



Beauty: Synthesis of Intellect and Senses Commentary on the Biosemiotic Fundamentals of Aesthetics

Tim Ireland¹

Received: 29 March 2022 / Accepted: 13 April 2022 / Published online: 17 May 2022
© The Author(s) 2022

Abstract

In *The Biosemiotic Fundamentals of Aesthetics: Beauty is the Perfect Semiotic Fitting* Kull makes a foray into the concept of Beauty. His target article is a welcome contribution not only for providing a biosemiotic notion of beauty but also as a trigger for further enquiry into the matter. Additionally, Kull delivers a new concept: Semiotic Fitting, shining new light on the *Umwelt* theory. My commentary embraces the challenge Kull presents (that beauty is a semiotic problem). Offering an alternate view on beauty, as a matter, and product, of cognition, I suggest reflecting on the philosophy of Alexander von Baumgarten, who coined the term “aesthetics”, offers rich insight that could extend and enrich the definition of beauty Kull presents.

Keywords Beauty · Umwelt · Semiotic fitting · Delight · Baumgarten.

Beauty is a term used generally to refer to something we find attractive or appealing but dig down to questions such as how something affects us, such that we think it beautiful, or that said thing *has* beauty, then we fall into sticky ground. Beauty is one of those words we use to refer to something, like mind, space, time, and information, that is not specific, and thus how it is used can have different connotations depending on the perspective from which it is being used. The ambiguity surrounding such words means they are more reflective of concepts (i.e., that we know something about what it is we are referring to when we use such words, but we can't quite put our finger on it, because its fuzzy), so we use such words generally to describe or refer to an idea about something. Sky, for example, is not a real tangible thing, but a phenomenon, or word, we use to describe a region between bounds: i.e., the horizon and

✉ Tim Ireland
t.ireland@sheffield.ac.uk

¹ Sheffield School of Architecture, Arts Tower, The University of Sheffield, S10 2TN
Sheffield, United Kingdom

the outer atmosphere; or heaven. Sky is a concept. Boil the idea of sky down and we could end up talking about the composition of atmospheres, for example. My point is that the notion of sky is a concept to describe something we generally agree on, but we know is not actually there, objectively, and thereby true. It is an idea of, or about, something. Like space, time, and information (there are others) each discipline has its own connotation, or viewpoint, on the matter, and hence position as to what such terms mean. That view is defined by the particular purpose of the field, its history, and therefore the baggage it brings to the matter. Consequently, when such terms are examined and scrutinised, to really define what they genuinely mean, the issue becomes fuzzy and intricate, and the more one thinks about such matters, and we delve into the various connotations, the more bewildering it can become; and apparent that when we look at the ways we use such terms it is down to a tendency to fill in the blank with something hazy or vague or nonmaterial or abstract.

In fact, it seems that the phrase “the concept of. . .” is usually used either as a warning that we don’t quite know what it is that we are talking about, or else as a way of carrying on a discussion on a general level or in a high-sounding way. In general, the occurrence of the phrase may be taken to indicate that all is not well, and that a great deal of clarification has to be done in that area. The danger of the phrase, and also its utility in argument, spring from that fact that it obscures the lack of clarity by making us think that we really have something like an abstract general idea, about which the discussion is going on (Londey 1955:590-1).

In his article, *The Biosemiotic Fundamentals of Aesthetics*, Kull tackles the concept of “beauty”, which he claims equates to perfection. By perfection he means “fitting multi-relationally”. “Like a perfect key is not only what opens the lock smoothly; it should also be handy, suit to pocket, without sharp edges that could damage the user, not easily breakable, replaceable if destroyed, not too difficult to build, recyclable, etc.” (Kull 2022:11 *of online version*). Kull claims perfection is thereby synonymous with beauty, in the sense that both connote, or express, an organism’s bonding, or harmony, with its environment. Or to say, the way an organism has carved out a unique place for itself within the ebbs and flows of the world; meaning the multifarious relations in and between all things that constitute the world. The organism is thus seen as having defined, for itself, a unique position accounting for all the relations impacting on it, and vice versa, and that this “fitting” is a dynamical harmony, because all relations (or semiotic bonds) have cause and effect. The relation between organism and environment is thus “tuned”, such that the bonds are congruent. This fitting therefore has history, is habitual, albeit open to fluctuations (because the relations are dynamic), cognitive and stepwise. This latter aspect is, involving choice, a process of recognition, which undoubtedly involving conjecture (on the part of the percipient) might be deemed stochastic. Kull calls this housing “semiotic fitting”. A new concept for the biosemiotic glossary, which appears to account for, or is a definition of, the process involved in forming the *semiotic niche* of an organism (Hoffmeyer 2008).

