Broadening Aesthetics, Broadening Consciousness

Introduction

The question of how to define “consciousness” has always been held back by one Achilles heel of a problem: *I think, therefore I am*. Through this one-line equation, Descartes presented the only direct evidence he had that told him he (and as far as he knew, only he) existed—he was capable of noticing his own thinking. His thought, and his awareness of his own thought, was his untouchable proof of knowing he was a being in this world. This high bar of self-observed evidence has deeply influenced the way we have come to define consciousness: from each conscious person’s perspective, their own experience is the only data point they have direct access to. From this, it is entirely intuitive to assume that one’s own experience of consciousness is the *definitional* experience of consciousness, and that other beings are only “conscious” in so far as their experience is similar to one’s own. The starting point of certainty is always located within one’s personal experience, then extended to other human beings due to similarities in behaviour and brain structure, and then perhaps proffered (reluctantly) to the mammals who seem most like humans. At every step, there is by default a deep suspicion of the existence of conscious experience outside of ourselves—from the concept of p-zombies to the mirror experiment—especially in forms that are not human.

As a result, we have come to use a list-based, bottom-up definition of “consciousness” that only roughly captures the normative range of human features: subjective experience as the content of our own introspection, feeling qualia, mental manipulation of thoughts rather than automatic reactions—all the way down to “turns off when we go to sleep and back on when we awake, except for those odd, in-between states like lucid dreaming, sleep-walking, waking up under anaesthesia, and that one time I was driving on the highway and missed the exit…”. In
sum, this approach to definition is an uncertain and arbitrary set of observations that is inherently anthropocentric, and also inherently self-centric, rather than an attempt to characterize what may be a more frequent phenomenon of this universe. Baked into this bias is the assumption that consciousness is either 0:1—had or not had, on or off, in the human way or not at all—or a progressive gradient of what we (as humans) judge to be basic and primitive—\( \rightarrow \) advanced and sophisticated; a hierarchy of complexity that roughly mirrors the relative sizes of our brains, and naturally locates human consciousness at the top. Both models imply that there is one objective, unilateral experience of “full” consciousness at the high end of the spectrum, and that all fully conscious beings are conscious in more or less the same way. It becomes a circular argument when we try to consider whether consciousness might exist in alternate form in other entities (whether plant, animal, computer, alien life form, or something else altogether); if our definition is fundamentally referenced and rooted in human experience, and the entity is not human, it by definition cannot be conscious. Thus, despite the infinitesimal fraction of reality that humans occupy, we assume ourselves to be the universe’s only conscious observers.

This impasse in understanding consciousness might stand to learn a great deal from the parallel development of how people have come to understand the concept of aesthetics. The evolving trajectory of aesthetic studies—in philosophy as well as the emerging field of neuroaesthetics—suggests that we should broaden our definition of consciousness to embrace the possibility of real existence in varied forms. Aesthetics began with the same assumptions as did consciousness: that there was one objective, prototypical “beautiful object” or “source of beauty” that existed in reality, and that all people who had the full faculty of aesthetic perception would have the same aesthetic experience. People who had alternate experiences in response to these stimuli, or experienced beauty elsewhere, were deemed unconscious or incapable of
knowing what “true beauty” was. Like consciousness, there was the belief that aesthetic experience was either 0:1 (untrue or true, perceived or not perceived) or that it followed a gradient of primitive to advanced; that proper or true aesthetic sense was tied to some physical realization of beauty that existed outside our brains, and that any alternate claim to perceiving beauty was somehow less valid as a value judgement and less real in its phenomenological experience. Just as humans now conceive themselves as above all other entities in their possession of consciousness, aesthetic elites—artists, curators, patrons, critics—saw themselves as lording over all other people who happened to have different aesthetic experiences. Over time, however, ideas changed dramatically in philosophy and neuroaesthetics towards a model that demolished the intuition of “true” and “untrue” aesthetic experiences, and rejected the notion of a singular, objective conception of absolute beauty or source of aesthetic pleasure. The field of aesthetics is now at the point where a much broader definition of aesthetic experience allows for many more possibilities of qualitatively different experience.

