After the Avant-Gardes

Reflections on the Future of the Fine Arts

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Introduction

Elizabeth Millán

The following collection is the fruit of intellectual labors begun at an Arts Colloquium held under the auspices of the Hegeler Institute, at the Hegeler-Carus Mansion in La Salle, Illinois, on March 28th–30th, 2003. The theme of the meeting, "After Modernism and Postmodernism: New Directions in the Arts" was approached from a variety of disciplinary angles. The resulting collection is interdisciplinary, with literary theorists, philosophers, music scholars, poets, public intellectuals, and studio artists articulating their views on the future of the fine arts.

The book is divided into three parts. Part I, "The Future of Art," is the most theoretical, with each contributor developing views on the meaning of modernism and the future of art. The two essays in Part II, "Progress and Permanence" deal with the problem of progress in art and the marks of truly progressive art. The final part, "The Prison of Avant-Gardism," poses some biting challenges to the view that the avant-garde opened productive spaces for the future of art. While no essay sings a song of nostalgia for some lost Golden Age of art, many of the essays do emphasize that there is much of value to be found in the models of art offered in the past, and that there is still room for beauty in art. A theme connecting the essays is a tone of alarm with the way which art has been "progressing" in our culture.

The following lines from Frederick Turner well capture a sentiment of the contributors:

> It is my contention that our "high" or "academic" or "avant-garde" culture is in a state of crisis. This crisis is not a healthy one, but a sickness unto death, a decadence that threatens to destroy our society.[1]

Turner was the keynote speaker at the La Salle meeting, and in his work he diagnoses a sickness from which our culture suffers and prescribes

what he calls, "a real cure"—one which "treats our mind and imagination as well as our behavior."[2] The spirit of Turner's concern for the cultural crisis confronting our culture inspired the meeting and it inspires the contributions to this volume.

Most of the contributors are pessimistic about certain paths that art has taken, but like Turner, express hope about the future for art, as long as art can break away from a certain obsession with the avant-garde. Turner speaks in terms of a "new constellation of hope."[3] The essays in this collection can be said to be part of such a constellation of hope for the future of art.

[6]
Does the New Classicism Need Evolutionary Theory?

RAY SCOTT PERCIVAL

In what way might the new classicism gain support from evolutionary theory? My rough answer is that evolutionary theory can help to defend a return to more classical artistic standards and also explain why classical standards are not simply imposed by social conditioning or by powerful elites, but arise naturally from something more fundamental in the human constitution.

Classical standards and themes are an expression of our evolutionary history. The mind can be seen as a biological organ or function, produced by evolutionary selection pressure. The most arguable and interesting expression of this point of view is that which says that the human mind is more like a Swiss army knife than a general purpose computer or sponge for information. Our minds are modular. First propounded by Jerry Fodor, the idea was taken up by evolutionary psychologists and fleshed out with a history. Evolution has given us cognitive modules, partly self-contained mental "machines" that are attuned to solving problems within a narrowly defined domain. Darwinian evolution has shaped our minds in particular ways that fundamentally affect our evaluation of everything we perceive and therefore our appreciation of art.

What are the implications of seeing our minds from this evolutionary modular point of view for a return to classical standards, or at least for an escape from the excesses of the avant-garde? My provocative conjecture is that the standards and themes of classic art better satisfy the relevant cognitive modules and their disposition for active use to an inbuilt excellence than does much of the avant-garde. Beauty is the patterns that our ancestors had to detect in the pursuit of opportunities and the avoidance of dangers and the incidental properties of the relevant cognitive modules. Any module that evolved would also likely have a taste for excellence or virtuosity, for its exercise and full engagement. Two corollaries of an evolutionary perspective are that we may not avoid

elitism in the arts or varied tastes (even between the sexes), and that, although classical standards are a good proxy for our native aesthetics, our native standards may be fragmentary across types of art, thereby undermining the classical call for universality. In an attempt to understand the nature of our cognitive modules, and therefore our native aesthetic, I tentatively analyse them in terms of a conjecture-and-refutation model of knowledge growth, arguing that they are crystalized conjectures about conjectures. I also analyze Stephen Kaplan's work on aesthetic preferences for landscapes in these terms in an attempt to make clearer what his categories of complexity, coherence, legibility and mystery are, thereby enabling me to generalize the application of his work to other arts.

By classical standards I mean those we associate with ancient Greece and Rome, and also with the revival of those standards in Renaissance Italy and France. This is a broad brush stroke, I grant. There are substantial differences between ancient Greece and ancient Rome and it can be argued that the Renaissance Italians, though trying to copy what they only dimly understood to be ancient standards, went far beyond them, creating (or discovering) new standards. I do not intend to belittle the achievements of other civilizations such as ancient Egypt, India, China or Japan. Indeed, if one takes the classical standards of harmony, restraint, accuracy, coherence and concord at an abstract level, one can see these (or at least strong hints of them) in all the arts of antiquity, even back to Paleolithic art.