Kull states the problem of beauty¹ is a biosemiotic issue because the origin of the matter is non-anthropocentric. He asserts three fundamental reasons why this is: (1) the nature of aesthetic is not verified, (2) aesthetics is bound to life's "intrinsic value" and (3) aesthetics is tied to culture; specifically, art and design. Hence, a definition in response to these motives is required, and biosemiotics is well placed to provide a solution. I'd like to consider these first, before moving on to an alternative view of beauty, and how this might affect biosemiotic enquiry into the matter further. The first is uncontroversial, but I suggest the origin of the term "aesthetic" is worth considering. The nature of aesthetic is indeed not verified. As noted "beauty" is a concept, and the problem has been exasperated by how the idea, or thinking on what beauty is, how something affects *us*, such that we think it beautiful, or that said thing *has* beauty, has been claimed (as it were) as something pertaining to human proclivities: both in relation to how we value something (typically visually), be it a view or another person, and typically in relation to human made artefacts. The latter is perhaps most predominant in terms of art and design. Taking a non-anthropocentric view we need to relinquish the idea that aesthetics is an intellectual pursuit, and that it may be a judgement (or act) based on the assignment of value to something. The concept of aesthetics was originally coined by the philosopher Alexander von Baumgarten (1741–1762), who argued aesthetics is the study of the plenitude and complexity of sensations (Gregor 1983, Gross 2002, Maier 2008; and cf. Gibson 1966). When Kant took up the concept he drained it of its sensory plenitude, revising its significance to contemplation and judgement of beauty (see Howes and Classen 20132013). We'll come back to Baumgarten shortly. Kull states that "understanding the nature of beauty requires biology", with which, one assumes, all biosemioticians will agree. For, as George Berkeley (1685–1753) claimed, we have no direct access to the (external) world, other than through our senses. The issue at hand therefore is how is it that a stimulus prompts sensation, triggers perception of said stimulus, leads to an *effect* in the "mind" of a percipient, and thereby comes to be recognised as "beautiful" by the percipient: whether that be a human, a monkey, or an ant. In other words, how do the sensations that trigger the idea "beauty" come to have significance and define an image (in the final analysis) that a thing (or perception of it) is beautiful, rather than satisfying: which might be the case with hunger, for example. This is a genuine biosemiotic problem.

Berkely claims, what we perceive (i.e. objects) is by means of the senses, which appear to us (or we become aware of such things) as ideas and sensations. There are two forms of perception (Berkeley states): mediate and immediate. We mediately perceive objects, being the stuff of the real ordinary world, of which we are a part. Ideas we immediately perceive. The latter appears directly because they are a product of our sensorial and cognitive capacities. The former is mediate because objects, and all things that constitute the world we exist in are external to us. Hence, we perceive them, via our senses, by which we come to comprehend them. The reader might immediately recognise correspondence with Peirce; and how the Peircean sign model can stand as the process of mediation; by which a percipient observes and recognises,

¹ Note, that for beauty to be a problem, it must be, by virtue, that its definition is unclear. It is thus a concept.

or makes sense of, an object of perception. Berkeley claims we mediately perceive objects, and things external to us, because we only have access to the world outside of us through our senses. Hence, we have no direct access to the physical (real) world. Sensations are impressed on the mind from outside and are thus external stimuli; or exteroceptive. Images of these sensations are conjured up by the mind. Being internal, images are interoceptive. They are mind-dependent items, that represent external material objects, by which we perceive them. "We do not internalize the objects or events themselves, or the objects or events to which they refer as signs; we internalize only representations of them. Those representations [which I suggest may be thought of as images] in turn serve as a mediated stimulus (Sm) for a mediated response (Rm)" (Hershberger 1970:42). So, we perceive the world (or things in which that gain our attention) as a result of sensorial interaction, which is mediated exteroceptively (sensation) and interoceptively, by which "ideas" are formed, and perceived by means of another: i.e., an idea leads to another. Again, the reader might detect a resemblance with the Peircean sign model, and how the effect of a sign (the interpretant) leads to another, reaching a conclusion only in the final analysis, which, in my reading of Kull's article, beauty is a form of judgement; in the sense that "fitting", or "to fit", implies one thing and another join, or bond, conclusively. The proposed correlation (between Berkeley and Peirce) should not be surprising, because Peirce held Berkeley in the highest regard. Indeed, James Moore cites Peirce as saying he was a disciple of Berkeley and goes so far as to suggest that his semiotics are derived from him (Moore 1984). Whether or not Peirce did indeed derive his semiotic framework from Berkeley, there is an apparent correlation between the two, and Peircean semiotics, concerned with cognition, is about how we "make sense" of the world (which is perfused with signs) and that we, and any organism, can only perceive something (a sign) by virtue of sense capacities. So, yes, the only way to gain a full understanding of the nature of beauty is through biosemiotics - because it begins with the senses (biology), which detect *differences* constituting the world external to the organism (semiotics).

