually balanced relationship, which biologists call homeostasis, is a property of this type of adaptive system. The Baron depends on only a few characteristics of the outer environment, meals and household administration, to be able to achieve his goal: to engage his daydreaming projects without being disturbed.

The Baron establishes routines, codes, even masks, to communicate with the servants from within the inner

system.<sup>22</sup>

#### Simon: Optimize or Satisfice

The decision maker has a choice between optimal decisions for an imaginary simplified world or decisions that are “good enough”, that satisfy, for a world approximating the complex real one more closely.<sup>23</sup>

#### Huysmans: the Uncompleted Journey

This analogy is an artificial process rather than an artefact. Des Esseintes decides to go to London to experience the atmosphere of Dickens and Poe in situ. While waiting for the train in Paris, he visits some bookshops and looks at maps and guide-books, still early for the train he decides to dine in a bodega near the station.

#### Intervention into nature

The seductive powers of the artificial appealed to the symbolists and the decadents in accordance with aestheticism and the *l'art pour l'art* ideal. Des Esseintes believes that the imperfection of nature can only be repaired by artefacts, in fact, the only *raison-d'être* of nature is to be improved upon by art. The idea of art, and thus the artificial, proposes a limitless operative field, with no dictated rules of moral or beauty, separated from nature and the ideals imposed on her. Des Esseintes has withdrawn from the corrupted nature, in a final attempt to create a complete, autonomous and artificial world within his fantasmagoric interiors. They include the narrative spaces embedded in his outer environment, equipped with an interactive layer of triggering artefacts and yet another interactive layer represented in his library as meta-narrative excursions. The reader of Huysmans is engaging in the artefact of the novel, where the main character splits his existence into various timespaces, that in turn depend on his interactions with symbolically charged objects. Simon's theory of the artificial is helpful in identifying how the system of artefacts mediates between the inner and outer environment of the user/designer.

As a concluding argument, you could, as Elisabeth Grosz, identify the thing, a philosophical problem of

Looking around at people, the rain pouring down outside, savouring the food and the smell of damp wool and beer, and hearing foreign languages, the Baron decides that he has filled his senses already with exactly what he wanted. To complete the journey in this state would simply spoil the whole experience. He returns to his home, with the feeling that this had been an optimal journey. The concepts of optimizing and satisfying are fundamental in economic rationality. The economic man generally accepts “good enough”-alternatives because optimization is practically never possible. In decision making, the economically rational option has to be balanced against possible developments in the complex environment. The Baron makes the decision to go for the optimal in a simplified world, the intensive and imaginary world, in this trip, rather than a diluted “good enough”-experience in the real world.<sup>24</sup>

many names, as an “intervention into nature”.<sup>25</sup> The thing becomes an agent provocateur of life itself: “The thing, matter already configured, generates invention, the assessment of means and ends, and thus enables practice.”<sup>26</sup> The thing arises in both space and time the moment we distinguish them and perceive them to be ready to respond to our potential action. The operative field of the artificial is capable of all interconnections between fictional and real architectural intervention.



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## Notes

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