Why Data Takes to Painting:
Interdisciplinarity and Aesthetics

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Abstract

The mystery of human consciousness can be dealt with successfully in the context of an interdisciplinary theory of aesthetics. This discipline, however still marginalized due to historical reasons, can show in a modern way, informed by the theory of systems, how human consciousness is connected to three stages of the experience of beauty: simple recognition of patterns; intensive search for patterns; ecstasy or enstasy. That we can argue for this connection between aesthetics and consciousness based on our intuitions is shown by an example from popular culture: the android Data of *Star Trek, The Next Generation*, who takes to the arts in order to become human.

Keywords: human consciousness, interdisciplinary theory of aesthetics, marginalization of aesthetics, theory of systems, experience of beauty

On the Importance of Studying Aesthetics

In the search for the mystery of the human soul, aesthetics is mostly disregarded. At least it does not play the role of a respected interlocutor in the interdisciplinary canon of the cognitive sciences. But because of this very neglect, consciousness seems to become the insoluble mystery which it keeps being taken for. Here it is argued, however, that reformulating aesthetics in the context of the theory of systems and the close neighboring disciplines can bring about a new conception of aesthetics, more precisely: a model of human information-processing which defines consciousness as an aesthetic phenomenon.[1] Due to its formalization of aesthetic experience respectively consciousness, that model is able to make accessible pertinent topics, which so far have been regarded as 'artistic' and therefore discursively ungraspable, to the disciplinary as well as to the interdisciplinary dialogue.[2]

Throughout different disciplines, there are many approaches how to establish aesthetics as a coordinating core discipline of the cognitive sciences,[3] and these approaches display an astonishing convergence of their contents—a clue for the still next to unfathomed interdisciplinary potential of aesthetics.[4] Nevertheless, while numerous disciplines are celebrating interdisciplinary family reunions, aesthetics is mostly left behind like an unloved child.[5] There are and have been, however, prominent voices which regard sensory perception and the experience of beauty as crucial for human consciousness.[6] These practicians and theoreticians of aesthetics define their topic as a fundamental technique of human information-processing which concerns much more than representative decorations on the wall. According to them,

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[1] This is unfolded in greater detail in author, *Das Geheimnis des Schönen. Über menschliche Kunst und künstliche Menschen, oder: Wie Bewusstsein entsteht* (Münster: Waxmann, 2005).

[2] See author, *Das Geheimnis*, 206f.

[3] See author, *Das Geheimnis*, 25f.

[4] Ursula Brandstätter, *Grundfragen der Ästhetik: Bild-Musik-Sprache-Körper* (Weimar-Wien: utb, 2008), 65-67 (emphasis on transdisciplinarity as the way to go); Michael Franz, "Ästhetik zwischen Philosophie, Wissenschaftsdisziplin und Techne-Diskursen," in *Ästhetik: Aufgabe(n) einer Wissenschaft,* ed. Karin Hirdina, Renate Reschke (Freiburg: Rombach, 2004), 121-134, 133 (calling for an "aesthetics which is situated and can take its stand in the tense field between philosophy, individual scientific disciplines, and discourses of technology").

[5] For example, Maria Elisabeth Reicher, *Einführung in die philosophische Ästhetik* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2005), 24f, draws a sharp distinction between philosophical aesthetics on the one hand and empirical and thus also psychological aesthetics on the other hand, without inquiring into perspectives of mutual interdisciplinary completion. The volume *Ästhetik in der Wissenschaft: Interdisziplinärer Diskurs über das Gestalten und Darstellen von Wissen*, ed. Wolfgang Krohn (Hamburg: Meiner, 2005), is, despite of its title, more or less content with different disciplines standing side by side. A transcribed talk of different experts, however, ends with the conciliant statement that they still can learn much from one another.

[6] These are—amongst many others in each case—on the field of art itself: Leonardo, Cézanne, Malewitsch, Picasso, and Beuys; in psychology: James, Jaynes, Festinger, and Beyer; in philosophy: Adorno, Lyotard, Gadamer, Sloterdijk; in linguistics and semiotics: Chomsky, Ong, Peirce, Wittgenstein, and Bachtin; in anthropology Bateson, Lurija, Duerr, and Harris; in the history or theory of art: Flusser, Barthes, Panofsky, Sedlmayr, and Bataille. See, Stefanie Voigt, *Das Geheimnis des Schönen* (Germany: Waxmann Verlag, 2005).