On the second "fundamental reason", it seems to follow the formation of a "judgement" is central to how life's intrinsic value is aesthetic. The case for this is on the grounds that "aesthetic" is premised on semiotic fitting; that the composition of relations that bond an organism to the world is perfect. We will return to this. First, I want to discuss the third fundamental; that "aesthetic" is far more general than art. If we are to take a non-anthropocentric approach, which a biosemiotic examination requires, we need to relinquish the idea that aesthetics is an intellectual pursuit. "Aesthetic" is far more general than art. And for Baumgarten aesthetics is the logic of sense perception, or the "science of sense cognition" (Gregor 1983, Gross 2002, Maier 2008). We need to look beyond Kant's definition regarding contemplation and judgement of *beauty*, and that it may be a judgement (or act) based on the assignment of value to something. We ought to look back to Baumgarten to rekindle the idea that aesthetics concerns the plenitude and complexity of sensations, and how these affect a percipient in some way, prompting the formation of "images" that influence perception in some way. One direction this might take, as suggested, is a correlation between the projects of Bishop Berkeley and Charles Peirce. A task, such as this, is beyond the

scope of this article. So, I will, as an alternative, fallback to an archetypal distinction from my own discipline: architecture. That being, between beauty and delight.

Vitruvius, a Roman architect and engineer during the 1st century BCE, wrote a book *De Architectura libri decem* (commonly referred to as *The Ten Books on Architecture*), which is regarded as the first book on architectural theory. Vitruvius asserted architecture to have three qualities: *Firmitas*, *Utilitas* and *Venustas*. These remain core principles to this day. Henry Wotton, a C17th translator, interpreted these terms as “firmness” (well-constructed) and “commodity” (functional) for the first two, with *Venustas* being less well defined and often interpreted as “beauty” or “delight”. The distinction, as to which, has serious connotations. Beauty has connotations of the beholders eye and is tied to subjective concerns of taste and style. Why, because it is tied to judgement, and thereby the legacy of Kant. The latter, delight, is less mentalistic, and characteristic of sensation. It implies something ephemeral and *other* than the sum of the parts.² “*Venustas*” is generally understood as an aesthetic quality, typically defined in terms of style, proportion or visual beauty, and is symptomatic of how architecture is a visually dominant discipline. That architecture is dominated by a concern for the visual is long held (Pallasmaa 2012), and the visual sense has played a significant role in our evolution as a species. This emphasis has driven cultural and technological development, which has in turn reinforced the prominence of our visual sense. But “delight” is not specifically tuned to the visual and there is a growing sense that architects should account for a wider sensorial domain in the artefacts they create (Zumthor et al. 2006; Rasmussen 1964). Indeed “delight” infers something of pleasure or joy, which is open to all sensation and sources of stimulation, and thus encompasses all senses. If we follow the definition declared by architect-sculptor Frederick Kiesler (1890–1965), that architecture is emotional, what distinguishes architecture from building is that the former *evokes* sensation (Kiesler 1996). Such a definition sidesteps the moral high ground of architectural practice and schools because it states simply that architecture *affects* and brings about emotion. Understanding architecture as such allows one to transcend boundaries, because it relates to the sensing emotive capacity of the percipient, but importantly allows us to consider architecture a product of perceptual systems that perceive stimuli (see Gibson 1966). Consequently, we break down pretentious intellectual discourse, whereby architecture is something of and for architectural enquiry and places it in the everyday. My dad’s shed, for example, is but a tatty structure to most, but it has history, evoking memories. It has a smell and feel upon entering that is evocative of my father. My dad’s shed, by Kiesler’s definition, is architecture. Its not beautiful, but delightful; because of the sensations it stirs. Consequently, we ought to think back to Baumgarten, and sidestep the definition of judgement established by Kant, that transferred to art; and makes art an intellectual pursuit. As opposed to an extension of nature (Dewey 1958).