I want to suggest that of all such artistic flowerings, classical art standards best approximated our native aesthetics. There are strong hints that classical western art shared the same latent standards with non-western artists, in the fact that western techniques such as perspective were rapidly accepted by them once they saw them, in the same way that anthropologists have found that tribes isolated from industrial society will readily adopt modern tools, such as knives and axes, as soon as they see them. The archetypically Japanese artist Hokusai adopted perspective as soon as he learned of its existence (without losing his Japanese syle).[1] On the other hand, much avant-garde art is a substantial mismatch to our native aesthetics. But I think that our native aesthetics can be seen in all periods and cultures, and—if glossed as classical—even surfaces where one might least suspect. Even the so-called avant-garde is not altogether innocent of a deference to them.[2]

However, the avant-garde (which I take to include modernism and post-modernism) has exhausted itself.[3] Initiated by Cézanne in painting and then rapidly imitated by the other arts, modernism was at least, if not

an aesthetic, then an intellectual adventure, in self-criticism. As Clement Greenberg put it:

> The essence of Modernism lies, as I see it, in the use of the characteristic methods of a discipline to criticize the discipline itself—not in order to subvert it, but to entrench it more firmly in its area of competence. (*Art and Literature* 4, Spring 1965, 193–201)

Greenberg argues that Modernism had its source in Kant. Kant used logic to show the limits of logic, but thereby entrenched it more securely in its better-defined home ground. By analogy, modern art used the methods of each art to show their limits, but thereby confirmed its own domain. For example, painting strove to distinguish itself from sculpture and emphasise the flatness of its medium. A significant amount of avant-garde art is a genuine attempt at self-criticism and the exploration of the medium and standards and techniques handed down.[4] And just because an aesthetic is genetic, it does not follow that it is manifest and easily satisfied: it may require a great deal of learning and experimentation to both execute and to appreciate.

But there were other non-artistic forces at work in the growth of the avant-garde. Driven by the historicist conception of progress (the obsession with anticipating and divining the next stage of artistic creation), and the self-marketing power of the novel work, artists produced more and more novel, shocking, controversial works. Stretching the notion of what counts as art beyond the elastic limit of logic, the avant-garde has branched out to a number of withering twigs: nihilism, political or social activism, and a disguised pluralism. The ideology behind some modern art is a limp nihilism: anything goes. Michelangelo's *David* and the bust of Nefertiti are seen as equivalent (just a point of view) to a pile of bricks and Leonardo's *Mona Lisa* to daubs of paint on a Diesel T-shirt. Other art is simply or mainly a Trojan horse or "firework display" to get your political or social message across. Another branch of art is the disguised pluralism that is advertised as a call for the liberation of artistic creation, but has an authoritarian shriek: aesthetic discrimination, except when motivated by the "correct" political perspective is, within many circles, seen as authoritarian and elitist. The rise of relativism within the humanities has offered encouragement and defenses for these developments.

This paper assumes a defiantly absolutist position with regard to the existence of evolutionary aesthetic standards. But it is also equally aggressive in the defense of an experimental pluralism in attempts to

discover those standards. We can learn from the methodology of science that the existence of competing conjectures does not mean that we live in different worlds, but that this is the best way to get closer to the truth. Similarly, the existence of different and competing standards in art does not mean that there is no objective reality to our aesthetics against which these postulated standards could clash. And even if there are genetic standards, this still leaves open room for individual variation.

Great art, that which tends to be accorded highest status across cultures—if only it has been discovered—has a three-fold character: skill, form and meaning. Different types or examples of art will embody different amounts or emphases on the three aspects. The lesser arts of decoration (wallpaper, mosaics, T-shirts, ambient music, and so forth), having an almost exclusive concern with form, are valuable, but do not constitute high art or grand art. The difference between high art and low art is like the difference between a cheese sandwich and a three course meal at a sophisticated restaurant. One does not always want the grand meal—the sandwich will often suffice, but the grand meal is clearly superior to the cheese sandwich. The grand meal satisfies more aspects of our interest in eating: the meaning and mood of the place, the various aspects of our taste (savoury, sweet, and so forth). At one time opera was the grand aesthetic meal, now I think that movies have taken this role. Computer games have the potential to take over here, with their great capacity for a totally immersive experience in which many central and peripheral mental modules are fully engaged.

1. Darwinian Evolution

One could argue that a theory of universal aesthetics does not need to postulate an evolutionary origin for this. For example, one could simply explore the neurological basis of it and how it is expressed in different cultures. However, I assume that one can better understand something from the way it was produced. Because I am arguing that our aesthetics are an expression of our evolutionary history, as Palaeolithic hunter gatherers (and even before), I ought to make clear what I assume to be the dominant evolutionary view: Darwinian theory. By dominant I mean that it is the best explanation available.

Darwin proposed that all the great variety and form of life on earth could be explained by the action of three fundamental processes on a common ancestor over many millennia. Design was not necessary. These processes are:

1. Natural variation (the progeny of an organism are similar to but different from one another and their parents, and this variation occurs spontaneously and independently of the environment and the action of the organism);
2. Natural selection (the environment eliminates the relatively unfit, those variants less productive of self-reproducing off-spring); and
3. The inheritance of variations (selected variants are copied with errors).

There are various elaborations of this, for example, gradualism (which assumes a steady accumulation of slight variations) versus saltationism (which assumes periods of more rapid change), and species versus group selection, but the three-process schema is accepted by all variations.[5]

2. The Evolutionary Psychology of Art: Interpreting the Claim for Universal Aesthetics

There are standards and themes of art that appeal to native dispositions that have evolved either as a direct adaptive response to an ancient evolutionary pressure to survive and reproduce or are a by-product of such direct adaptation. Any organ that evolves will have directly adaptive properties, but it will also have incidental properties. Some of these may, in their turn, be adaptive for some other reason (for example, a dog's ability to swim may be incidental to its attempts to walk when in water and not to its ancestors having adapted to swimming), while other incidental properties may have no adaptive function at all (such as the human mind's ability to understand abstract mathematics). Some of our innate art standards may be of this nature.

