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What Is Art?

Editorial Introduction

What is art? What is beauty? How do they relate? Where does consciousness come in? What about truth? And can science help us with issues of this kind? Because such questions go to the very heart of current conflicts about Western value systems, they are unlikely to receive definitive answers. But they are still very much worth exploring — which is precisely the purpose of this collection of papers, with particular attention to the relationships between art and science.

I: What is Art?

The very last essay of Paul Gauguin was on the importance of the question ‘What is art?’ A trip to the dictionary (noting also cousin words such as ‘artifact’, ‘artisan’, ‘artificial’ and ‘article’) may suggest that ‘art’ refers to something skillfully constructed by human artists. However, the artists themselves have been pushing the boundaries of any such definition, challenging our preconceptions, and leaving most philosophers, psychologists and critics well behind — to say nothing of the general public.

Let us first consider ‘found art’, also called ‘readymade’ art, which challenges the role of the artist as the constructor of art. An especially famous example is Duchamp’s urinal, the submission of which to the 1917 New York Exhibition of the Society of Independent Artists generated considerable controversy, resulting in its exclusion by the society’s board of directors. This object has a pleasingly smooth form, which follows its function in a most logical way. Presumably it was more the function that offended the bourgeois sensibilities of the board than the form itself, or the lightened role of the artist. Some other examples are Warhol’s Campbell soup cans, Damien Hirst’s dead animals floating in large tanks of formaldehyde (‘Mother and Child, Divided’, a dissected cow and her calf, winner of the 1995 Turner Prize — continuing the tradition of upsetting the bourgeoisie, but enlarging the role of the artist to include the commissioning of tanks), and the exhibition of various configurations of objects like rocks, trees, and ropes (many artists have followed this line, e.g., Barry Flanagan).

Environmental art pushes the definitional boundaries by placing art outside the museum, in a (more) natural environment. Well known examples include earth-works, e.g., by Robert Smithson, and wrapped buildings by Christos. Conceptual art challenges the materiality of art, by using physical forms that may themselves be relatively prosaic or even boring, such as hand-lettered posterboards, perhaps to suggest a concept, or a reconceptualization of an existing situation. In addition, there are traditions, such as performance art and body art, that give new roles to the artist, e.g., as part of the artwork, and also challenge current ideas about the boundaries among various art forms, e.g., between theatre and visual art, or between music, literature and theatre; current performance traditions in rock music do the same (e.g., Beck). We might also consider high fashion, interactive video games, graffiti, antique furniture, websites, etc.

It should not be forgotten that non-Western perspectives can be very different. For example, traditional societies do not distinguish between art and craft, and may not have designated specialists who regularly and exclusively perform such tasks. Moreover, art and craft are often fused with religion.¹ In Japan, the arrangement of rocks, plants and water has reached an extremely sophisticated level in the construction and maintenance (often over hundreds of years) of formal gardens; the traditions of arranging flowers ('ikebana') and of cultivating miniature trees ('bonsai') are also relevant, and today have a considerable popularity in the West. Another form of distancing between art and artist comes from the use of random operations. In literature, this was made famous by William S. Burroughs' use of 'cutups' in his novels (*Naked Lunch*, etc.), following the use of a similar technique in art by Brian Gyson. John Cage also used chance operations in his musical compositions; he particularly favoured variants of the methods used in *I Ching* divinations. In such cases, the role of the artist becomes more like that of the critic: to evaluate and then select some results as superior to others.

From all this, we should conclude that social context plays a key role in determining what art is, or even if it is. Clearly the Western tradition is evolving, to the point where anything can be presented as an art object, and where the role of the artist is subject to wide variation. In addition, evidence from other cultures shows that the very notion of art is culture-dependent, so that what appears in one tradition as an aid to meditation, or an indication of rulership, or an aid to drinking water, may appear in a museum case in another tradition.

II: What is Beauty?

Beauty is often taken to be the measure of quality for art. In the Enlightenment tradition, epitomized by Kant, the beauty of objects is judged in absolute terms by rational autonomous subjects. Insofar as this view fails to distinguish between art and nature, it fits well with the dissolution of this boundary in contemporary art, and more generally, with the dissolution of the boundary between the natural and the artificial (or virtual) in post modernism. Moreover, it neatly disposes of the

[1] Two examples are icons in the Eastern Orthodox Christian tradition, and Tibetan thanka paintings, both of which are (ideally) produced in a spirit of deep devotion.

problem of the cultural relativity of the nature of art, by rendering it irrelevant: everything is art, and everything is subject to judgements of beauty in exactly the same way. However, the Enlightenment view is burdened with other difficulties, many of which can be seen to arise from its presupposition of mind–body and subject–object dualities. Such issues are of course by now very familiar in consciousness studies.

