Journal of Consciousness Studies, 7: 8-9, 2000, pp.29-35

PERCEPTUAL PRINCIPLES AS THE BASIS FOR GENUINE JUDGMENTS OF BEAUTY

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The Problem of Beauty

The modern formulation of the problem of beauty was developed by Kant as the antinomy of taste (C of J §56). The antinomy consisted of the thesis that a judgment of taste is not based on concepts, for otherwise one 'could decide by means of proofs'; and its antithesis that a judgment of taste is based on concepts, for otherwise one 'could not lay claim to other people's necessary assent to one's judgment'.

The problem has been represented more recently by Mary Mothersill as a matter of two true but apparently contradictory theses (1984). On the one hand, judgments of beauty are genuine judgments. That is, they are judgments grounded in objective properties of the beautiful object. On the other hand, we know something is beautiful by how it makes us feel, rather than by first identifying the presence of necessary or sufficient conditions for beauty in the beautiful object. In fact, logically necessary or sufficient conditions for beauty are not forthcoming. In the words of Mothersill's second thesis, there are no principles of beauty.

The feeling of beauty is a feeling of clarity as if one had found a solution to a problem. It is a feeling that is compatible with the possibility of experiencing perception as a solution to a problem; a deeply satisfying and pleasurable feeling.

Attempts to identify logically necessary or sufficient conditions for beauty always result in features which themselves have no logically necessary or sufficient conditions; features which are aesthetic qualities such as harmony, unity-in-variety, complexity-

unity-intensity and so on. One can never predict in advance that an object will evoke an experience of beauty based on it possessing certain perceptible features. There is always the possibility of voiding features that cannot be predicted in advance. Yet, in each individual case of beauty, we can and do defend judgments by pointing to certain combinations of base properties; certain configurations. Hence Mothersill's two theses, that there are genuine judgments of beauty and that there are no principles of beauty, are logically contradictory but are both true regarding our experience of beauty.

Now Mothersill suggests a remedy to this conundrum. She argues that the apparent contradiction emerges from the false assumption that the only way to ground genuine judgments of beauty is through principles of beauty of the kind that can be articulated as properties in the object which are necessary or sufficient for beauty. Mothersill suggests instead that if the basis of genuine judgments of beauty were neurophysiological laws, then judgments of beauty could be grounded without issuing in principles of beauty (of a logical kind). Neurophysiological laws might point to how certain characteristics of certain objects employ perceptual processes in such a way as to cause pleasure. This would shift the emphasis when defining beauty from objective properties in the beautiful object to neurophysiological principles activated in a certain way in the viewer of the beautiful object.

As such, the principles identified by V.S. Ramachandran and William Hirstein seem likely candidates for resolving the problem of beauty (1999). They would represent or explain the relation between certain properties of the beautiful object and the viewer's pleasure, in such a way that would ground judgments of beauty and also explain why beauty is ineffable. After all, it is the way perceptual principles are employed in the course of perceiving the beautiful object that causes the pleasure. We

cannot subsume these principles under a concept as we can the incoming data which give rise to logical condition-governed concepts, because these principles are a part of the architecture of the mind; hence, beauty's ineffability.

Ramachandran and Hirstein implicitly recognize that it is not the identification of aesthetic properties in the object that can help us understand beauty. Instead it is the identification of the kinds of perceptual processes that the perception of the beautiful object activates in the viewer that is the key to understanding the nature of beauty. Unfortunately the flaw which undermines Ramachandran and Hirsteins' attempts is a confusion regarding what constitutes an experience of beauty. They conflate pleasurable responses of a sexually titillating nature and other agreeably sensuous pleasures with the pleasurable response evoked by beauty.

Two Traditions of Beauty

The problem of beauty has been addressed through various philosophical styles and a number of different metaphysical/religious commitments. Generally, two traditions of beauty can be identified as running across all traditions/commitments according to the kind of pleasure recognized as evoked by beauty. One tradition, which I refer to as the Pythagorean Tradition (McMahon, 2000) recognizes only a contemplative, sober kind of pleasure evoked by formal relations in the object as a response to beauty; a pleasure not unlike the feeling of having solved a deep and troublesome problem, like a mist rising to reveal a sparkling clarity. This tradition differentiates between beauty, the good and the agreeably sensuous.

The second tradition, which I call the Pleasure-Principle Tradition, recognizes all pleasures evoked by perception (taste, touch, sight, hearing and smell) as caused by beauty, which in effect collapses the good, and the agreeably sensuous into beauty.

There are many disagreements between the different perspectives represented by these two traditions that are caused by a failure to recognize the underlying assumptions of each position. The nature of beauty regarding its subjective/objective status, and its culture/ species-specific basis, are interpreted very differently between the two groups. It is not that the two groups disagree about the features of a common experience; they are in fact both talking about different kinds of experience.