Baumgarten’s aesthetics is not a philosophy of art, or perception of, but an alternative approach to the idea of human knowledge; whereby human is interpreted as “sensible creator and developer of his own world” (Gross 2002:405). For Baumgarten, in experiencing everyday life, we are all aestheticians. Whilst Baumgarten’s phi-

² A building is considered as no more than the sum of its parts. Architecture, however, is other than that. The whole is perceived to have an independence distinct from the objects it is composed of.

losophy is anthropocentric, it is based on sense perception, and so (I think) extends to non-human. Concerned with the grasping of “reality, grounded in essentially sensuous, sensitive experience and representation” Baumgarten’s philosophy endeavours³ to explain “the development and perfection of the capacity for sensitive cognition” (ibid.:410), concerned with the role of sensation in cognitive processes. Sense perception is deemed equal, as opposed to inferior, to intellectual cognition: i.e., there is no overarching authority in abstract mathematical knowledge. Beauty is an intellectual category. A mode of thinking. There is, hence, no superior cognition, just different aspects. “For Baumgarten, aesthetics was a process in which two elements unite: perception goes hand in hand with representation of the perceived in an artistic⁴ process; we perceive meaningfully by giving perception artistic form⁵” (Maier 2008:98). Aesthetics is the apprehension of richness of forming a whole. Distinct but compatible with logic.

“Reason,” as Baumgarten notes, “is more exact than the senses, but it is also poorer.” In making our concepts distinct, we proceed like the stone mason who can reduce a block of marble to the precise figure of a sphere only by discarding material. For “what is it to abstract, if not to throw away?” (Gregor 1983:365).

Perfection, to Baumgarten, is an activity (of sensitive cognition), which is perennial. Hence, one is always on the way toward a state of perfection, being the enduring “task of completing one’s own capabilities, powers and knowledge” (Gross 2002:411). Through perfection, or “perfecting”, beauty is achieved, which is the whole with all its connections and relations.

Returning to the second “fundamental reason”. Kull equates beauty with semiotic fitting, which is a matter of pure housing, or correspondence between organism and environment. There is some correspondence in this with Baumgarten’s notion of a whole with all its connections and relations. Based on Uexküll’s claim that beauty is “perceived purposiveness in umwelt” (Uexküll, 1913: 139), and his ensuing explanation of a ticks (*Ixodes Ricinus*) behaviour, Kull argues umwelt provides a definition of beauty, on the premise that an organism’s bonding with its environment is a unique correspondence between organism and other. Characterized in terms of an organism’s meaning-relations as absolutely perfect: i.e., “the correspondence between an organism and its umwelt is usually ideal” (Kull 2022:2 of online version). Given, an ill-fitting “arrangement” would likely lead to demise, or at least be detrimental to existence (whatever that might mean; be it physical, cognitive, social), it follows such a fitting ought to be ideal; or at least effective to facilitate healthy persistence. This is not to portray a Darwinian notion of beauty, which Kull distances himself from and distinguishes as inappropriate. If we take a step back to the fundamentals of architecture,

³ Baumgarten never completed his proposed *Aesthetica*. It was to have two main parts, corresponding to the division of logic into a theoretical and a practical part. The former was to have three chapters: heuristic, methodology and semiotic (Gregor 1983).

⁴ “Artistic” here means creative. Creativity is not confined to humans.

⁵ “Artistic form” referring to making, which is inherently creative. Perception is thus an act. Productive and dynamic.

we might allow ourselves to consider the three same values relate to *umwelt*, or an organism's coupling with its environment. For the arrangement ought to be robust (*firmitas*), enough to deal with fluctuations and perturbations in the semiotic relations. The relation must be functional (*utilitas*), else the coupling will fail. And hence, with *venustas* the condition must have beauty, or be delightful, because life's intrinsic value is bound to aesthetics. The argument does, thus, transfer to human artefacts. A connection Kull makes, referring to how imperfection, being only human, can lead to opportunities for non-human. Presumably to draw a distinction between nature and human-made, or design. But here I find the line of thought confusing because it shifts perspective from species (*umwelt*) to individual (artefact), and to matters of design: i.e., beauty as a matter of taste and style. Quoting Uexküll, Kull states:

For each species, perfection is their own. "Every organism can only be itself. But within itself it is perfect, [...] unlike our human implements [...]" (Uexküll, 1928: 138). Indeed, in order to systematically create imperfection or ugliness, one requires such intention, which is exclusively human. Since perfection is a feature of *umwelt*, it depends on the perspective – what can be considered as imperfect by a human may be perfect for another being (Kull 2022:2 *of online version*).