Perhaps the simplest theory, and one which was widely held until recently, is that art is beautiful to the extent that it imitates nature; we might call this the correspondence theory of beauty.² This provides (or appears to provide) a simple rational criterion. But unfortunately, this criterion depends on not only a separation between subject and object, but also between art and nature,³ and therefore it falls prey to the previously discussed problem that the very notion of art is culturally relative, rather than being a universal *a priori* given. In fact, and perhaps even more disastrously for this theory, it is also unclear what counts as nature, given triumphs of modern science and technology such as the rise of the virtual (e.g., special effects in movies), the strange products of bioengineering, and the ever slowly dawning realization that humans are natural. It is also evident that this theory fails to account for much of contemporary art, which is often radically non-representational. And finally, it is not very clear that there can exist any very good rational basis for judging how well art works imitate nature; it is easy to cite many problematic cases (e.g., unicorns, or the work of landscape, bonsai, and ikebana artists). But perhaps we are beating a dead horse here; so let us move on.

Another unsatisfactory approach to beauty attempts to measure it by the viewer's emotional response. Let's call this the 'I know what I like' approach. There is little hope for such an approach in its naive form, which is purely subjective. However, there are more sophisticated forms, in which scientific instruments are used to measure the response, and large datasets are collected, in order to average out individual variations and eliminate outliers. As a result of this methodology, conclusions will tend towards primitive factors that are valid for the lowest common denominator of the sampled population. Also, like the correspondence theory of beauty, this approach presupposes a strong split between subject and object. On the positive side, least common denominator results might include many interesting and important low level perceptual phenomena. On the negative side, the limitation to relatively crude response measures will exclude all of the more complex forms of judgement that are built on top of mere perception, and that seem so important for understanding great art. Although such approaches could produce useful guidelines for several aspects of design, they probably have much less value for fine art. On the other hand, their results should be a significant input to any mature theory of art, and would deserve the same admiration for stability and reliability that is associated with the best fruits of the scientific method.

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- [2] After the correspondence theory of truth in semantics, with which there is a close analogy. This theory is well illustrated by many eighteenth century English estates, whose large gardens and parks are carefully landscaped to achieve a casual 'natural' beauty, which seamlessly merges into the surrounding countryside.
- [3] Notice that without this distinction, everything is natural and thus everything is already maximally beautiful.

The Romantics had an entirely different point of view. As John Keats famously wrote (in the Spring of 1819) in his ‘Ode on a Grecian Urn’:

When old age shall this generation waste,
 Thou shalt remain, in midst of other woe
 Than ours, a friend to man, to whom thou say’st
 ‘Beauty is truth, truth beauty’ — that is all
 Ye know on earth, and all ye need to know.

Although this clearly echoes Plato,⁴ I presume that Keats intends the Romantic notion of ‘artistic truth’, which generally meant some kind of emotional truth, i.e., an accurate expression of the feelings of the artist, rather than truth in some philosophical or scientific sense, such as correspondence to (some notion of) reality.

Heidegger has gone more deeply into Kant’s philosophy of art than did Kant himself or his followers. Kant’s notion of the absoluteness of art is explicated by Heidegger as follows (Kockelmans, 1985):⁵

. . . the beautiful for Kant is that which never can be considered in function of something else (at least as long as it is taken as the beautiful). . . . When all such interest is suppressed, the object comes to the fore as pure object. Such coming forth into appearance is the beautiful.

Thus art is for Kant the beautiful presentation of some form, and through it, the presentation of an aesthetic idea which lies beyond the realm of the concepts and the categories. Through this beautiful presentation of an aesthetic idea the artist infinitely expands a given concept and, thus, encourages the free play of our mental faculties. This implies that art really lies beyond the realm of reason and that the beautiful is conceptually incomprehensible.

This theory of the beautiful as the pure presentation of form has much in common with the romantic view. However we should carefully note that it excludes the role of the artist, the cultural context of the art object, and the preparation of the viewer, all of which seem crucial.

