

# The Routledge Companion to Aesthetics

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# ART AND EVOLUTION

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Is the human capacity to make and appreciate art an evolved trait? In other words: Does it have a genetic basis that emerged by evolution? Is it an adaptation to the human natural or social environment? These are the questions to be surveyed in this chapter. I will review how art is universal across human cultures, and argue that this constitutes a case for evolution. I shall then inquire into *how* art could have evolved. This inquiry is shaped by how one conceives of art.

## The universality of art

Art has extremely ancient origins. The *impulse* to produce perhaps antedates *Homo sapiens*, for hand axes made by *Homo ergaster* 1.5 million years ago display symmetry unrelated to function. And “modern humans” at Enkapune Ya Muto in Kenya made strings of well-shaped beads from ostrich eggshell as long as 40,000 years ago. This was an extremely delicate and difficult process, again unrelated to function. While these artifacts seem to lack the stylistic marks of their individual makers, and are hence more like craft than art, they nevertheless display a “disinterested” – this term will be explained presently – regard for appearance that is the hallmark of art.

Among modern humans, art is a cultural universal:

- (1) Every culture, no matter how isolated, sings, dances, tells stories, erects monuments and decorates.
- (2) Every culture draws visual patterns that exploit regularity, repetition and enclosure.
- (3) In every culture, there are codified styles or genres that govern each such activity.
- (4) In every culture, there are connoisseurs who appreciate formal skill in these activities – skill in execution that goes beyond the primary appeal of works in these media. For example, while the tune and the beat of a musical performance give pleasure to almost all who share in the culture, there are always specially knowledgeable consumers who value aspects of the performance that are not evident to all – fine control of dynamics, ornamentation, syncopation, breath control, phrasing and so on.
- (5) At least some artworks in every culture carry a kind of augustness or specialness that more quotidian artifacts lack. These are highly worked and made from

expensive, rare and specially treated materials; they are kept in hallowed places; possessing them is symbolic of power and wealth; they are associated with communal occasions on which daily work is suspended for musical or dramatic performances; etc. Ellen Dissanayeke (1992) makes this specialness a defining characteristic of art, and it is certainly true that every culture makes at least some art objects special in these ways. (One qualification: the specialness accorded to an artwork must manifest itself in its *creation* and *form*. The millionth Mickey Mouse watch might be placed in a museum: this would not make it an artwork.)

- (6) Most individuals appreciate *some* genres within every broad form of art. It is a recognized disability, for instance, not to appreciate *any* form of music, and surely the same must be true of visual art and drama. And most can recognize an artwork as such: for as Noël Carroll (2004) says (echoing a remark of Stephen Davies), “Europeans can recognize a statue of Ganesha as an artwork without being able to know its symbolic import.” What is more, Europeans do not require much effort to appreciate the beauty of such foreign objects. Similarly, it is evident to us that the cave drawings at Lascaux are art, though they were created 20,000 years ago in a context completely unknown to us. (A qualification: recognition of artworks is far from infallible. A member of an isolated tribe might take a Mickey Mouse watch to be an artwork, noting its colorful design and elaborate mechanical movement.)

### Art and human nature

The universality of art cannot be understood *just* by unique origin and cultural transmission. It is possible that there was a first visual artwork from which all subsequent visual art descended. (This would be analogous to the invention of potato- and wheat-washing by a single female Japanese macaque, Imo, and the subsequent imitative transmission of the practice within her troupe.) But even if this was so, art, technology and language are parts of a suite of cognitive capacities associated with the emergence of *H. sapiens*.

Colin Renfrew remarks:

[I]n the early days, when our species was beginning to differentiate from earlier ancestors such as *Homo ergaster*, it was not simply the innate genetic capacity ... to conceive of and make artifacts that was important ... The know-how of making and using those artifacts was not passed on genetically ... It was learned ... In what we may term the *speciation* phase of human development, up to around one hundred thousand years ago, genetic and cultural co-evolution must have been an important mechanism, operating for more than a million years.