here rather something lies hidden like the world-formula of all humanities, the mystery about the human soul, happiness, beauty and being alive—i.e., the clarification of all those concepts which have lost their home in academic, especially scientific, discourses under the influence of positivism.[7] These authors, however, could not turn the tide. Therefore, so far, aesthetics has been rather disregarded by discourses on the theory of consciousness and, moreover, sometimes made the impression of a nearly solipsistic self-containment. For this situation, the following eight reasons can be given.[8]

Reasons for the Marginalization of Aesthetics

Especially since the time of the Romantics, art as the main subject of aesthetics uses to be defined so that it is graspable not in an academic, but rather in another, "intuitive" way, so that it cannot be integrated into an interdisciplinary academic canon (1st reason).[9] Moreover, art, according to a wide-spread philosophical conceptualization, is considered as being *par excellence* free of purpose (2nd reason).[10] This conceptual clamp confronts art with a dilemma: If it does fit any purpose after all, it is claimed to be "mere" design in the form of kitsch or handicrafts.[11] If art on the contrary appears to be really free from purpose, it is quickly suspected to be a proverbially "aesthetic" leisure-time activity (3rd reason).[12] Philosophy of art is unable to mediate in this conflict, because by the way of paradox it is quite out of touch with its own object, with art. Therefore, philosophy of art dedicates itself more and more to reflections on its own status.[13] This leads to a dearth of even more elementary conceptual analyses, especially concerning a clean separation between the concepts of aesthetics and beauty, which also in philosophy of art are often used synonymously, as

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[7] See, Klaus Städtke, "Form," in *Ästhetische Grundbegriffe. Vol. 2: Dekadent-Grotesk,* ed. Karlheinz Brack (Stuttgart-Weimar: Metzler, 2001), 462-494, 483.

[8] See, Voigt, *Das Geheimnis*, 19ff.

[9] See, Voigt, *Das Geheimnis*, 22; Klaus Städtke, "Sprache der Kunst/Kunst der Sprache," in *Ästhetische Grundbegriffe. Vol. 5: Postmoderne-Synästhetsie,* ed. Karlheinz Brack (Stuttgart-Weimar: Metzler, 2003), 619-641, 632-634.

[10] See, Voigt, *Das Geheimnis*, 104f., and Reicher, *Einführung*, 151f. This, of course, makes art the object of positions which propagate superior purposes for all human activities; cf. Kai Hammermeister, *Kleine Systematik der Kunstfeindschaft* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2007), 158-162.

[11] See, Voigt, *Das Geheimnis*, 108-111.

[12] See Voigt, *Das Geheimnis*, 29f. Ephraim Kishon, *Picasso war kein Scharlatan* (München: Langen-Müller, 1986).

[13] Cf. Wolfgang Welsch, "Philosophie und Kunst—eine wechselhafte Beziehung," http://www2.uni-jena.de/welsch/ (accessed December 23, 2022). 1. Welsch compares the relationship between art and philosophy of art to a failed marriage and therefore sees the best solution in the amicable separation of both parties. On the according history of alienation cf. Ursula Franke, "Nach Hegel. Zur Differenz von Ästhetik und Kunstwissenschaft(en)," in *Ästhetik in metaphysikkritischen Zeiten. 100 Jahre Zeitschrift für Ästhetik und Allgemeine Kunstwissenschaft,* ed. Josef Früchtl, Maria Moog-Grünewald (Hamburg: Meiner, 2007), 73-91.

though they often signify something quite different (4th reason).[14] Because not everything which is called aesthetic is also beautiful. And not much of what some people would call beautiful would be called aesthetic at all by other people, especially because of the obsolete attitude towards the concept of beauty still to be found in the educated middle class (5th reason).[15] Given such confusion even as to the basic concept, it is no wonder that philosophy of art consists of a heterogenous mixture of different opinions about the topics aesthetics and beauty (6th reason).[16]

This reign of confusion might suggest consulting psychology for a therapy. Psychology, however, is forced to reject the dialogue which would be required for that purpose. The psychology of our time, conforming the sciences, prefers to dedicate itself to objects which can be quantified and grasped by statistics. This also leads to statements about aesthetics, but they are of a very elementary character. So, e.g., it is found out that black and yellow as the preferred combination of colors is more indicative of neuroses than any other arrangement of colors.[17] Elementary psychology of that kind may be interesting, especially for bees and fire salamanders, but it is too special for great insights into the essence of human beings. By reneging on the bulk of aesthetic phenomena as beyond the grasp of science, psychology follows the mystification of art as something unspeakable (7th reason).[18]