Heidegger’s own theory of art has much in common with (his version of) that of Kant, but he takes Kant’s ideas further, drawing also on his vitalizing reinterpretations of Nietzsche and Hegel, and of course taking a phenomenological perspective; perhaps surprisingly, Keats’ poem again resonates, although it requires a very different interpretation. The following quotes are from Heidegger (1960):

Art is . . . the becoming and happening of truth.

Beauty is one way in which truth appears as unconcealedness.

Truth is the unconcealedness of that which is as something that is. Truth is the truth of being. Beauty does not occur alongside and apart from this truth. When truth sets itself into the work [of art], [beauty] appears. Appearance — as this being of truth in

[4] Discussions of relations among of the good, the true, and the beautiful go back (at least) to Plato (–360), in the *Republic* and various dialogues. This theme has been echoed, expounded, varied, and developed through the ages, e.g., by Aristotle, Cicero, Saint Augustine, Boethius, Aquinas and Kant, and it continues into the present, where these three are generally taken to be the quite distinct domains of ethics, logic and aesthetics, respectively.

[5] Although we cite a somewhat dubious secondary source, it is used only as a convenient repository for quotations.

the work and as work — is beauty. Thus the beautiful belongs to the advent of truth, truth's taking of its place. It does not exist merely relative to pleasure and purely as its object.

Heidegger's notion of 'truth' comes from (his interpretation of) the ancient Greek word *aletheia*, which he takes to mean non-concealment, the condition of the possibility of understanding or interpretation. This differs greatly from the notion of truth in science, as the following quote, again from Heidegger (1960), makes clear:

. . . science is not an original happening of truth, but always the cultivation of a domain of truth already opened, specifically by apprehending and confirming that which shows itself to be possibly and necessarily correct within that field.

Heidegger's approach to art allows for culture, under the heading of what he calls 'world', it explicitly includes the artist, and it takes account of viewers. Also Heidegger's approach applies equally well to representational and non-representational art, e.g., conceptual art, found art, and earthworks. But very abstract philosophical views of this kind, though they may help with avoiding certain misunderstandings, and with deconstructing other theories of art, do not seem to provide much help understanding particular works of art, and this seems to me a serious defect.

Another theory of beauty, often dubbed 'modernist', says that an object is beautiful to the extent that its form conforms to its function.⁶ This is perhaps as well illustrated by Duchamp's urinal as anything (though that may not have been the artist's intention). On the other hand, this criterion is hardly applicable to useless objects, such as impressionist paintings, cubist sculpture, and poetry (though all these can of course be put to various uses, such as making money, impressing friends, and reducing stress). Moreover, this aesthetic produced, or at least justified, architectural monstrosities in the 1950s and '60s, for example, the huge crime-ridden high-density low-income high-rise housing projects, that many communities throughout the world are now trying to get rid of. It seems fair to say that this theory is pretty much discredited as a general theory of beauty, though it retains some currency in such areas as industrial design, due in part to the great success of the Bauhaus movement. Incidentally, the above discussion constitutes a good illustration of the dependency of *theories* of art upon social and cultural conditions. For not only art, but also theories of art, depend upon, reflect, and vary with the social conditions of their production, including of course the cultural milieu.

In his *Poetics*, Aristotle (–330) defines art as imitation, but he is not so naive as to call for the imitation of nature, but rather of 'men in action'. Moreover, here as in most things, Aristotle takes a balanced approach, and does not attempt to reduce art, or the measure of art, to any one thing. In particular, he does not propose any notion of beauty as the measure of art, but rather introduces a number of quality criteria, concentrating on the example of tragic drama, but also discussing

[6] Despite its name, this theory goes back at least to Plato (–360), and his reduction of art to utility is consistent with his distrust of artists for their capability for political disruption.

several other art forms, e.g., lyre playing. Aristotle says that the aim of tragedy is to arouse fear and pity in the audience through the imitation of heroic action; his criteria of excellence include unity of time and place, skilful use of language, especially metaphor, several aspects of plot structure, including certain key types of scene, and aspects of character development. His approach skilfully combines analytic, historical, ethical, and pragmatic views of drama and, of course, it has been enormously influential, and remains so to this day. It seems that for Aristotle, as for many contemporary artists, beauty is at most a secondary concern.