(Renfrew 2007: 80–81)

Renfrew’s reference to “genetic and cultural co-evolution” is meant to suggest that the human species differentiated itself from its predecessors (and thus became a

separate species) in part by evolving the capacity to teach and to learn sophisticated culture. Since it was a condition of belonging to early human groups that members participate in culture, cultural transmission became a part of evolved human nature. As a consequence, humans became innately capable of learning to appreciate and execute complex artistic styles. Further, on the plausible assumption that the enjoyment of art is a prerequisite for learning it, it must also be of the historical essence of *H. sapiens* that its members are capable of aesthetic appreciation. The single-origin hypothesis presupposes these capacities to appreciate and learn; it does not eliminate them.

The argument just given has been vigorously contested. As Carroll notes, “many in the humanities” (and in anthropology, one might add) contest the universality of “art” on the grounds that *art* is itself a culture-bound concept. One way to develop this critique derives from Kant’s strictures on “judgments of taste,” which are concerned with aesthetic qualities such as beauty (and ugliness). Kant says that judgments of beauty depend on the kind of pleasure we derive from the “mere representation” of something. This excludes the subjective sensation of pleasure that an object causes in us – for the latter depends on the actual existence of the object and not just on its perceptual representation. Kant’s view is a theoretical elaboration of Hume’s simpler observation that judgments of taste are felt to be normative in force: their assertoric force implies that those who disagree are somehow deficient or wrong (Guyer 2006).

Consider Buckingham Palace. I may have a sybaritic desire to partake of its comforts. I may also be appalled by its extravagance and be seized of a socialist impulse to convert it into a utilitarian government office. These attitudes are premised on the actual existence of the palace, for only by existing can the palace either provide comfort or commit the sin of waste. According to Kant, my judgment that Buckingham Palace has aesthetic qualities must, by contrast, be premised on its perceptual representation alone, and independent of the kinds of pleasure that can only be caused by a real object. Consequently, aesthetic judgment must be motivationally inert. “A judgement on beauty in which the slightest interest mingles is highly partisan and not a pure judgement of taste” (Kant, *Analytic of the Beautiful*, §2).

The Hume–Kant view of aesthetic appreciation assumes a certain kind of detachment – to say that something is beautiful is to step back from its contribution to subjective interest and motivation. This is the kind of conception of beauty (and, by implication, art) that serves as the starting point for the arguments of Carroll’s humanists. The disinterested contemplation of art is *not* a cultural universal, they say. It is culture specific. As well, some think that human culture is a free creation, and thus a historical contingency. It is a mistake, they think, to attribute culture to “our genes.” (Pinker 2002 rebuts this view at length.) In fact, these critics say, disinterested contemplation is a European (or possibly high-civilization) invention of recent origin.

These arguments for the culture specificity of the art concept are unconvincing. The first rests on a questionable assertion, namely that the production of objects for disinterested contemplation is of recent origin. Consider medieval European religious art. A Christian worshipper of the early fourteenth century may have derived spiritual benefit from contemplating a painting by Giotto, and she may even have thought of the painting primarily as an object of religious interest. But in exactly the same way, the Queen of England may think of Buckingham Palace primarily as

home. This does not imply that the Queen is incapable of deriving disinterested pleasure from the palace. So, why should we not allow the medieval worshipper the same capacity? If she did not have this capacity, why would Giotto have paid such attention to nonreligious features of his painting? Extend this argument: why should we disallow the same for a tribesman who derives courage from totemic representations?

In any case, such symbolically loaded productions do not exhaust art in any culture. Domestic decorative art is universal, and it is capable of giving disinterested pleasure wherever it occurs (Gombrich 1979) – indeed, it is hard to see what other kind of pleasure it could give. (On the face of it, the beads found at Enkapune Ya Muto must have given pleasure simply by virtue of their regularity and delicacy – whatever other significance they may have possessed.) To summarize: while it may be true that disinterested contemplation (and related concepts) only recently became an explicit principle of art education, the attention to nonfunctional detail in art across all cultures demonstrates that it was always an implicit value.