By leaving "great" aesthetic theories behind, modern psychology at least avoids being attacked by the proponents of a historical anthropology like the so-called Annales School centered around Le Goff.[19] According to this position, the essence of the human beings changes over time, and therefore it would be just wrong to conceive general academic, as, e.g., psychological, statements about "the" aesthetic perception etc. That precisely with the help of aesthetics the dynamic of the human psyche throughout its different historical changes can be explained is inaccessible from the perspective of that position alone. And this holds true not only for the mentioned disciplines, but generally: Aesthetics is not another discipline besides many others, but an interdisciplinary field of research. Just because of this, the individual disciplines, which in the first place are confined to their area, have trouble to find an access to aesthetics (8th reason).[20]

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[14] See, Voigt, *Das Geheimnis*, 20.

[15] See, Voigt, *Das Geheimnis*, p. 20f.

[16] See, Voigt, *Das Geheimnis*, p. 21f. Reicher, *Einführung*, 9-31, deals with these conceptual problems in an aesthetics based on the analysis of concepts.

[17] See, Voigt, *Das Geheimnis*, 23.

[18] See, Voigt, *Das Geheimnis*, 228.

[19] See, Voigt, *Das Geheimnis*, 46.

[20] See, Voigt, *Das Geheimnis*, 23f.

Being Human

According to many thinkers, aesthetics is the key to consciousness, but communicating across the boundaries of the disciplines is hard to do. To get along in this intricate situation, the obvious way, as often with systems limited off against one another, is to ask a total outsider to give his assessment. In this respect, an apt subject of study is Data, the painting and violin-playing android in the TV-series *Star Trek—The Next Generation*.[21] He develops human properties like having a conscience and individuality when he does art. Only then can he access laughter or a certain kind of indulgent self-sufficiency, which otherwise seem to be reserved for humans. On the downside, this makes Data also prone to doubting himself or to be afraid of typically "human failure." Here, obviously, a widespread, but until now rarely explicated, intuition is staged: Humans know being emotional, pity, guilt, empathy, regret, joy and grief or vulnerability, irony and creativity, self-responsibility. These and other "typically human" phenomena are closely attached to the realm of aesthetics; at least, in it they can be experienced in an exemplary, intensive way. Foremost, in that realm the so-called paradox of informatics[22] does not occur: The computers which have been constructed so far just crash when confronted with contradictory information which is not provided for in their program. In stark contrast to this, aesthetics thrives on such contradictions, it highlights and intensifies them on manifold levels.[23] Therefore, if an artificial entity is dealing with aesthetics, we are inclined to ascribe a greater or lesser extent of humaneness to it. According to the opinion of some psychologists, consciousness is even characterized by the creative handling of contradictions.[24] Consequently, humans are 'functioning' as long as they are alive, and they feel that they are alive as long as they experience some things as beautiful. For if a human being loses for whatsoever reasons the capacity to experience something as beautiful, he or she will fall ill.[25] This is one more difference between humans and computers, and this is also one more indication for the connection between human consciousness and the experience of beauty. So far, the clinical pictures of suicidality, schizophrenia, and epilepsy have mostly been measured just by means of neurophysiology; their conceptual logic respectively the mental regulation of inner states has not been

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[21] On Data as a hypothetical but nevertheless revealing test-case for philosophical questions cf. Robert Alexy, "Data und die Menschenrechte. Positronisches Gehirn und doppeltriadischer Personenbegriff" (2000), https://www.alexy.jura.uni-kiel.de/de/download/data-unddie-menschenrechte (accessed December 23, 2022).

[22] See, Douwe Draaisma, *Die Metaphernmaschine. Eine Geschichte des Gedächtnisses* (Darmstadt: Wissenschaftliche Buchgesellschaft and Primus, 1996), 165-168.

[23] See, Voigt, *Das Geheimnis*, 119-122.

[24] See, Julian Jaynes, *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (Boston: Houghton Mifflin, 1976).; Dietrich Dörner, *Bauplan für eine Seele* (Reinbek bei Hamburg: Rowohlt, 2001).