What is the evidence for our standards of art being a reflection of evolutionary pressure? Well, one's first thought would be that if these standards were indeed genetic, then they would be evident across all cultures and historical periods. Such a finding would not be surprising in the light of Donald Brown's book, Human Universals (1991), which is a carefully assembled account of traits found in all cultures. The list contains hundreds of items, including body adornment, music, dance, romantic poetry, mourning the dead, exchange of goods, food taboos. Child psychologists no longer argue for the blank-slate view of the human infant: the infant is already equipped with assumptions and preferences about the world that govern its perception and behaviour with

respect to people, objects and tools.[6] Charles Murray has also compiled a survey of great achievers in both the arts and sciences from 800 B.C. to 1950. He found a surprising degree of consensus across cultures about the rank ordering of artists, with Shakespeare, Michelangelo, Mozart, and Beethoven coming at the top of people's assessments. Faced by such diverse evidence of cultural universals, it does not seem far-fetched to entertain the hypothesis of a universal aesthetic. I mention these findings not because they establish a universal aesthetic by themselves, but just to indicate the tide of evidence that the cultural relativist has to face when arguing against my thesis: it is no longer sufficient to simply point to cultural variation to undermine the idea of a universal propensity. We have to be a bit more subtle here. Being general, standards and themes can allow for much cultural and historical variation. I conjecture that our native aesthetic was most clearly expressed during certain periods of Ancient Greece and Rome, but especially during the Renaissance. But at least some of these standards may be found (or at least hinted at) in many periods and civilisations, ancient Egyptian, Indian, and Minoan, for example.

There are two points to be made here. First, there are, when one looks more carefully, fundamental "atomistic" standards. An example of an atomistic standard would be the golden ratio[7] in architecture. Secondly, native tastes need not be manifestly obvious to those who have them. They may become apparent only after much exploratory trial and error and the development of both the refined skill and technology that can create the requisite object of art. Also, they may be used even though there is no explicit formulation of the standard, as perhaps happened with the golden ratio. It has been suggested that the Parthenon and the Acropolis both incorporated the golden ratio. One criticism has it that even though the Greeks knew of the golden ratio in their mathematics, there is no evidence that they explicitly applied it to the design of these buildings. However, my thesis does not require an explicit formulation or application of the golden ratio as a standard in order for it to count as one tacitly discovered and accepted as a result of hundreds of years of building practise. There is a creative leap between knowing a theory or definition in one domain and explicitly applying it to another domain. My main point is that, counterintuitively, the expression of these standards have a certain cultural and historical fragility. They need to be discovered and once discovered by a civilisation they may be lost with the demise of that civilisation, as happened with the fall of Ancient Greece and Rome. We may be witnessing the loss of classical standards in our own time. I want to qualify the status I have accorded classical art. It

may be the best approximation to our native aesthetics. It is therefore a good proxy to our native standards. But it is not the last word on what constitutes our native standards: it is simply a good short-hand for referring to standards that we are still exploring. I think we have to leave room for other themes and standards to be discovered and their satisfaction elaborated and refined. For example, it is arguable that the themes of mystery, horror and the sublime may be native themes that the classical world did not fully develop, leaving it to the romantic movement in painting and literature to embody elaborations of the mysterious and horrific,[8] and gothic architecture to embody the sublime. It is clear that mystery and horror have a genuine enthusiastic audience in contemporary movies and literature, if not in some post-modern painting.

3. The Modularity of Mind Hypothesis

I am arguing that psychology is the mediator of our evolutionary aesthetics, so I need the most persuasive psychological theory. It will become clear that the most powerful psychological theories reinforce the difficulty for the cultural relativist in arguing against a universal aesthetics.

The main ally of the evolutionary approach in psychology has been cognitive psychology, which effectively refuted and has supplanted the behaviorism of J.B. Watson and B.F. Skinner[9]. The most spectacular event here was Chomsky's devastating review of Skinner's *Verbal Behaviour*.[10] Behaviorism was the last hold out in psychology of the over-socialized conception of human beings, the so-called blank slate view of the human mind. The blank slate perspective is now in retreat, with a few hold-outs in Humanities and Literature departments.

A guiding principle of cognitive psychology from the beginning has been that the mind can be understood as a general purpose computer: Perception, thinking, and acting are a matter of procuring, processing and storing information. One of the most interesting developments in cognitive psychology, which has accelerated debate in evolutionary psychology is the theory that our minds are not general purpose computers, but are fragmented into a number of modules, specific purpose mental "machines" attuned to solving problems in a limited domain.

Jerry Fodor conjectured that the mind should be split into peripheral input and output modules, a set of sense-specific modules and motor-specific output modules. The main reason for suggesting that the mind uses modules rather than a general purpose computer is that the problems the organism solves are so-called "ill posed", the data of

perception are insufficient to define a solution: specific assumptions about each domain are required.[11]

But there is also a central cognition, the part of the mind that takes output from perception and solves general problems, uses inferences, analogy and metaphor and creates new thought. This is not modular. There are input modules for vision, audition, face recognition and language. Each module is:

a. Innately-specified,
b. Mandatory (when you open your eyes, you cannot help but see an environment that is placed before you),
c. Swift in operation (seeing the environment is experienced as instantaneous),
d. Encapsulated (what you see is not influenced by what you hear or touch and vice versa. Also, what we know has little effect on our perception; for example, visual illusions persist even when we know they are illusions.),[12]
e. Delivering shallow or non-conceptual outputs (In the case of vision, producing a $2\frac{1}{2}$ D "sketch".)
f. Associated with specific neural systems, (g) liable to specific patterns of break down, (h) develop according to a specific sequence.