The argument against genetic determination is of dubious relevance. *Every* species, including *H. sapiens*, has a characteristic way of dealing with its ecological niche. If it did not, it would not speciate – i.e. separate from its predecessor species – by the creation of physiological, psychological or ethological barriers to reproduction. As Renfrew notes, cultural teaching and learning are essential parts of how humans differentiated themselves from their immediate predecessors. This is not to embrace an objectionable form of genetic determinism: the hard-wired capacity to transmit culture from one generation to the next is compatible with a great deal of cultural plasticity. Specific cultural content varies a great deal from society to society. As noted, each culture codifies styles and genres, and of course each has its own narratives, which derive from its history and geography. But none of this gainsays the universality of stylized artistic production as such. Hume and Kant may have denied that the norms of beauty and art were culture specific. My point here is that it is possible to disagree with them on this point while still agreeing that the sense of beauty itself and art are universal.

### Is art adaptive?

A more substantial controversy concerning the evolution of the capacity for art turns on whether this capacity is *adaptive*. A faculty (or trait) is *adaptive* if it gets evolutionarily established because of a reproductive advantage that it confers on its bearers. It is a *spandrel* if it is not adaptive, but gets established because it piggybacks on another faculty that is adaptive. A commonly given example is the human chin. Chins do not perform a function that confers a reproductive advantage on their bearers (or so it is said); they are formed simply as the meeting points of two other adaptive facial structures. Chins get established because these other structures get established, and the chin continues as their meeting point. Steven Pinker (2002) claims that art is a spandrel in this sense: it “is a by-product of three other adaptations: the hunger for status, the aesthetic pleasure of experiencing adaptive objects and environments, and the ability to design artifacts to achieve desired ends” (405).

The second in Pinker’s list of “three other adaptations” – the “aesthetic pleasure of experiencing adaptive objects” – is significant. Certain kinds of objects are good

for us because a reproductive advantage accrues to those who use them in the right way. We desire them, and they give us “aesthetic pleasure,” because we have evolved to exploit such objects for the advantage they afford. For example, sex is adaptive when it results in the production of fit offspring. Consequently, we find persons who would produce fit offspring attractive. This is the basis for sexual attraction – or so the theory goes. This is the kind of “aesthetic pleasure” that Pinker is talking about. Along similar lines, Denis Dutton (2009: 21) writes (crediting Jay Appleton):

Humans like a *prospect* from which they can survey a landscape, and at the same time they enjoy a sense of *refuge*. A cave on the side of a mountain, a child’s tree house, a house on a hill, the king’s castle, the penthouse apartment, and a room with a view are situations with appeal.

Pinker’s suggestion is that it is adaptive to take pleasure in adaptive objects, and that art is a nonadaptive accompaniment to this pleasure (given certain other faculties).

### Play and aesthetic pleasure

Aesthetic pleasure does not derive only from the nature of adaptive *objects*. Certain perceptual *activities* are beneficial to the perceiver. When we scan a scene, certain visual patterns indicate object boundaries, and are hence grouped together. Here is a simple example:

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It is easier to see this as a series of “()”s than as one of “)” (“s. The reason is that the former pattern looks like a partially occluded enclosure, where as the latter looks like parts of two different objects. Visual scene analysis makes extensive use of this kind of pattern detection. Consequently, it is beneficial to us, starting from a very early age, to practice finding these patterns. This activity (one may speculate) becomes a form of perceptual play.

*Visual play* is delight taken in the obsessive, but meaningless, detection of patterns indicative of noncoincidental groupings in visual scenes. It is adaptive because it develops perceptual skill. Perceptual play underlies what E. H. Gombrich (1979) says is the “sense of order” conveyed by repetition, symmetry, grouping and enclosure in decorative art, a sense, he says, of something meaningful and permanent in scenes. Along similar lines, V. S. Ramachandran and W. Hirstein (1999) claim that we have a natural tendency to attend to exaggerated versions of familiar and significant patterns and shapes. Here too, the detecting and attending to such exaggerations evolve into a form of useful play. Significantly, this kind of exaggeration is characteristic of at least some artistic representations in many (if not all) cultures.

Much the same sort of point holds with regard to temporal patterns. A rhythmic pattern (for example, a regular drip-drip-drip of water, or a regularly repeated bird call) strongly suggests a single source, since it is improbable that two independent sources would spontaneously synchronize in this manner. By the reasoning offered

above, it becomes a beneficial form of perceptual play for a perceiver to focus on simple rhythms. This goes some way to explaining why rhythm is so attractive to us. The aesthetic response of rhythm extends beyond music. Walter Koch (1993) argues, for example, that certain patterns of tension and relaxation are universally appealing in literature because they resonate with internal rhythms. Moving to a related phenomenon, harmonies too are signs of coordination in the world. Harmonies consist of distinct tones that are indicative of a common cause; it is unlikely that they arise by coincidence. People sing in harmony by intention; natural objects emit them by virtue of their form and structure. It is sometimes claimed that resonances in the basilar membrane of the ear explain why certain musical harmonies are pleasing; auditory scene analysis gives us an idea why it is useful to pick up and play with these harmonies.