[25] See, Voigt, *Das Geheimnis* 147-149. This is why Nietzsche conceives of art as a "stimulant for the sake of life"; on this See, Helmut Peitsch, "Engagement/Tendenz/Parteilichkeit," in *Ästhetische Grundbegriffe* Vol. 2, 178-223, 193, fn. 119.

comprehensively inquired into yet. In each of these cases, the patients are no longer able to control in a conventional way their representation of the world, the inner picture of their environment, i.e., the product of aesthetic experience. They are forced to cling to alternative strategies instead, in the worst case they perceive things which do not exist or produce spontaneously feelings of bliss or beauty which under some circumstances overcharge the mental system or even motivate suicide. If the simulations of consciousness exhibited so far contained real consciousness, they would be lucky if they were spared by those problems; but then they would also be sad for not having art and literature. For these areas are rife with such problems, with emotions and beauties of different colorations. Human information-processing systems seem to be larger than the sum of their individual components. But how can that be possible? So far this remains unexplained. Neurophysiologists measure the brain and computer-scientists program their computers and someplace else scholars discuss the human soul and the noble art—and in-between there is a yawning chasm which no network has been able to bridge yet, despite of many attempts and consortiums of computer-scientists with neurologists, ethicists, imaging scientist, or neurobiologists meant to create new disciplines like neuroinformatics or neuroethics.

A Model of Being Human

What might Data have done to fathom through art the mystery of being human? Did he scan an introduction to the theory of aesthetics from Plato to Bazon Brock and translate it into the language of his artificial synapses? Because Data's brain is a digital computer, the whole issue at hand would be described by basic means of digital information processing, with the goal to unify all existing partial disciplinary insights within the framework of a single theory. Such a translation of noble art-theories into the digital 1-0-code might eventually be possible after all, notwithstanding the mentioned contrast between computers and humans. In the context of a psychology inspired by the theory of systems, which is based on the insights of anthropology, the multiplicity of individual and seasoned, often contradictory theories of aesthetics can at least be reduced to eight consistent frame-giving variables. Using the Aristotelian-Wienerian-Batesonian concept of difference (as the smallest unit of each mental performance), aesthetic experience can be characterized as follows: [26]

> 1. In aesthetic experience, a mediation between extern impressions and intern patterns of interpretation takes place, an encounter of sensory perception and abstract thought, respectively a simultaneous perception of world and the own person, of inner subjective schemata and subjectively outer world—in Plato's differentiation

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[26] On this and the following, see, Voigt, *Das Geheimnis*, 91f.

between ideas and phenomena as well as in Aristotle's distinction between a work of art and the spectator who identifies him- or herself with it.

2. This general mediation works in detail via the comparison between inner and outer patterns, a correspondence between and re-modelling of structural principles—in Ficino's mirror projection as well as in Alberti's studies on proportion.

3. What comes to be by the interpreting perception of this comparison, i.e., by a perception of perception, are pleasing qualities of experience, the very own value and cognitive content of the aesthetic, which is cherished again and again—in Edmund Burke's 'pleasure' as well as in Kant's 'disinterested pleasure.'

4. These qualities of experience occur in tokens of varying strength, ranging from interest or fascination up to extasy or enstasy—from Lessing's emotion to Stendhal's "symptom." [27]

5. All of this is made possible only by a moderately stress-free mode of perception which is experienced as neither boring nor too exciting—in Schopenhauer's "contemplation of nature" as well as in Nietzsche's feeling of superiority in the "superman" or in modern Abject Art.[28]

6. A realm with rules of its own arises because the reception on the basis of this contemplative way of perception cannot and must not be grasped from a conscious and rational distance—therefore Boileau speaks about the "je ne sais quoi" ("I do not know what") and Goodman of the very own "languages of art."

7. In its entirety, this process guarantees the sustainable functioning of the system psyche by a better ability to think concerning the outside and by emotional pleasure gain on the inside—therefore Lyotard's "presence" is as important as Wittgenstein's "correct perspective."

8. The motivation of aesthetic contemplation or so-called discursive thinking depends on the ability to connect oneself in a situational and personal way—from Baumgarten's "disposition towards aesthetic-logic cognition" to Schiller's "playful instinct."

These eight statements can be formalized in the shape of a flow diagram, and so it is possible to arrive at a functional description of the according mental processes which defines aesthetic perception in a value-neutral way as perception between determinacy and indeterminacy.[29] Determinacy is based on the set of patterns already available within the system; indeterminacy is everything which does not correspond to these patterns. At first, there is a categorical contradiction between these two instances— what is determinate is not indeterminate and vice versa. This contradiction, however, can be bridged by a mediation between determinacy and indeterminacy, by the system restructuring its previous patterns and thus re-interpreting them or even, if this should not be sufficient, creating new patterns. This process may repeat itself, across different

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[27] See Christian Kaden, "Musik. II. Ritualität in der Krise: Platons Musikphilosophie," in *Ästhetische Grundbegriffe. Vol. 4: Medien-Populär,* edited by Karlheinz Brack et al. (Stuttgart-Weimar: Metzler, 2002), 261-263, 263.