This trajectory of broadening and redefining aesthetics can illuminate a potential path forward for the study of consciousness beyond our current conceptual constraints. If we can say that all humans have the capacity for aesthetic experiences—which I define here only as the sensation of positive or negative valence in response to qualia, rather than just the experience of qualia alone; the emotional or pleasurable judgement of stimuli in addition to the perception of it—but still allow an unconstrained range of qualitatively different content that may constitute that aesthetic experience, we preserve the central concept of aesthetics but become open to all manifestations of that phenomenon that might exist. Of course, the comparison of aesthetics and consciousness does not provide a complete solution for evidence of consciousness, as they are not exact parallels: in aesthetics, we are only dealing with subjectively differing accounts
between humans, rather than across species or entities; though individual aesthetic reactions may vary, they are still bounded by the same infrastructure of sensory processing, basic cognition, and common evolutionary lineage. Even so, aesthetics faced a similar problem of evidence, of proving that subjective accounts of aesthetic experience were “real” despite being different—i.e. the same suspicion that beings or entities outside our own person are p-zombies in terms of aesthetic capacity, because we lack direct access to their experience. The advent of brain imaging has allowed neuroscientists to objectively confirm the existence of a subjective, self-reported mental state—a tremendous advancement in the problem of evidence. Though the neural correlate of consciousness has proved more elusive to find (and the biological brain will not necessarily be the wellspring of all forms of consciousness, if our definition of consciousness becomes sufficiently broad), this comparison with aesthetics is still helpful in that it exposes the implicit biases we hold in our definitions, and points the way forward for potential broadening.

**Shifts in Philosophy**

Over 2,500 years of debate within philosophy, the locus of the aesthetic could be seen as shifting between two general possibilities: the of idea of an absolute, self-existing beauty or ideality—which not only exists external to our minds, but external to the mundane reality of our world—to the idea that aesthetic experience is a subjective, pleasurable sensation that occurs almost entirely subjectively—to put it plainly, beauty is in the eye of the beholder, and the eyes of different beholders will see beauty in different ways and in different things.\(^1\) In Book X of *The Republic*, written in 360 BCE, Plato theorized that all objects that existed in reality were

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2 Ibid. 195
only ever lowly, imperfect attempts to manifest an absolute ideal version of that object that were beyond our earthly perceptions. This view implied not only that there was one objective, ideal form of beauty that was divinely or otherwise designated and handed down to the world, but also that this beauty existed independently of the brain. Beautiful things (Platonic Ideals) could exist and would still be beautiful without an observer to judge them so—any aesthetic experiences that arose in humans through perceiving beauty was merely to approach this externally-validated virtue, and any attempt to make beauty was merely to imitate it—“the mimetic art is far removed from the truth.”

Later Enlightenment philosophers, such as Francis Hutcheson in his *System of Moral Philosophy* (1775), explicitly opposed the existence of Platonic Ideals, claiming that “all beauty is relative to the sense of some mind perceiving it.” This modified view saw the observer’s gaze as requisite for the sensation of perceiving beauty to occur in the mind—there might be an object lying on a table that *would* be perceived as beautiful, but without anyone to behold it, the phenomenon of “beauty” would not exist—but still saw the generator of aesthetic sensation in the mind as “a passive power of receiving ideas of beauty from all objects in which there is uniformity in variety.” In other words, that the aesthetic was a sensory modality like sight or sound within the brain, that received “ideas of beauty” emanating from objects; just as lightwaves of a certain wavelength will be received by photoreceptors in the eye and perceived as the qualia of colour, certain objects which exhibit “uniformity in variety” (a certain harmony and order among its parts, which Hutcheson claimed was universally seen as more beautiful than