Again, bodily dexterity develops through skilled play. Birds and mammals develop the skills they need to capture prey or avoid predators by the seemingly pointless exercises of flight and locomotion that we recognize as play. Humans have a unique repertoire of bodily skills – manual dexterity and voice control among them – that are developed, similarly, by nongoal-oriented play. The delight that we naturally take in such activity is one of the bases of artistic skill.

The spandrel theory of art says that it affords us no reproductive benefit in itself, though it exploits stimuli that are pleasure giving because they are beneficial. The relationship of aesthetic pleasure and perceptual as well as bodily play throws this into question. For it is problematic to argue that certain kinds of perceptual play are beneficial, while at the same time denying that the creation of objects that invites these very activities is beneficial.

### **Adaptation and the nature of art**

Perhaps the biggest failing of the spandrel theory is that it relies on a simplistic view of both beauty and art. With respect to *beauty*, it does not differentiate *aesthetic* pleasure from other sorts of pleasure that we take in adaptive activities or objects. Sexual attraction is an excellent example. Though it falls under the broad rubric of desire for something adaptive, *sexual desire* is clearly not an aesthetic attitude. Kant's analysis of judgments of taste shows why. It is one thing to appreciate, for instance, Leonardo's geometrization of the human figure; this appreciation is "disinterested" in that it is an appreciation of the "mere representation" and implies no desire. It is quite a different thing to feel sexually aroused by gazing upon a real person or a picture. Arousal is motivationally potent and, in this sense, creates personal interest. It has, moreover, no Humean normative force: if I sexually desire somebody, I do not feel *you* to be wrong or deficient because you do not. By contrast, appreciating the geometrical properties of Leonardo's representations of humans does not create in me a motivation to possess or otherwise interact with the human thus represented. And I *can* criticize you for not noticing and appreciating this visual device.

Nor does the spandrel line of thought do justice to the peculiar character of *art*. It claims, for example, that because we appreciate certain kinds of landscapes, we also appreciate paintings of them. But this ties the value of art far too closely to the value

of real environmental objects. Pornography illustrates this perfectly. The depiction of sexually charged scenes elicits sexual desire. This, no doubt, is concomitant on the adaptive desire to participate in situations of the type depicted. However, pornography is not art! Similarly, not every realistic depiction of pleasure-giving landscapes is art. Nor is every pleasant or emotionally evocative series of harmonies or rhythms art music. (If it were, why would Beethoven be greater than Johann Strauss?) The conclusion that we must draw from these examples is that art has essential characteristics that transcend its pleasure-giving characteristics. Any explanation of art, evolutionary or cultural, must explain the universality of these transcendent features. This is where the spandrel theory falls short. (For a different view of the failure of the spandrel theory, see Stephen Davies 2010.)

### **The self-regarding nature of art**

So what is art? What is it exactly that we are trying to explain? Recent philosophical treatments of this question have been greatly complicated by certain recent developments. For example, I suggested at the beginning of this chapter that art universally requires skill and that it is made according to the dictates of a particular style. This sort of generalization is severely tested by developments in twentieth-century art. For instance, Marcel Duchamp displayed a common urinal in a museum under the title *Fountain*. The creation of this object took no skill on his part – it was already made. Moreover, it conformed to no artistic style – it was a utilitarian object and while its display in museums conforms to certain institutional conventions, these conventions have nothing to do with art.

Fortunately, we can ignore these developments. It is not our purpose here to define art (which poses the problem of giving a definition that comprehends both the *Venus de Milo* and *Fountain*). We are concerned, rather, with the characteristics that made art an adaptation (or a spandrel) in evolutionary history. To do this, we need only consider the impulses and faculties that led to the creation of art objects in the distant past (and which still happen to motivate many artists in all cultures). We need not take recent modifications of artistic style and genre into account.