In our ancestral environment it paid in many circumstances to be able to perceive and act rapidly to opportunities and dangers. In other circumstances, it paid to be able to think more strategically and with greater reflection and creativity. Fodor's conjecture is that evolution equipped us with perception modules that are perfectly suited to rapid action, and also with a general purpose intelligence that is more suited to the more reflective phases of adaptation. Fodor's view can be called peripheral-systems modularity.

Since Fodor's book there has been a flurry of various versions of modularity. At the other extreme to Fodor are a number of positions that argue for massive modularity, that even central cognition is a set of modular systems.[13] On this view, there is little learning; most of our ability to think about the world is already hard-wired into us. In between these two views lies a moderately modular view, that there are both peripheral and central modular processes, but there is still room for general purpose thought and creativity.[14]

What all these modular views have in common is the assumption that the mind is not designed from scratch with the goal of adaptation to an

exhaustive and distinct specification of a set of current demands. The various modules have evolved piece-meal in an *ad hoc* manner, building on structures and functions that existed before, adapting to circumstances that in many cases do not exist today. Darwin referred to this phenomenon as pre-adaptation. A good example is the evolution of insect wings from organs that originally served only as heat-exchangers, keeping the insect cool in the heat and warm in the cold. Research has shown that there is a range of wing sizes that can serve both functions. There is a TV program called "Scrap Heap Challenge," in which contestants are charged with the goal of building something from what they can find in a scrap heap. They may have to construct, for example, an amphibious car. They can only use what is to hand in the scrap yard. This is similar to the way evolution has to work. The main differences are that whereas the contestants can look ahead to see how best to put the parts together (for immediate use and for possible changes of function later), evolution charges ahead blindly producing something rather clunky and perhaps also difficult to alter later for a changed use.[15] So we can expect that the modules for our hearing and seeing and touch are quite different from one another.

What does this mean for the standards of classic art? I think it means that there may be no standards or themes or aspects of form that are applicable across all types of art. Any universal art standards can come only from the central cognitive systems and is confined to the area of meaning and the skill of execution.

4. The Modular Fragmentation of Standards Across the Arts

There is a puzzle here from the point of view of combining classicism with evolutionary theory. The modular view would suggest that there are no classic standards that apply across the arts, only within each one and across cultures and times. Even though the standards may all be produced by the same mechanism, we have seen that the *ad hoc* and piecemeal nature of evolution means that the relevant modular systems for each art may be very different. This becomes more plausible when we recall that the relevant modular properties may be purely incidental. One might wish to hazard the guess that if classic art is a reflection of evolved dispositions, then there are classic standards to each art, but no standards that pertain to all types of art. On the modular view it is tempting to conjecture that each art has its fascination with the forms appropriate to its perceptual field (as Greenberg emphasized), and that the

aspects of form, standards, and themes for each art are constrained by the characteristics of the modules responsible for processing that sense channel or domain.

We should expect to find some standards that are specific to each peripheral sensory module, but that what pertains to all arts is largely imposed by our more fluid, creative, and conjectural central cognition. Another source of cross-art standards is the value of skill. Charles Murray has noted the universal desire for the exercise of and attainment of excellence in a skill. This is to be expected on an evolutionary view of human beings. Any cognitive module that evolved to process a particular domain of problems would also likely have a "taste" for its activation and engagement to the full. Any variant module with a half-hearted interested in its function would likely be eliminated in favour of other more dedicated variant modules.

Classic art is well-known for its veneration of clear, coherent form. The configuration of parts in a building is just as important as the configuration of parts in a painting or sculpture, emphasized by Clive Bell in his theory of "significant form" as the only aesthetically relevant aspect of a work. The standard of clarity is probably as basic as the pleasure someone with poor sight gets in wearing their first pair of well-designed glasses. Being able to perceive clearly an environment (real, simulated or imagined) is a product of the fact that our cognitive modules actively seek and prefer clear input to work on. By clarity here I mean information that would enable us to form a single stable interpretation. There probably is some pleasure in making clear what is initially unclear. We take some pleasure in resolving an ambiguous illusion, such as the beautiful lady and hag, and also in the autostereogram.[16] But the goal of the relevant visual module in these cases is still clarity and not an impasse of unresolved obscurity. At the level of form, much avant garde art does not allow such resolutions. Our ancestors had to make quick decisions such as "Is that a pattern of moonlight on the bush or is it a sabre-tooth?" The classical standard of coherent form, where the boundaries and integrity of objects presented are evident, likely derives from a similar ancestral demand of adaptation. It is extremely useful to be able to discern objects and their environment. There are significant odd exceptions to the stricture of coherence in mosaics from Antioch and Ancient Rome. The Ancients were keen on *trompe l'oeil*, in which there is no one coherent interpretation of the three-dimensional shapes suggested by the mosaic, rudimentary forerunners of Escher's visually amusing and clever depictions of impossible environments. However, these constructions still strongly hint at coherent objects and can be seen