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5 Ibid.
non-uniformity\(^6\)) would be passively received by the aesthetic faculty, and perceived as the qualia of beauty. When Immanuel Kant took on the subject in his 1790 work, *Critique of the Aesthetic Power of Judgment*, he went even further, completely rejecting the idea of a passive aesthetic sensory modality that is attuned to perceive universally beautiful sensory signals. For Kant, we cannot understand anything about the world except through the prism of our own subjectivity—there is no way to know the world in and of itself outside our own individual understanding of it (“it” itself also limited to the moments of it that we happen to experience), because our understanding of the world can only ever be a product of our subjective engagement with it.\(^7\) As such, the aesthetic experience of feeling beauty is not the sensing of some “beauty substance” that resides inside the object as visual qualities, or inside the subject as sensory data, but rather the sensation of synthesis—what Kant calls “free play”—between our subjective imagination and the object it “plays” with in the world. Because the only world one knows is the one they have individually created through their own unique imagination, Kant argues that not only is “beauty in the eye of the beholder”—I perceive this object as beautiful—but that each individual believes this object should be beautiful to everyone else, though it cannot be “proven” outside of that person’s own subjective feeling that it is beautiful.

Thus from Plato to Kant, Western philosophy’s take on aesthetics progressed from a concept of beauty that was objectively ideal, independently existing in the external world, and universally perceived as beautiful by all humans, to a concept of beauty that is subjectively created, existing solely in the way each individual mind interacts with the world, and empirically different from mind to mind. This broadening of the concept of aesthetic preserved the most

\(^6\) Ibid.

\(^7\) Andrew Bowie, *Aesthetics and Subjectivity from Kant to Nietzsche* (Manchester; New York: Manchester University Press, 1990): 16
fundamental definition of an aesthetic experience—the self-reported sensation of pleasure in response to an object, the phenomenological feeling that something is “beautiful”—but by accepting that a wide variety of stimuli may validly cause such a feeling, allowed for a great flourishing of subjective diversity in aesthetic experience. The problem philosophy was left with, however, was still that of objective evidence of subjective experience. By removing the supposition that there was an objective Platonic Ideal that inspired the universal sensation of beauty, it was deemed theoretically possible that different people could be experiencing “true” (phenomenologically real) aesthetic pleasure in response to vastly different stimuli—the sensation was solely generated by the interaction of their individual mind and the world. However, there was still the practical doubt or suspicion that some aesthetic experiences were “truer” (phenomenologically stronger, or more valid according to some external value judgement) than others, especially when it came to radically different aesthetic experiences like synaesthesia. It took a shift in the science of neuroaesthetics in order to provide this evidence.

*Shifts in Neuroaesthetics*

Even in the extremely modern field of neuroaesthetics—which only emerged in the last 15 years as the neurological and cognitive study of how the brain give rise to and sustains aesthetic experiences, focusing on visual aesthetics\(^8\)—the starting expectation was to find the neural equivalent of Hutcheson’s “aesthetic receptor.” FMRI studies pointed to strong reactions in specific neural areas like the ventral occipito-temporal cortex, asking the question, “Does ventral visual cortex contain general ‘visual beauty detectors?’”\(^9\) For example, a 2011 study by

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Ishizu Zeki claimed that “all works that appear beautiful to a subject have a single brain-based characteristic, which is that they have as a correlate of experience them a change in strength of [fMRI] activity within the mOFC [medial orbito-frontal cortex].” The idea was that there might be a domain-specific neural region that autonomously mediated the “aesthetic pleasure response” in reaction to visual stimuli that would be pleasurable for most humans; in the crudest explanation, neuroscientists sought to find a “beauty place” in the brain analogous to the “face place.” The working assumptions here were much like the assumptions early philosophers had about beauty—that beauty is a fixed attribute of objects, and that certain things are universally beautiful across humans; with such a model of beauty as an independently existing quality, it would make sense that there would be a “beauty detector” that lights up in the brain in response to such an object. Neuroscientists sought such “beauty qualities” in visual stimuli that they assumed would evoke strong and consistent positive aesthetic experiences across human subjects due to the common denominator of evolutionary adaptation—for example, symmetry, high cheekbones and large eyes in female faces, and a 0.7 waist-to-hip ratio in female bodies, due to their supposed correlation with health and fertility. While these particular traits might be the closest to have reached universal appeal, they too are subject to considerable deviation: famous representations of female beauty across history and cultures have not always followed these rules, and contemporary preferences are not the same across cultures. This kind of approach

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10 Tomohiro Ishizu, Semir Zeki, and Eric James Warrant, "Toward A Brain-Based Theory of Beauty," *PloS ONE* 6, no. 7 (2011)
also does not explain the extreme variety of aesthetic preferences expressed in less social and biological contexts, such as abstract art.