The Pythagorean Tradition of beauty has had poor press in the twentieth century largely because of misrepresentation; most notably through Clive Bell's theory of significant form and other narrowly formalist theories. A second influence was that, due to a post-Hegelian confusion that collapsed the metaphysics of beauty into an ontology of art, the possibility of beauty came to be understood as dependent on whether beauty figured in a definition of art. These two points considered together meant that if art was not defined according to some kind of formalism, then beauty was an outmoded concept. This line of influence inspired its adherents who wanted to resurrect beauty as relevant to art, to extend the meaning of beauty to include all responses caused by all art works. The illogical twist in this thinking is exemplified in statements made regarding the beauty of ugliness (not a contradiction in terms, according to this confusion, because some artworks are ugly!).

Clive Bell's theory of significant form is narrowly formalist in that it does not recognize that the relations between ideas or concepts within an intellectual construct can give rise to an experience of aesthetic form and hence beauty. Recent work on the

interface between perceptual and higher level processing makes it possible to speak literally rather than metaphorically of the perception of intellectual constructs (see the discussion of 're-entrant processing' as such an example, in Posner and Raichle, 1994). The Pythagorean Tradition has always countenanced the possibility that mathematical theories, scientific theories, literature and behaviour, can be experienced as beautiful along with art works and nature. This tradition takes account of the very real difference between the kind of pleasure experienced in, say, the beauty of a mathematical theory as compared to the kind of pleasure evoked by sensuous voluptuous nudes, or the smooth rich taste of cheesecake.

The Pleasure of Beauty compared to the Agreeably Sensuous

The evolutionary explanations for sexually derived pleasures and the pleasure of certain food tastes are very different from an explanation for our ability to experience beauty (beauty according to the Pythagorean Tradition forthwith). For example, a male finding pleasure in voluptuous female nudes is responding to signs of fertility in a way which will have the utmost chance of ensuring that he procreates. Furthermore, in responding pleasurably to taste textures and sensations associated with high calories, we are responding in a way that will encourage us to take in high-energy food (perhaps maladaptive in a relatively sedentary society such as ours in the West).

The nature of beauty, on the other hand, given its role in the development of mathematical and scientific theory, suggests an evolutionary explanation more along the lines of facilitating creative problem-solving. Anecdotal evidence from certain prominent mathematicians and scientists suggests that aesthetic concerns of unity are our only guide when moving beyond established conceptual frameworks in order to

solve problems in a new way[1]. Conversely, James McAllister argues that the experience of beauty facilitates the stabilisation of new paradigms (1996 and 1989). According to McAllister, the new paradigm itself is accomplished through empirical discovery.

In any case, if the concept beauty is to denote something more than just a personal response on a par with 'This feels good'; if a consensus in judgments of beauty is possible and such an expectation appropriate; and the peculiar phenomenology of beauty (feeling of solving a problem even when the beautiful object is an art work) is to be explained; then a theory of beauty needs to delineate the pleasure of beauty from other pleasures. The Pythagorean Tradition solved this dilemma by recognizing only the pleasure caused by certain relations between an object's elements as the experience of beauty. As such, all objects (not only concrete objects but also intellectual constructs and temporally extended phenomena like music and performance) are possible objects of beauty, but, significantly, not all of the beautiful object's aspects are relevant to a judgment of beauty.

In some cases, a particular aspect of an object, say its anticipated benefits to the viewer, holds our attention so completely that one is precluded from perceiving/apprehending its beauty. This is what certain ancient and mediaeval philosophers meant when they argued that a man who can only gain enjoyment from the satisfaction of appetites cannot perceive/apprehend beauty (Tatarkiewicz 1974). It relates to what Aquinas (thirteenth century) meant by the difference between aesthetic and biological pleasures, and also to what Shaftesbury meant in the eighteenth century by employing the term 'disinterested pleasure' in relation to the pleasure experienced in

[1] For example, Albert Einstein is famously associated with this belief. See a discussion of his

beauty (Stolnitz 1961). Furthermore, when an object arouses disgust, anger or desire, this kind of engagement can also preclude the kind of contemplation characteristic of the apprehension of beauty by ensuring that one is focussed on aspects other than those relevant to a judgment of beauty.

Perceptual Principles, Beauty, and Art

The analogy drawn by Ramachandran and Hirstein between their enterprise and the relation of Chomsky's work to literature (p.50) is asymmetrical. Chomsky's work did not help us understand Shakespeare, that is true, but Chomsky did not claim to be analysing the principles of literature. He was concerned with the nature of language. Ramachandran and Hirstein, on the other hand, purport to be analysing art, not vision; hence we can reasonably expect their analysis to help us understand art better. And well it might, but not in the way that they themselves recognize.