as a play around the standards imposed by our visual modules. They are at least coherently incoherent. One can easily imagine how, through too great a neglect of coherence (a non-systematic neglect), the work would be spoiled. Our visual module gives us pleasure in resolving a coherent interpretation, and these works continually prompt repeated resolutions, squeezing every last drop of processing pleasure out of our visual module. Work on the visual system by Marr and Beiderman indicates that the visual module solves its specific problems by searching for definite simple cues in the environment such as edges, various idealised curved shapes, called geons, and symmetry. Having analyzed the environment into such components, it synthesizes a perception. From a two-dimensional array of photon impacts on the retina, the module constructs a perception of a three-dimensional world in the form of a model that can be examined and experimented with in the way that computer models of cities can be used. The module uses these cues because they are signs (or have been signs) of evolutionarily significant things in the world, such as objects distinct from the background, moving organisms (which are symmetrical) and obstacles to movement. If the scene has little coherence the visual system is given extra, possibly unsolvable, work to do.

Work on preference for different types of landscape by Stephen Kaplan helps to elaborate my rough conjectures about classical art being a good proxy for our native aesthetics. Kaplan conjectured that humans are knowledge-seeking and knowledge-using organisms, and he conducted research into landscapes that allow different levels of exploration and information gathering.

For many years the dominant view in cognitive studies of aesthetics was that the best art contained an optimal amount or complexity of information. Too little information makes for a drab work; too much information makes for an overly busy work. Kaplan's work suggests that a better understanding of the aesthetics of landscapes is in terms of a 2 × 2 matrix.

Classes of Information → / ↓	Understanding	Exploration
Immediate	Coherence	Complexity
Inferred	Legibility	Mystery

The pairs "Understanding and Exploration" and "Immediate and Inferred" are supposed to represent classes of information. The first covers the human need for understanding and exploration; the second concerns how much time it takes to process the information from the scene.

Kaplan's general point is that safe and useful movement through a landscape requires a great deal of skill and knowledge, and that landscapes that aid exploration, way-finding, and information processing would be preferred over those that impede these needs. Preferred landscapes contain moderate degrees of complexity, coherence, and semi-open spatial arrangement. Preferred landscapes also contained a degree of what Kaplans calls "mystery"—indications that more interesting information could be obtained with further exploration (such as roads or paths that bend round hills, entering woods, partially blocked views). Preferred landscapes also contain high levels of "legibility", indications that one could easily maintain one's orientation and find one's way both into and out of the scene, extending one's cognitive map of the environment (it looks like one could learn it). Looking into murky environments in deep sea diving or in a fog or dense forest is relatively unpleasant, and the avoidance of such environments has had evolutionary advantages.

I want to suggest that if there are cross-art genetic classical standards, Kaplan's work is most likely the best way of teasing them out into the open. Kaplan's work is a way to delineate the formal qualities stressed by classicism. The highly predictive variables of coherence and complexity seem to have an affinity with the formal qualities of harmony, clarity, and restraint. Legibility and mystery may be ways in which other more meaningful (and conjectural) qualities of a scene can be used to extend and refine our conception of native standards, not only for the visual arts but for all the arts. Mystery is perhaps a post-classical discovery about our native aesthetic.

One can see how to apply these criteria to contrast classical and avant-garde art. Classical art appears to have significant amounts of these qualities; avant-garde art often does not. At the cost of some clarity, impressionism seems to have gained a degree of mystery, complexity and legibility; abstract visual art seems to have very little mystery (partly because of the obsession with the flatness of the medium), though it seems to have retained some coherence. The best examples would be from minimalist artists such as Kasimir Malevich ("Black Square on a White Ground") and later artists such as Ad Reinhart ("Black Painting," 1973, which consists of a very dark grey cross on a black ground) and Barnet Newman ("Who's Afraid of Red, Yellow and Blue III," 1966–67, which consists of a large rectangular expanse of

deep red bounded on the left side by a thin strip of yellow and on the right by a thicker strip of dark blue.)[17] They successfully eliminated both meaning and even indications of the personal and skill in an effort to present form. But in their attempt to eliminate the representational and other meaning, they produced works that lack complexity and mystery, and therefore any enduring interest apart from their curiosity value for the public and their interest for a minority of artistic and intellectual connoisseurs. My point is that Kaplan's work explains why these paintings will never attain mass appeal to the public.

A similar point can be made about such musical compositions as John Cage's "Four Minutes, Thirty-Three Seconds" of silence. From the point of view of our native aesthetics, the best one can say about this is that it is intellectually intriguing. It clearly lacks complexity, mystery, and legibility. It is not clear that it lacks coherence, but this is because it has no parts that can be coherent.

Can an object that is perceptually homogenous be a work of art? I want to suggest that it cannot be because it fails to have complexity and coherence. I want to suggest that if a supposed work of art cannot be forged in part, then it is not a work of art. A work of art needs to have parts that are recognizably part of the work and of no other object. It needs to be "Incrementally recognisable." Any classical work meets this criterion, but many avant-garde pieces fail. British composer Mike Batt found himself in a legal battle over a composition called "One Minute of Silence" that appeared on an album by his band, The Planets. The defense lawyer had a field day, asking the prosecution to identify which particular one minute of silence out of Cages's 4' 33" the group was supposedly plagiarising. The same point could be applied to overly abstract paintings and ready-mades (such as Warhol's *Brillo Boxes*).