[28] See Winfried Menninghaus, "Ekel," in *Ästhetische Grundbegriffe. Vol. 2*, 142-177, 175f.

[29] Cf. Voigt, *Das Geheimnis*, 185.

cycles and increasingly large areas of the given storage of patterns until it either leads to a success or overcharges the system in question, which leads to an end of the search. This model, at first glance very formal and abstract, can serve as an interpretation of phenomena which so far have been described in different ways by different disciplines and thus it can afford the interdisciplinary integration needed for understanding consciousness:

- In the area of *neurophysiology*, based on different regulations of the messenger-substance dopamine two different, complementary kinds of information-processing can be established, namely so-called fixative respectively vagative thinking. Fixative thinking operates with abstract, simplifying concepts and manifests itself accordingly in a dimming of cerebral activity. Fixative thinking, on the other hand, proceeds in an erratic and multilayered way, as it were irrational, and manifests itself in an increasing spread of cerebral activity. The EEG measurements of the latter show parallels between techniques of meditation or other cultural forms of intuitive-aesthetic practice, be it in American concert goers or Siberian shamans.

- From the point of view of *anthropology*, in most civilizations the ability to experience some kind of extasy is taken to be one of the basic conditions of common sense. For only temporary extasy makes thinking sober again, so that it can face ever new challenges without narrowing itself down in a dogmatic way.

- Comparisons within the *history of mentality* show, however, that the ability of extasy has been more and more internalized and secularized during modernization, which has pushed it into a special district of the aesthetic, into art as acknowledged by society.

- *Art, the history of art and literary studies* offer numerous pertinent examples for this, e.g., the simultaneous occurrence of the internalization of experience and social processes of individualization; the parallel of tabooing death and at the same time dramatizing it; the scientification of thought accompanied by the discovery of the topic of atmospheric moods etc.

Thus a model emerges which explains the experience of beauty on three levels: simple beauty in the form of mere recognition of patterns (which mostly is interpreted just as kitsch or is felt by many as boring); a second level of intensified search for patterns, which is accessible only with cognitive efforts (in this case, the reception is described as "fascinating" or "interesting," while new interpretations of the cognitive problems are being elaborated—or the aesthetic search for a pattern is called off); and a third level of extasy or enstasy. Being close to this area is indicated by Lessingian "emotion" or physiological tears. What happens on this level would be described as "divine" formerly; in modern times, this became the experience of truth or total beauty. Here, the borders between ego and world as well as other kinds of difference become fuzzy.

The "way back" to normal consciousness tends to be described traditionally as "resurrection";[30] if this return goes wrong, schizophrenia may ensue, in which one does not see any more the wood between the stimuli.

All essential topics of aesthetics can be explained in a functional way, starting with Max Ernst's "courage of the artist" up to the cliché of the genius artist as a victim of his drives. Further examples are the metaphors of childishness, intoxication, dream, and sex, the beauty of idealizations and the beauty of ugliness, as well as the different kinds of empathy, be it empathy towards humans, the limitless ocean, or luxurious cars. Melancholy, mystic sensory overloads and pleasing self-extinctions, the legend of the purposelessness and indescribability of art: All this works on the logic of the regulation of differences in human thinking, including the differences between the objects of thought, between humans and their environment, and between thinking in differences and the thinking without differences in aesthetic borderline experiences. The latter difference cannot be but without purpose and indescribable, otherwise it would not be without differences but could be described as fixative and rational as anything else. Beauty is beyond description, and there are good reasons for this. Because aesthetics works like the blind spot of perception. Blind but necessary so that the eye can work. For the pleasure gain by the "short circuit" of thinking in a few moments without difference brings about a necessary and consciousness-generating counterpart to the "normal consciousness," giving to it at the same time also new motivation: For every abstraction presupposes the knowledge about its opposite. Every horse is defined by everything what is a not-horse, and every clear thinking by its opposite.