Artworks are objects of judgments of taste. This is something they share with natural objects. But crucially, *how* art evokes disinterested pleasure is itself something in which we can take disinterested pleasure. Consider Caspar David Friedrich's famous painting of a lone man in a frock coat contemplating mountains rising above the fog. The painting depicts actual mountains. These mountains are objects of disinterested pleasure. But *how* they evoke disinterested pleasure is not a matter of disinterested pleasure. One may, of course, note that they are beautiful because of their height, steepness and snowy face. But their beauty is not (even partially) constituted by the fact that these are the features that evoke disinterested pleasure. With respect to the painting, however, the "means" by which Friedrich evokes disinterested pleasure are themselves matters of disinterested pleasure. How distance is portrayed by color; the composition of the mountains; that "the wanderer's position atop the precipice and before the twisted outlook is contradictory, suggesting at once mastery over a landscape and the insignificance of the individual within it" – all of these things are objects of disinterested pleasure.



Art is *essentially* and *necessarily* self-regarding: it affects us in a manner that *requires* us to take into account the means by which it affects us. Style plays a mediating role here: the aesthetic appreciation of art includes attention to how it employs a particular style to create aesthetic pleasure.

Viewed in this way, art has a structure reminiscent of games. According to Bernard Suits (1978), games have two kinds of goal. The so-called “prelusory” goal is something like putting the ball in the net in soccer, or getting to the top of Mount Everest in mountain climbing. But the goal has to be achieved in a certain way, that is, in accordance with the rules of the game. In soccer, for instance, you can’t simply carry the ball in; in mountain climbing, you can’t take a helicopter to the top. Suits says that games are defined by a “lusory” goal, which is to achieve the *prelusory* goal in accord with the limitations set by the rules of the game. It is particularly noteworthy here that achieving the goal in a difficult manner is *play*; it is useful to us because it develops our skills. Consequently, evolution has made it delightful.

Similarly, art has a primitive, or precultural, goal – the creation of objects that have aesthetic qualities. The accounts sketched above of the origins of aesthetic qualities are all relevant, though one could also hold that some aesthetic qualities are culture-specific. But art demands *in addition* that this goal be achieved in a certain way, namely by making the *means* of eliciting aesthetic pleasure an object of reflexive aesthetic pleasure. Usually, this is achieved in part by producing objects in (loose) accordance with a style, where the style is not merely a codification of effective means to producing aesthetic appreciation. (A style is a changing set of standards, and good artists almost always violate or modify some rules of their chosen style.) Just as in games, the rules constrain how the prelusory goal is achieved, so in art, style constrains how the precultural goal is achieved. The play that is involved in such otherwise pointless constraint is adaptive and delightful because it develops perceptual and motor skills.

The self-regarding, style-conforming structure of art holds of all the forms of activity mentioned at the start of this entry. Hand axes were made in a symmetrical teardrop shape 1.5 million years ago. In isolated tribal societies such as the Pacific Northwest Salish people and Australian Aborigines, art takes a recognizable and highly codified form. Style and formal skill are attributes of art in every human society; connoisseurs prize works because they recognize these stylistically dictated attributes. The universality of this kind of self-regarding activity calls for explanation. Why do humans everywhere engage in this kind of activity? Why do they appreciate it? Why do they have a powerful attachment to it? These questions invite an answer in terms of adaptation. It is a special feature of art and cannot be explained in terms of what we find in other activities.

### Evolutionary explanations of art

It should be said that any evolutionary theory of art is bound to be highly speculative. There is no good empirical method of estimating the fitness advantage bestowed by the art capacity. All that is possible here is to tell a plausible tale. So one might ask: What is the point of giving an evolutionary account? Why is it of any value? The

response to such a challenge can only be that even a highly speculative account tells us something about the nature of art and human nature. Some might go further and say that spinning an evolutionary tale is an exercise in mythmaking. It is more about constructing a self-image than about giving a historically accurate account. Though I do not take such an extreme view, I have to concede that it contains a measure of truth.