The interesting question here is: do these formal qualities extend over to the other arts? Music seems to have analogous formal qualities of coherence, complexity, legibility and mystery. But there are no equivalent aspects for the tactile, olfactory and kinaesthetic senses. Music is especially interesting. We have well-established classical pieces of music that have no representational or symbolic qualities, but that are delightful and moving sequences of sound. But we have no equivalent for the sense of light. We have no delightful and moving works of light lacking any representational or symbolic quality. The closest candidates here are firework displays and Kaleidoscopes. But these seem pale analogues (and one can hardly imagine going to see the same firework display many times over as one repeatedly listens to a work by Bach) and they do not share all of the important variables that Kaplan has isolated.

Similarly, we have no orchestrated sequence of aromas or touches. Massage is aimed not at a disinterested appreciation but at certain bodily states of relaxation or therapy. But if classical standards apply across the arts, that is what one would expect. The answer is that the peculiarities of the relevant modules of each sense makes for distinctive standards for the associated art. Another intriguing possibility is that these arts are waiting to be developed. However, I suspect that aromatic art would remain purely decorative and simple and, when most complex, purely supportive of some other art, because there are no plausible complex changes of aroma of evolutionary significance that such an art could tap into. Perhaps the cross-modal standards we think we see are imposed by our central cognitive systems by our ability to ratchet up the level of abstractness through language.

Classic art not only satisfies the formal pleasures afforded by our perceptual modules, but also satisfies our central cognition because it is rich in meaning and engages our pleasure in interpreting objects in terms of representation, metaphor and analogy. Although still sharing an interest in form with classic art, much avant-garde art lost interest in imbuing art with meaning. Much of that which did retain meaning adopted an obscure style, a typical tactic when one has little to say, a tendency noted and scorned by Tolstoy. There is a strong suggestion that what we take to be art in general may actually be many disparate independent domains of intrinsically pleasurable creative activity in the same way that Wittgenstein suggested that games form family resemblances, but do not form a set definable in terms of a set of necessary and sufficient conditions.

What role does meaning have in our larger conception of standards? I think that our more abstract conception of art almost compels us to see uniform themes and standards across the arts, and that these more freely created conceptions may come into conflict with our native tastes.

The eternal conflict between our crystallized formal modules and our fluid imaginative cognition meaning is hardly separable from works of art, but nevertheless it can be discerned as another aspect of art and different from form or the execution of skill. Form is the perceptible arrangement of the physical parts of a work of art; the meaning is the interpretation that is attached to it. With proper training one can learn to appreciate the form alone of a work of art. This is the truth in Clive Bell's theory. Still, much great art has both form and meaning. Arthur Danto has stressed the importance of interpretation. Puzzled by Andy Warhol's *Brillo Boxes*, Danto argued that anything can be art given the right theory and situation. These theories or interpretations exist as the

historically variable background to presentations of works in galleries, thus explaining why Warhol's *Brillo Boxes* would not be accepted in different eras such as classical Greece or Renaissance Italy. It is not so much that Socrates or Leonardo would dislike *Brillo Boxes*: they simply would not understand what was going on if they had been presented in a situation normally interpreted as a place for art. I resist this over socialized, over-historicised conception of the role of meaning in art. The outstanding ability of the human mind is to create radically new things: new theories, new technologies, new methods—new ways of looking at and coping with the world. We are not simply a set of hard-wired modules, but creators. But at the same time we cannot ignore the promptings of our genetic dispositions. We have the ability to imagine being radically different from what we in fact are. We can imagine having very different wants and tastes from those we do have. We can also formulate in language these fancied sets of wants as the latest fashion or ideology, what all humans should aspire to. We can thus go to a gallery to look at Warhol's *Brillo Boxes* or listen to a performance of a piece by Stockhausen,[18] and pretend that we are engaged and satisfied. We are not deeply moved, as we can be by classical art, but simply intellectually intrigued by these adventures and sometimes awed or impressed by their skilful execution (Stockhausen's pieces can require exceptional musicianship and Warhol's *Brillo Boxes* were an example of good carpentry). But at the same time the public's taste for the less ideologically motivated (or simply intriguing) can be expected to assert itself, rejecting these proposed tastes as only superficially satisfying.

Still, this tussle between ideological or fashionable theories and our genetic delicacies will always be active. This is partly because our ability to produce complex theories with which we interpret our experience is almost boundless. Art that relies on embodying or transmitting an interesting "interpretation" is here to stay. The human mind cannot help but see meaning in the world, even if there is none there. This does not conflict with Bell's point about form, as he is talking about the focus of one's attention, say on the form of the *Mona Lisa* and not on the fact that it represents the *Mona Lisa.*[19] Seeing meaning and making guesses about what is happening in the world about us is as continual and mandatory as our breathing lungs and beating heart. An organism that does not continually produce and check hypotheses about its world would be rapidly eliminated in favour of its more alert competitors.

This perspective is consonant with discoveries in neuroscience and with the logic of scientific methodology. Neuroscientists have discovered that the brain does not require continuous stimulation to be

active: it is spontaneously active, even down to the level of individual peripheral sensory nerves. For example, our retinal nerves, cones and rods, are spontaneously active and the process of seeing an object begins when this activity is modified (in some respects inhibited) by incoming light, not simply by a pattern of cones being switched on by a correlative pattern of photons.