Rethinking Beauty then, we are left with two distinct notions of beauty. (1) As an aspect of *umwelt* itself, and (2) relative to how an organism finds or distinguishes environmental opportunities: "what can be considered as imperfect by a human may be perfect for another being" (*ditto*). The former presents no controversy, but the later takes us into sticky grounds of art perception, which Kull rightly states ought to be avoided. It is here I find the notion of beauty presented awkward, because whilst I agree with the stated premises I find the definition, of beauty as "fitting", inelegant, in the sense that it appears, or is a result of happenstance, rather than a dynamic act of making or attainment; in the sense of Baumgarten. Kull's definition hinges on Uexküll's definition of *umwelt*, referring to an organism's bonding with its environment is a unique correspondence between organism and other. But there is an inclination in Uexküll's *umwelt* definition of the organism fitting *itself* to the environment, rather than the "fit" being mutual: correspondence. The dynamism in Baumgarten's aesthetics is due to a mode of cognition, whereby percipient is aware and sensitive to all relations of an object, which will always be incomplete because the whole cannot be grasped from a limited position. Hence, no definitive answer can be reached (Gross 2002). One can only work towards perfection, refining knowledge of a thing.⁶ There is hence plurality, as opposed to a Platonic Ideal. No proof, or absolute, but compatibility. Beauty is thus a reciprocal dynamic between sensation and reason.

To think beautifully, that is, to grasp the object in a way that acknowledges its embeddedness in the various relations that constitute its specific character, unavoidably presupposes a person in a continual process of developing his powers and senses, and exploring them in all directions (Gross 2002:412).

⁶ A notion we might consider parallel, or akin, to Pierce's *Pragmatic Maxim*.

Kull states Beauty is a semiotic phenomenon; hence we can speak about semiotic origin of aesthetic. I agree, and suggest, as I have outlined, Baumgarten's original notion of aesthetic, and how this, being a product of the plenitude and complexity of sensations, is semiotic at heart. This is fertile ground for biosemiotics, and ought to be, I think, considered in relation to the correlation between Berkeley and Peirce, which might enhance the umwelt notion. As Kull states, the answer to the nature of beauty is not situated in the realm of art, but biosemiotic enquiry. I am left, however, uneasy by the statement that "An important implication from our analysis is that in many cases human senses are insufficient and incapable for deciding whether anything is beautiful" (Kull 2022:17 *of online version*). Sure, we need to think, as biosemiotics promotes, non-anthropocentrically, but (whilst I don't wish to tip back into Empiricism) all we know is sense dependent. Our senses are what promote our views on the world, and what provoke emotions in us. Whatever we might agree to be beautiful or not is a matter, as Kull says, of convention. Whatever affects us as delightful is an altogether different matter. The smell of grass after cutting the lawn, the first sip of cold beer on a hot day, exploring *La Tourette* and the effect of my dad's shed. These are sensations, which we refer to as emotions, and provoke an *idea* of something beyond beauty. The true matter of analysis, and the crux of aesthetics is *delight*, and *thinking* beautifully.

Conflict of Interest The author has declared no conflict of interest.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Dewey, J. (1958). *Art as Experience*. Capricorn books, New York.
- Gregor, M. J. (1983). "Baumgarten's 'Aesthetica.'" *The Review of Metaphysics* 37, no. 2: 357–85. <http://www.jstor.org/stable/20128010>. Last accessed 23rd March 2022.
- Gross, S. W. (2002). The neglected programme of Aesthetics. In *The British Journal of Aesthetics*, 42(4), 403–414. <https://doi.org/10.1093/bjaesthetics/42.4.403>. Last accessed 23rd March 2022.
- Gibson, J. J. (1966). *The senses considered as perceptual systems*. Boston: Houghton Mifflin.
- Howes, David, and Constance Classen. (2013). *Ways of sensing: Understanding the senses in society*. Routledge.
- Hershberger, R. G. (1970). Architecture and meaning. In *Journal of Aesthetic Education* 4(4), 37–55.
- Hoffmeyer, J. (2008). The semiotic niche. In *Journal of Mediterranean Ecology*, 9, 5–30.
- Kiesler, F. (1996). The electric switch or the switch to process architecture. In *Frederick J. Kiesler. Selected writings*, 110–118.
- Kull, K. (2022). The Biosemiotic Fundamentals of Aesthetics: Beauty is the Perfect Semiotic Fitting. *Biosemiotics*. <https://doi.org/10.1007/s12304-022-09476-w>. Last accessed 25th April 2022.
- Maier, G. (2008). Aesthetics, appreciating the appearances. In *Being on Earth: Practice in Tending the Appearances*. Maier, G., Brady, R., & Edelglass, S. (Eds.). Logos Verlag Berlin GmbH: 91–110.

Pallasmaa, J. (2012). *The eyes of the skin: architecture and the senses*. John Wiley & Sons.

Rasmussen, S. E. (1964). *Experiencing architecture*. Vol. 2. MIT press.

Zumthor, P., et al. (2006). *Thinking architecture*. Vol. 113. Birkhauser, Basel.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.