On this last point, and much else, I would agree with Aristotle. An additional point is that beauty is even more difficult to define than art, as well as being even more culturally relative and time-variant. But before passing to our main question, we should note that Aristotle's approach is not applicable to non-representational art.

III: Art and Science

The method of science calls for precise repeatable measurements, and for an objectivity that excludes all subjective factors on the part of the experimenter. This is very different from the method of art — indeed, it is nearly the opposite. That artists directly engage their subjectivity in their work is one of the few assertions that is very widely held among the highly diverse plethora of contemporary artistic movements. Moreover, repetition (at the time of creation) is anathema to most artists,⁷ and this proclivity is much reinforced by the nature of the art market, which tends to value scarcity (other things being equal). Objective measurement also differs greatly from the creative aspect of art, though it may of course be used in the technical support of artistic production (e.g., mixing paint, tuning musical instruments, fitting together parts of a sculpture, using perspective).

These considerations imply that art and science must play significantly different kinds of role in any relationship that may be forged between them. One very simple theory is that art and science explore such completely disjoint domains in such completely different ways, that it is impossible for there to be any meaningful relationship between them. While this might be comforting to many, it is clearly false. For example, during the Renaissance advances in geometry fueled a corresponding advancement of perspective in painting. Advances in technology have obviously been essential enabling factors for many contemporary art forms, such as cinema, and electronic music. Many other examples could easily be given, some of which seem to involve rather complex interconnections between art and science (e.g., the video-based art of Nam Jun Paik, which appears to use the medium to criticize it).

A relationship that excites little controversy, because it seems to raise few deep philosophical questions, is the use of science to authenticate art, for example,

[7] For example, Monet famously painted the same cathedral many times — but they are all different, often radically, e.g., in using a very different colour scheme (cf. Myin, 2000, p. 54). Anthony Freeman adds the following remark: 'Paradoxically, the scientist reveals truth by coming up with consistently identical results, while the artist reveals truth by coming up with consistently different results.'

through chemical analysis and carbon dating of pigment, canvas, and other material. The use of the fractal dimension dating computations of Taylor, Micolich and Jonas (this volume) to authenticate or date the drip paintings of Jackson Pollock also has this character. Such applications should not be confused with the much more controversial reduction of art to science, e.g., via measurements of viewers' physiological responses to art. While such reductive approaches have difficulty taking account of factors like culture and the role of the artist (Ione, this volume, page ...), they are potentially applicable to non-representational art, as noted by Ramachandran (this volume). Moreover, there is little doubt that artists and art lovers can learn some valuable things from scientific studies of perception, as well as from related subjects such as the neurophysiology and cognitive psychology of vision; e.g., psycho-acoustics is a well developed area of musicology that has been applied many ways in music.

Conversely, some might wish to reduce science to art, by emphasizing the creative side of scientific research, and then claiming that this differs little from painting or musical composition. While such a claim seems valid as far as it goes, it fails to impart much insight, and it also leaves out a great deal that seems important, such as the mathematical character of most scientific theories, and the repeatability requirement for scientific experiments that was discussed above.

Both art and science are part of culture and, as such, both their nature and their relationships are bound to be complex, and to change over time and location. It therefore seems naive to expect to find any simple (or even complex) description that reflects the timeless essence of their relationship. As for the future, it would seem wise to expect the unexpected, given how rapidly art, science, and technology are all evolving at present. For example, how will the internet relate to art, as it progressively matures and permeates society? Some things seem relatively clear: we will surely see much more of digital media, and of the digital manipulation of art forms; and probably we will see radical new integrations of media when network bandwidth becomes sufficiently great. But will this make much difference? We will see new kinds of art, but will we see new kinds of aesthetics? Probably we will see new theories of art as well, but will they be any better than the old ones?

IV: Conclusions

This essay has explored some of the most popular definitions and theories of art and beauty. We seem forced to conclude that it is difficult, or even impossible, to define art and beauty, or to adequately classify the complex relationships between art and science. Since we don't know precisely what art is or what role it plays in our lives — and the huge variety of positions that have appeared in *JCS* suggest that we also don't know precisely what consciousness is or what role it plays — there would not seem to be a very solid basis for considering the relationship between art and consciousness. Moreover, it is clear that nearly all of whatever brain activity it is that corresponds to aesthetic experience is unconscious, and it is even doubtful that the ideal viewer of a great artwork *should* be conscious,

because one (often claimed) effect of great art is to merge subject and object in an ecstatic epiphany that transcends individual consciousness; see Goguen (1999) for some related discussion. Finally, I have repeatedly argued that scientists and philosophers interested in art should take an inclusive view of what art is, rather than focusing just on painting and perhaps sculpture, and that they should also try to find ways to take account of the role of the artist, the cultural context, and the artistic sophistication of the viewer, if they aspire to a truly adequate theory.