Concluding Remarks

I want to distance myself from an overly reductionist perspective. I find it fascinating that the universe is truly creative. New properties and structures emerge in the course of the evolution of the cosmos. Biology and human beings themselves are prime examples of the emergence of radically new things that have their own lawful organization. Language and art are relatively recent examples of this phenomenon.

Are there classical values that cannot be reduced to evolutionary theory? Works of art may be produced by our evolutionary leanings and judged by a perceived degree of matching with genetic preferences. But once created they may present other problems whose solution is not wholly governed by (determined by) our evolutionary dispositions. Also, creating a standard is—though bounded by, made possible by, and encouraged by an evolutionary process—non-deterministic. And once created it too can have a life of its own, which is especially clear when it assumes the form of a linguistic formulation. Consider the Cubists's standard of the priority of the surface and form in a painting. This creates a problem, for the Cubists intuitively understood the mandatory nature of representational viewing: people could hardly help themselves search for representations. As Ernest Gombrich suggests, the Cubists' solution was to break up and distort the objects so that no one coherent representational interpretation could be formed, thus forcing the viewer to concentrate on the surface of the canvas. Whether their work satisfied or matched our genetic proclivities for form is another matter. The point is that some standards, both classical and avant-garde, will have this free conjectural and independent quality that is not determined by our genes. On the other hand, they can be tested by our genetic propensities.

Does evolutionary theory exclude elitism in the arts? It is argued, powerfully by Frederick Turner (1995), that the rise of the avant-garde, with its requirements of "deep interpretation," has spawned an elite class of academic interpreters, who are called on to explain to the public just what clothes the emperor is wearing today. One of the attractive things about the appeal to evolutionary theory is that it appears to reassert the

innocence of artistic appreciation by showing it to be a universal human need or preference, the kind of art that Tolstoy (1898) esteemed. That it is not simply a sign of acquiescence in the peculiar tastes of a power elite or the requirements of a particular social structure. As we have seen, in Darwin's theory of evolution, there are two fundamental processes: the production of natural variation and the elimination of relatively unfit variations. In each generation, there is always variation. For example, in humans there are always both dwarfs and giants and variation between these extremes. The variation often closely approximates the form of a normal distribution (bell-shaped), a relatively small number of extreme variants with the great majority clustering around the mean. But there is always the presence of extremes. This is true of all characteristics.

Now, if artistic appreciation is an evolutionary product, then you might expect to see variants, just as you see variants in body size, athletic prowess, memory, scientific achievement, or other characteristics. Perhaps some forms of art can only be fully appreciated by a small number of genetic mutants, just as some areas of mathematics require a rare ability to handle abstractions. The natural variations here might be in either or both the ability to handle the abstract intricacies or the taste (preference) for such qualities. If this is admitted, then the return to classical standards may not be popular in all respects.

6. Does the New Classicism Need Evolutionary Theory?

1. Japanese artists, prior to learning of the techniques of perspective, used occlusion, shading and other hints at depth.

2. For example, Matisse admired the Greeks for their virtues of serenity and harmony. This is clear in his discussion of the Greeks' disdain for the literal representation of movement: "The Greeks too are calm; a man hurling a discus will be shown in the moment in which he gathers his strength before the effort or else, if he is shown in the most violent and precarious position implied by his action, the sculptor will have abridged and condensed it so that balance is re-established, thereby suggesting a feeling of duration" ("Notes d'un peintre," *La Grande Revue*, Paris, 25th December 1908).

3. One exception here might be magical realism and other literary genres. Literary fiction, despite George Polti's suggestion that there are only thirty-six dramatic situations,

is boundless because of its ability to represent the human being's boundless imagination. It is unfettered by the need to satisfy the formal demands of the perceptual modules.

4. An important exception here is Dada, which rejected logic and formal, systematic approaches in response to the horrors of the First World War and the Dadaists' belief that the war was the result of the systematic industrialization of the world. "In art, Dada reduces everything to an initial simplicity, growing always more relative. It mingles its caprices with the chaotic wind of creation and the barbaric dances of savage tribes. It wants logic reduced to a personal minimum, while literature in its view should be primarily intended for the individual who makes it." Tristan Tzara, *Dada Manifesto*, 1918.

5. The ramifications of Darwin's revolution are still being worked out. First, obviously, within biology. But the three-process schema is so powerful and general that it can be applied outside biology. It was seen that the units undergoing natural variation, selection and inheritance need not be biological. As long as they could undergo these processes, in a sufficiently stable domain, one could have an interesting evolution productive of new structures and functions. Among writers who have argued that the Darwinian principles of natural selection apply not simply to biology but also to mental, epistemological, moral, social or even cosmic evolution, are Walter Bagehot, *Physics and Politics: Or, Thoughts on the Application of 'Natural Selection' and 'Inheritance' to Political Society*, London: Henry King, 1872; William James, "Great Men, Great Thoughts, and the Environment," *Atlantic Monthly*, 1880; David G. Ritchie, Darwinism and Politics, Swan Sonnenschein, 1890; Samuel Alexander, "Natural Selection in Morals," *International Journal of Ethics* 2:4, 409–439; Charles Sanders Peirce, *Reasoning and the Logic of Things: The Cambridge Conference Lectures of 1898*, Harvard University Press, 1992; Thorstein Veblen, *The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions*, Macmillan, 1899, and *The Place of Science in Modern Civilization and Other Essays*, New York: Huebsch, 1919; and J.M. Baldwin, *Darwin and the Humanities*, Baltimore: Review Publishing, 1909. They argued that Darwinism had a wider application than to biology alone. Evolutionary thinking has been applied to the psychology of learning, perception (Gregory) and thinking; philosophy of science (Popper); micro-economics (for example Richard Nelson and Sidney Winter applied the principles of variation, inheritance and selection to routines in firms in *An Evolutionary Theory of Economic Change*, Harvard University Press, 1982.); computer science, and many other problem areas. The great polymath Donald Campbell suggested that Darwinism contained a general theory of the evolution of all complex systems. Campbell made the point that the appropriate analogy for social evolution is not biotic evolution, but the more general processes of evolution of complex systems "for which organic evolution is but one instance" ("Variation, Selection, and Retention in Sociocultural Evolution," 1965, reprinted in *General Systems* 14, 1969. Richard Dawkins introduced the term "Universal Darwinism" to connote this perspective: "Universal Darwinism," in D.S. Bendall, ed., *Evolution from Molecules to Man*, Cambridge University Press, 1983.