With this caveat, let us proceed. There are four broad avenues that an evolutionist can travel in search of an account:

- (1) *Art is not an adaptation.* One could hold, as we have seen, that art has no adaptive value. Either it is a spandrel that arose because it is concomitant on other adaptive traits or it is a mere accident of evolutionary history. Given what has been said about the nature of art, this seems unlikely. Art appeals to disinterested pleasure and displeasure. But it does so in a way that is self-regarding and difficult to achieve – for by accepting the constraints of style, it makes the achievement of disinterested pleasure more difficult. This self-imposed constraint is inefficient and a detriment to fitness. So there must be something of evolutionary value in the acceptance of this constraint that overcomes its initial disadvantage. The self-regarding constraint must have compensatory adaptive value.
- (2) *Art is individually adaptive.* Individual adaptations are those that help an individual cope with her environment in an efficient way. Consider human bipedalism. It is sometimes said that standing on two legs allows *each* human to use their hands for purposes other than to get around. An efficiently bipedal human individual does better than one who either isn't bipedal or isn't efficiently so. On this account, bipedalism is an individual adaptation. Is art an individual adaptation in this sense? I have suggested that it could be, since art, regarded as a kind of play, develops skills that are useful in coping with the environment.
- (3) *Art is sexually adaptive.* Sexual adaptations are features that help an individual be selected as a mate. Sexual selection involves two parties, one the mate *selector*, the other the *competitor* for selection. (Often, females are cast in the role of selectors and males are seen as competitors, but in principle, there is no reason why sexual selection should be asymmetric. Every organism could be regarded as simultaneously playing both roles.) The sexual adaptation premise is that art creation and/or art acquisition give competitors an advantage with regard to being selected as a mate. This thesis takes three forms.
  - (a) *Race-for-the-top selection.* Competitors develop an exaggeration of a perceptually salient trait as a display that attracts selectors. Since competitors continually have to outdo others, the display becomes more and more pronounced until either the species goes extinct because of the cost of maintaining the display or some sort of equilibrium is reached. The antlers of the Irish elk are cited as an example of sexual selection leading to extinction, and the tail of the peacock as an example of equilibrium. Art creation could be thought of as a display of this sort: artists get attention by showing off their skill; collectors show off by expending their economic resources.
  - (b) *Waste selection.* Competitors engage in wasteful consumption of resources to demonstrate excess fitness (which gives selectors a reason to choose them).

Art is wasteful consumption. (Denis Dutton 2009 adopts this view; for a sympathetic critique, see Matthen 2011.)

- (c) *Meeting-the-bar selection*. In many species, competitors engage in a complicated song or dance, the successful performance of which requires a functional contribution of many parts of the genome. The ability to execute such a routine shows that all the relevant parts of the genome are healthy. It is advantageous for selectors to reject unsuccessful performers because the chances are that they have unhealthy genomes. It could be held that art is a highly complicated activity and its successful performance demonstrates a healthy genome. This could be just one way to demonstrate a healthy genome: symmetrical bodily appearance, successful performance at sports, and effective high-level social command are other ways of demonstrating the same thing.
- (4) *Art is group adaptive*. Art has a maladaptive aspect for individuals, since it is inefficient. One standard way for evolutionists to account for individually maladaptive traits is to appeal to “group selection.” Morality is an example: it demands that individuals sometimes take a prudential disadvantage. However, it is argued that groups that respect morality are stronger and protect their members better than groups that do not. Individuals gain evolutionary fitness by being members of such groups. An analogous account could be given of art. Some hold that art promotes group solidarity, and thus advantages those who belong to art-loving groups. Another approach takes note of the division of labor in most human societies. The more a group divides labor among specialties, the more successful it is. In such groups, given that there is a demand for art, there is room for artists.

### Summary

Complex and specialized human capacities are needed for the creation, transmission and appreciation of art. The universality of art suggests that these human capacities are innate, hence evolved. The disputed question is whether art capacities give humans an adaptive advantage themselves, or are simply associated with other adaptive capacities. Some theoretical treatments of this question assume that evolutionary treatments of the sense of beauty will suffice to account for art. But this neglects the fact that art, being constrained by style, is an inefficient way to create things of beauty. This shows that art capacities must have some adaptive value, if only to compensate for their inefficiency. Individual, sexual and group selection have all been invoked to account for this adaptive value.

See also Empiricism (Chapter 4), Kant (Chapter 5), Aesthetic universals (Chapter 26).

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