This holds also for real life: Without the aesthetic, daily routine becomes bleak; and only the aesthetic is vice versa an opening pitch for insanity. As Kant put it: "Without sensuality, no object would be given to us, and without intellect, no object would be thought. Thoughts without intuitions are empty, intuitions without concepts are blind."[31] Now the theory of systems postulates that no system can know itself, because knowledge is always a part of the system. But the theory of systems in philosophical aesthetics describes extasy, the extreme form of aesthetic perception, in many places as the possibility of encountering oneself, the so-called heautoscopy.[32] No argument is immune to skeptics, but, in any case, experiences like those at least create eventual opportunities for self-distancing through approaching oneself. According to Maturana and Varela, to use this opportunity for self-distancing is an indication and presupposition of intelligence.[33] So, did evolution create the experience of beauty to make intelligence possible? This is not improbable; what ordinarily is called beauty, however, is not what promotes humanity. If Einstein rejected the proposal of a model,

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[30] See Voigt, *Das Geheimnis*, 192; Pia-Maria Funke, *Über das Höhere in der Literatur. Ein Versuch zur Ästhetik von Botho Strauß* (Königshausen & Neumann: Würzburg, 1996), 121ff.

[31] Immanuel Kant, *Critique of Pure Reason*, B75/A51.

[32] See, Voigt, *Das Geheimnis*, 205.

[33] See, Voigt, *Das Geheimnis*, 139.

as a well-known anecdote has it, this did not happen without reason. He argued that their children might have the intelligence of the mother and the looks of the father. But also studies on people who are taken to be beautiful according to social standards show that looks are not everything.[34] On the contrary, according to statistics, for attractive people it is more probable that they become unhappy in life than for the average person. Therefore, in the described model of aesthetic perception, not only form, but also content plays an important role, and it becomes very clear that humans are neither mere thinkers nor merely sensual beings, but a mixture of both with a dynamic of its own.

In times of industrialization, of the so-called human potential, an interdisciplinary model of aesthetics shows that, in education, the neglect of the artistic is not necessarily of advantage for the other educational subjects which are promoted now. Not only the contemplative character of the artistic, but also fairness and honesty prove to be important ways of access to the aesthetic. That this model was formed like a construction manual for Artificial Intelligence does not mean, due to its immanent logic, that this manual should be put to action; likewise, any attempt to conclusively define aesthetics would fail the topic in a drastic manner—because it would destroy the due share of indescribability which cannot be accessed rationally. Moreover, in a correct implantation of the model, accidents and mutations would make the product as unusable as the human being; only in this case it would be a true implementation. Because, if in the human brain there really is something like a "chaotic causality,"[35] then any prediction of whatsoever would be utterly impossible. From this there would result an undeducibly large set of possibilities for experience and intern connections and therefore also an according set of possibilities for oblivion. Then at the latest the question would arise what sese that project makes. After all, the human next door is already unintelligible and opaque enough, and, moreover, already there. Hence, it is hard to program the aesthetic, for reasons not only programmatic, but also pragmatic.

In this argumentation, science and art go hand in hand. Such a model, however, serves as a starting point for more precise definitions in different disciplines and as a stimulus for further research. The psychological concept of "sense of opportunity," e.g., closely considered quotes the concept of "possibilities" in Dionysius Areopagita, who describes real things just as "possibilities" of the beautiful and the good. As well does Plotinus' indifferent One as the place of religious experience anticipate certain neurophysiological results, namely the dimming of the cerebral activity pertinent for the distinction between self and outer world in some psychological processes. By analyzing such structural similarities, the traditional, very broad concept of aesthetics might be made more precise. This concerns also certain social and ethical evaluations: From the pre-modern point of view, e.g., a modern

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[34] Cf. Winfried Menninghaus, *Das Versprechen der Schönheit* (Suhrkamp: Frankfurt am Main, 2003).

[35] See, Humberto Maturana and Francisco Varela, *The Tree of Knowledge* (Boston: Shambala Press, 1987).

human being with little contact to society is taken to be crazy. The same applies, however, to a human being of the past, too, seen from the point of view of its modern descendant, just because of the former's ecstatic practices or his or her "topsy-turvy worlds" which, in traditional civilizations, reverse the given order and thereby stabilize it, thus playing an important role (e.g., in the Saturnalia or in carnival). The key concept of "over-aestheticization," too, presupposes a clearly defined understanding of the human including certain evaluations which rather with than without such a model may be more easily formulated in an academic way—although the model would already suffice its artistic and system-theoretic demands already if the imagination of such interdisciplinarity would just promise joy of thinking, because the possibility cannot be ruled out that Data would have based his research on that foundation.