The questions that need to be addressed in order to understand beauty are what kind of mental processes could simultaneously:

(i) account for the experience of beauty in such a way that both its subjectivity (I know something is beautiful by how it makes me feel rather than by first identifying the presence of necessary or sufficient conditions of beauty in the object) and objectivity (a judgment of beauty is grounded in objective properties in the object) can be understood as complementary rather than contradictory. In other words we need to provide a rational basis for beauty which does not translate into principles (logically necessary or sufficient conditions for beauty); and

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correspondence with Niels Bohr in McAllister 1996. For other examples see: Poincare in Ghiselin 1952; Dirac 1963; Weinberg 1993.

(ii) provide grounds for differentiating between the pleasures of the agreeably sensuous, the good and the beautiful.

Ramachandran and Hirsteins' principles address (i) but not (ii).

Rather than making a contribution to our understanding of beauty, the perceptual principles discussed by Ramachandran and Hirstein could be drawn upon to explain what kind of perceptual principles are exploited through certain art styles. In particular, their principles could be drawn upon to explain and identify the kind of relationship between an artistic representation and the world out there. For example, the isolation of one modality and the 'peak shift effect' might explain the relation between expressionistic pictorial representations, say of the Fauves in France and the Brucke artists in Germany of the early 1900s, and the world out there. This eschews the terms of the philosophical debate regarding whether pictorial representations resemble, denote or symbolise their objects[2]. Instead, Ramachandran and Hirsteins' principles focus upon the perceptual principles exploited by each of the various art styles in a way which promises to be more fruitful in providing an understanding of what artists are up to. Semir Zeki (1999) has begun a similar enterprise in terms of neurological explanation. However, neurology as evidenced in Zeki's work is only illuminating concerning art which exploits visual elements in relative isolation, either colour (Rothko), colour and line (Mondrian and Malevich) or movement (Alexander Calder's kinetic sculpture). Ramachandran and Hirsteins' approach promises to be more fruitful because they draw upon psychological explanation, which has more to say about visual preferences concerning more complex combinations of visual primitives such as perceptual unities[3].

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[2] For example, see Goodman 1968, Gombrich 1977, Neander 1987, Lopes 1996.

[3] See my commentary on Zeki's *Inner Vision: An Exploration of Art and the Brain* at http://mitpress.mit.edu/e-journals/Leonardo/reviews/a-raw.html

My suggestion as to the kind of perceptual principles which might hold the key to understanding the nature of aesthetic form and beauty are those principles which underpin the processing (detection) of within-object relations. According to Glyn Humphreys and Dietmar Heinke (1998), the processing of 'between-object' relations draws upon view-dependent primitives and the processing of 'within-object' relations draws upon view-invariant primitives. The latter necessarily involves some form of construction of the perceptual form from perceptual primitives as part of the process of perception[4]. If what we experience as aesthetic form or beauty is some kind of play on the processes involved in processing within-object-relations (constructing perceptual form) during the course of perceiving certain objects then the apparent problems of beauty would be resolved. The idea would be that the perception of certain objects employs perceptual processes involved with detecting within-object relations in such a way as to cause us to experience perception (consciously the object) as a solution to the problem of constructing a cohesive form, which itself is pleasurable.[5] It might be that the perception of certain objects employs these perceptual processes in a way that epitomises their normal operations or employs them in a non-typical way, which causes us to experience something of the processes of perception itself. We would not normally be knowledgeable of the true source of the experience, attributing the feeling of pleasure to the objective properties of the object. Such an explanation would address the peculiar phenomenology of beauty. It would provide an explanatory basis for the possibility of a disinterested pleasure – a non-egocentrically based pleasure. It would

[4] For an explanation of the difference between view-dependent (image-based) and view-invariant (constructivist) theories of vision see Tarr and Bülthoff (1998).

[5] Evolutionary-wise, perception having evolved through interaction between organism and environment, we could assume that principles of perception reflect something about the world out there. This might contribute to an understanding of the relation between aesthetic form and scientific theories that have

also provide the explanatory grounds for differentiating beauty from the good and the agreeably sensuous.

Just one more observation before summing up. An interesting characteristic of the perceptual principles identified by Ramachandran and Hirstein is that they are analogous to creative problem-solving heuristics. Consider that principle (1) is about pushing boundaries; (2) about grasping salient points; (3) recognizing patterns; and so on. There are all kinds of stories we could tell about how perceptual principles might be mimicked in cognitive processes to account for the relation between perceptual principles and creative problem-solving heuristics, but this must be left for another time.

Conclusion

In sum, the particular perceptual principles identified by Ramachandran and Hirstein are not the basis for genuine judgments of beauty. This general approach, however, does seem to represent the only one open to us for understanding the nature of beauty within our present scientific paradigm. Furthermore, Ramachandran and Hirstein's work demonstrates that understanding the nature of perceptual processes offers much promise for clarifying, re-construing and perhaps even dissolving certain problems in philosophical aesthetics; the nature of artistic representation being a case in point.

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application. The story might go something like this: theories that satisfy or reflect the relations favoured by perceptual principles, also reflect the structures underlying the world out there.

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