The key conceptual shift in neuroaesthetics occurred when areas suspected to be “beauty places” like the mOFC were found to be part of a much larger, more general network of distributed regions responsible for countless other processes, such as perception, reward, decision making, emotion, value judgements, impulse control, self-regulation, and moral decision making. Other imaging studies implicated the “orbito-frontal cortex, the anterior and posterior cingulate, the ventral striatum including the nucleus accumbens, the caudate, and the amygdala as mediating the emotional response to beauty or to artwork.” This broader literature suggests that the neural fingerprint of aesthetic pleasure overlaps densely with other processes that generate a sense of value or judgement (whether in choices related to social ethics or economics), processes that generate a sense of “reward” (whether in preferred music, faces, or chocolate), as well as processes that mediate emotion. Somewhere in the intersection of this complex “reward network” likely lies the creation of the aesthetic response. On top of that, there is the additional complication that aesthetic responses are not limited to the sensation of sheer visual beauty—“This portrait of a woman is pure pleasure for my eyes and my eyes only”—but also reliant on associations to other intellectual or emotional ideas, connotations, and memories—“This portrait of a 19th century Parisian prostitute strikes me as defiantly and proudly staring down the male gaze, which I remember from art history class made the conservative public flip out when it was first unveiled! How awesome.” The model of a “beauty detector” or “beauty

16 Francesca Bacci and David Melcher, lecture at Art, Mind, Brain (University of Trento; Trento, Italy, July 28, 2014).
place” in the brain that responds to some objectively or universally “beautiful” stimulus was thus largely abandoned by this shift in neural evidence towards a more complex, multi-modal, multi-purpose system integrating many other processes to create a sense of value judgement and a sense of reward—together producing an aesthetic experience—in response to “beauty.”

The broad diversity of possible aesthetic reactions has also been recognized, with studies that showed correlations between stronger brain activity and self-reported aesthetic pleasure, but large differences between subjects in what stimuli was considered beautiful or pleasurable. For example, Britney Spears and Mozart will both show up in images of brain activity as intensely pleasurable—triggering the very same “reward” response despite the massive difference in stimuli—in different people, or maybe even in the same person if that person enjoys both. This diversity in the possible “content” of an aesthetic experience also makes sense, as perception of stimuli can be emotionally valanced in many directions depending on individual associations formed with that object. Importantly, imaging studies have also lent the validation of neural evidence to subjects who insist on having a very phenomenologically distinct aesthetic experience in response to certain works of art: a 2007 fMRI study by Chai-Youn Kim and Randolph Blake showed that “experienced” observers—who had prior knowledge of the link between the paintings of Italian futurist artists such as Duchamp and Balla and the concept of dynamism or motion—exhibited greater activity in their motion-sensitive MT+ areas when viewing abstract paintings of implied motion by these artists. Control group observers—who had no such pre-existing association between the paintings and motion—showed a much weaker response. This was a significant finding, as it provided objective evidence that people who

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17 Ibid.
18 Randolph Blake and Chai-Youn Kim, "Brain Activity Accompanying Perception of Implied Motion in Abstract Paintings," *Spatial Vision* 20, no. 6 (2007): 545-60.
claim to be having a highly distinct aesthetic experience—for example, art critics or historians who describe such paintings as “dynamic” or “energetic”—are in fact having a phenomenologically different experience from that of people who claim they did not “see” such dynamism or movement. Arguments that have erupted in the art world based on a distrust of whether other people are having a “real” aesthetic experience or “faking” what they claim to feel or see in a work—notably in contemporary conceptual art, which has been particularly polarizing in reception—can perhaps be explained by studies like this that show that aesthetic experiences in different people can be both qualitatively different and phenomenologically “real” in the mind of the observer. Neuroaesthetics have thus allowed an extension of trust in other people’s experiences, despite the fact that each person still only has direct access to their own.