6. S. Baron-Cohen, *Mind-Blindness: An Essay on Autism and the Theory of Mind*, MIT Press, 1995; E. Spelke, "Initial Knowledge: Six Suggestions," *Cognition* 50, 1995).

7. Two quantities are said to be in the *golden ratio*, if "the whole (the sum of the two parts) is to the larger part as the larger part is to the smaller part." That is if , where *a* is the larger part and *b* is the smaller part.

8. The Ancient Greeks had horror in their stories, but it was only the romantics who made horror the main point of a story.

9. Even Skinner made many references to the evolutionary perspective and thought that an organism's susceptibility to reinforcement schedules was a product of evolution. In other words, even in Skinner's view, there are inherited law-like constraints on human behaviour and therefore humans are not strictly blank slates.

10. N. Chomsky, Review of B.F. Skinner's *Verbal Behavior*, *Language* 35, 1959, 26–58.

11. J.A. Fodor, *The Modularity of Mind*, MIT Press, 1983.

12. The exception here is the relatively rare condition of synesthesia, in which the senses become blended. There is the case of Matthew Blakeslee, who, when he shapes hamburger patties with his hands, experiences a vivid bitter taste in his mouth. Esmerelda Jones (a pseudonym) sees blue when she listens to the note C sharp played on the piano; other notes evoke different hues—so much so that the piano keys are actually color-coded, making it easier for her to remember and play musical scales. And when Jeff Coleman looks at printed black numbers, he sees them in color, each a different hue. The effect is insulated from their knowledge: the blending persists even when they are aware of the blending.

13. L. Cosmides and J. Tooby, "Cognitive Adaptations for Social Exchange," in J. Barkow, L. Cosmides, and J. Tooby, eds., *The Adapted Mind: Evolutionary Psychology and the Evolution of Culture*, Oxford University Press, 1992; L. Cosmides and J. Tooby, "Origins of Domain-Specificity: The Evolution of Functional Organization," in L. Hirschfeld and S. Gelman, eds., *Mapping the Mind: Domain-Specificity in Cognition and Culture*, Cambridge University Press, 1994; J. Tooby and L. Cosmides, "The Psychological Foundations of Culture," in Barkow, Cosmides, and Tooby, *The Adapted Mind*; D. Sperber, "The Modularity of Thought and the Epidemiology of Representations," in Hirschfeld and Gelman, *Mapping the Mind*; S. Pinker, *How the Mind Works*, Penguin, 1997.

14. S. Carey, *Conceptual Change in Childhood*, MIT Press, 1985; S. Carey and E. Spelke, "Domain-Specific Knowledge and Conceptual Change," in Hirschfeld and Gelman, *Mapping the Mind*; E. Spelke, "Initial Knowledge: Six Suggestions," *Cognition* 50 (1995); N. Smith and I. Tsimpli, *The Mind of a Savant*, Blackwell, 1996; P. Carruthers, "Thinking in Language? Evolution and a Modularist Possibility," in P. Carruthers and J. Boucher, eds., *Language and Thought*, Cambridge University Press, 1998; L. Hermer-Vazquez, E. Spelke, and A. Katsnelson, "Sources of Flexibility in Human Cognition: Dual-Task Studies of Space and Language," *Cognitive Psychology* 39 (1999); L. Cosmides and J. Tooby, "Unraveling the Enigma of Human Intelligence," in R. Sternberg and J. Kaufman, eds., *The Evolution of Intelligence*, Erlbaum, 2001.

15. The equivalent for the scrap heap challenge would be, for example, that the cumbersome flotation barrels attached to the vehicle cannot be removed for better dry driving without damaging the strength of the vehicle.

16. Invented by the Psychologist Christopher Tyler, autostereograms are the computer-generated squiggles that when viewed with crossed eyes or a distant gaze suddenly present three-dimensional objects that seem to leap out of the page.

17. Pardon my descriptions here for their inaccuracy: I hope they are accurate enough for my point.

18. Work by neurophysiologists has indicated that harmonically inspired music (classical) and intellectually inspired but highly dissonant music activates different areas of the human brain: the latter brain regions involved in logico-analytical skills.

19. I have some reservation here. It is hard to believe that the impact of the *Mona Lisa* would be as great if hung upside down. The visual system imposes a reference frame of top-bottom on the objects of perception in its attempts to recognize them.

20. I would like to thank the historian Vincent Moss, the archaeologist Andrew Petersen, and the artist Heather Nixon for their critical commentary and discussion.