Conclusions like those of the previous paragraph will be disappointing to many philosophers, and to the purveyors of grand theories of any kind. But perhaps such conclusions are refreshing in a way; perhaps clearing away the conceptual baggage of definitions and theories can help us to approach art in a fresh way, so that we can experience it more deeply and authentically, which is surely no bad thing. Also, these explorations, however tentative and mutually contradictory, are valuable in actualizing this conceptual clearing as a process, and the issues involved are deep, affording us an opportunity to reflect on what it means to be human. This is the value of asking the question ‘What is art?’. Finally, dramatic scientific advances like fMRI, and the continuing decline of dualistic theories of consciousness in favour of embodied theories, offer solid grounds for thinking that genuine progress can in fact be made in the scientific and philosophical understanding of art, as is also supported by the fine papers in this volume.

V: What the Authors Say

As might be expected, the authors in this special issue display a splendid diversity of opinion on the difficult issues that are highlighted in this introduction, as well as on many other issues.

For example, the authors in the section of commentaries on the paper by Ramachandran and Hirstein (1999) — hereafter abbreviated R&H — exhibit a wide range of responses. The distinguished art historian E.H. Gombrich argues that the R&H approach fails to take account of much of the art found in today’s museums, while in his reply to Gombrich, Ramachandran claims that Gombrich has not paid sufficient attention to certain aspects of what is actually in museums. Ione, who is an artist, argues forcefully for the need to take account of artists in discussing art, and also claims that the underlying Platonic presuppositions of the R&H approach greatly limit its applicability. McMahon applauds the way that R&H avoid a Kantian antinomy, ‘that there are genuine judgements of beauty and that there are no principles of beauty,’ but also argues that their approach fails to distinguish beauty from other forms of pleasure; moreover, she proposes models involving both low level perception and higher level processing as a more promising solution. Wheelwell argues, with perhaps excessive rhetoric, that the R&H reduction of beauty to evoked skin conductance response fails to get at the most important aspects of art, and that it confuses beauty with arousal; she also introduces a bracing feminist perspective.

The second of the three parts of this volume consists of selected papers from a conference entitled ‘Perception and Art’ held in Brussels in May 1999, as one of

two components of the ‘Cognitive Science Conference on Perception, Consciousness and Art’. An introduction to these papers by Erik Myin appears on pages 43–55 of this volume; I especially like the Gibsonian perspective that Myin takes in his essay.

The third part of this volume consists of two additional papers. The first of these, by Alva Noë, is a lovely meditation on the experiential nature of some contemporary art and philosophical implications of the perspective behind this art (though written in the reverse order). In particular, Noë highlights the transparency of perceptual consciousness as a problem for philosophy, art and cognitive science, and claims that it is resolved by taking an active, embodied and temporally extended view of perception. The work of the sculptor Richard Serra is presented as exemplifying this view.

The second paper, by Taylor, Micolich and Jonas, is a fascinating empirical study of the drip paintings of Jackson Pollock, using the notion of fractal dimension from chaos theory. It is found that these paintings have a fractal character (i.e., exhibit self-similarity), and that their fractal dimension gradually increases with the date of the painting, from 1.12 in 1945 to 1.72 in 1952. This regularity raises the possibility of using fractal dimension to authenticate ‘newly discovered’ Pollock paintings (if any such appear), and even to determinate their approximate date. The paper goes on to relate Pollock’s art to theories about automatism and the role of the unconscious in art, that were current in his time. This paper also speculates that the abundance of fractal patterns in nature makes them a naturally attractive form for art and artists.

Finally, I should mention the two book reviews in this volume, written by English and by Goguen. The first of these covers a book entitled *Reframing Consciousness* that contains 63 papers from a conference held in Wales in 1998, on the intersection of art, consciousness and technology, while the second applies a strengthened Gibsonian viewpoint to a recent book by Maurice Hirshenson, *Visual Space Perception*, from the field of experimental psychology.

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