Conclusion

The shift in the conception and definition of aesthetic experience—in both the realms of philosophy and neuroscience—have shown that it is possible to broaden one’s understanding of a phenomenon to include more possible variations of its occurrence, without losing the essence of what it is. Neuroaestheticist Bevil Conway wrote on the topic of definitions, “One should not always demand a precise definition to make headway, but it might turn out that the philosophers’ disagreement is symptomatic: maybe there is no universal concept beyond the human capacity to experience beauty… A need to experience beauty may be universal, but the manifestation of what constitutes beauty certainly is not.”

If this case can be seen as an analogy to our understanding of consciousness, we need to then decide what should be the defining condition of “consciousness,” such that it does not depend on all the anthropocentric observations and,

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incidental details that happen to accompany it. Rather than coming up with a descriptive, list-based definition of consciousness as it occurs in humans, then struggling to apply it elsewhere, a good question to ask would be: What is the one feature of consciousness that would force us to recognize it in an alien species? In other words, what is the most basic definition of consciousness that would pass the Turing test? Any proposition for such a definition will likely be contentious, as it is like trying to ascribe characteristics of a person you have not yet met, but it is important that it allows for the possibility of non-anthropocentric manifestations.

One might ask, why is it important for consciousness to have the potential to exist outside of humans, if we are not writing sci-fi? After all, we live in a human-dominated world, and there is much evidence to suggest that humans are unique to other life forms, simply by looking at their rapid success in taking control of so much of Earth. However, this forgiving approach to anthropocentrism has ethical implications on Earth and existential implications in the Universe. In terms of ethics, a human-referenced definition of consciousness allows people to assume that alternate forms of experience are automatically less complex or less phenomenologically real, because they are different. Octopi are presumed to be less “conscious” in some sense than humans—despite the fact that we have no actual proof of this, only neural and behavioural evidence that their experience is radically different from that of humans—and are thus hunted, farmed, locked up in aquariums, and allowed to suffer in the service of human demands. The possibility that an octopus’s experience could be as complex, rich, and real as a human’s, or that it might be optimized for radically different things, is (perhaps wilfully) ignored. From a utilitarian framework of ethics, this is disastrous for mitigating suffering and optimizing pleasure.
In terms of existence, an anthropocentric bias in defining consciousness also determines how important we think humans are in the scope of the Universe. If we are the only conscious observers of existence in this reality—with all its joys, wonders, tragedies, and moments—our extinction as a life form (which is not unlikely) could be considered the greatest tragedy in the history of time and space—would there be meaning in the existence of matter without some observer to witness it? However, if we are open-minded to qualitatively different, but equally real experiences of conscious existence in other entities, no matter how alien, we allow for the possibility of a lot more meaning being generated in the universe. We are not so alone, nor so crucial. Astrophysicists and astrobiologists who currently undertake the work of finding extraterrestrial life in our galaxy are faced with this exact question of defining “consciousness,” but in the context of defining “life.” Because they, too, only have one data point for what constitutes life (i.e. life on Earth), they also resort to descriptive lists of observed features (“life is a chemical process involving proteins, DNA, Darwinian evolution, liquid water, and the chemical elements that are abundant on the planet Earth”), rather than a central condition that might generalize across planets and environments. Andrew Knoll—Harvard professor of earth and planetary sciences, who served on the science team for NASA’s MER mission to Mars—wrote that “terrestrial experience may not prepare us for what we find— our biological and paleobiological knowledge of terrestrial life furnishes blinders as well as a guide. Opportunities for false positives and false negatives abound.”20 In the face of these situations, which seem to belong in sci-fi but are all too real, our ability to broaden our understanding of concepts as important as aesthetics, life, and consciousness will be of paramount importance.

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Bibliography


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