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The evolutionary value of an aesthetic sense

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We can accept the traditional view according to which the aesthetic concerns experience and judgment of the beautiful and the sublime, along with their more specific instantiations – the delicate, the unified etc.. We value these qualities and disvalue their opposites, the ugly and the bland or boring. But if we are to connect aesthetics to evolution, it is necessary to challenge two common conceptions.

The first is that the aesthetic mode is purely passive and contemplative. It may be so occasionally, but this is neither required nor the default. Rather, the aesthetic often functions as emotions do: it lights up the world, pushing or pulling us in one direction or another. The beauty of a baby should evoke feelings of warmth and the desire to hold and cuddle. The ugliness of a rat should impel us to shrink from it. The awesome grandeur of towering peaks should produce respectful admiration that cautions us if we choose to climb. In other words, our aesthetic sense provides a tool for navigating the world astutely and safely. And recognizing this allows us to see immediately how it might be evolutionarily useful in promoting survival and reproductive success.

The second common conception that needs to be rejected is the idea that an aesthetic interest must be indifferent to the nature of its object and to matters of function, so that it can focus exclusively on its object's formal relations. It is true that an item's aesthetic properties need not be functionally significant, and so can be appreciated solely for their own sake. An abstract design on a jug might be beautiful yet irrelevant to the jug's functional success. But we can also find beauty in the graceful shape of the jug, where in part this involves appreciating how the shape is reconciled with and promotes the jug's function, such as that of pouring what it contains in a concentrated stream. And as well as appreciating how a thing's aesthetic character contributes to its function, we might more generally find its functional economy and success sources of aesthetic

appreciation. The engineer might hear the ordered sound of a well-tuned motor as beautiful. In other words, we can find functional items to be beautifully so, either because their aesthetic qualities promote their functions or because the manner in which they function, or the manifestation of their function, takes on an aesthetic hue.

The examples I have chosen to illustrate this second point were artifactual. And it should be apparent that the positive value of beauty, when it conspires with function, can promote artifactual innovation and development. That is, the pursuit of beauty can generate modes of cultural development that, in their turn, can lead to evolutionary change, just as the variously improved tool "industries", control of fire, and other cultural/technological advances altered the environments of prehistoric peoples in ways that changed their biology. But the connection of aesthetics with functionality can apply also in the organic sphere. For instance, we can find beauty in the way an animal's coat and behavior camouflage it from predators, or admire the cunning and power with which a predator stalks and kills its prey. And through these aesthetic responses, we might more easily empathize with other animals, thereby becoming more successful hunters or herders.

So here is an example of how their aesthetic sense was adaptive for our ancient forerunners. They were drawn to and found beautiful those landscapes and environments in which they could more easily flourish. These were ones with safe homes, access to water and to food, shelter from predators, and a comparative absence of parasites and disease. Those people with different aesthetic landscape preferences perished and are not our ancestors. (Or they developed powerful technologies allowing them to convert an apparently unfavorable environment into a more hospitable niche.) Those without aesthetic preferences either chose the appropriate environments on other grounds or, more likely, failed to choose optimal habitats and so were out-competed.

Notice that, in arguing that an aesthetic judgment and functional evaluation can go hand in hand, I have not implied that this is how the evolutionarily relevant decisions got made. It is not that our forebears found the landscape beautiful *because* they made a comparative calculation of its potential fertility etc.. After all, no doubt we share many of their landscape preferences: we

value homes with overviews of parkland relieved by lakes and rivers, for instance. But this is not because we intend to hunt or forage in the neighborhood. The beauty of the environment would strike our ancestors as it does us; that is, as intrinsic to the scene, as harmonizing with an inner preference that needs no further justification. Many behaviors that serve our biological agendas are self-motivating in this way. We find intrinsic pleasure in food, our mates, our children, sleep, and exercise. No doubt this is because most creatures are incapable of the relevant calculation of biological interests and those that are so capable might be inclined to favor organism-level interests over biological ones.

Given that lower animals and insects can experience pleasure and pain and are sometimes guided by these, does the previous argument imply that their responses and motivations are aesthetic? Does the claim that aesthetics can play an evolutionary role entail the conclusion that most creatures capable of minimal discrimination are aesthetes? Darwin thought so. He held that, when the female grasshopper chooses to mate with one stridulating male rather than another, it is because she finds his song beautiful.¹ But we need not endorse such a liberal view of the aesthetic response. There is no reason to suppose that all pleasure-founded discriminations are based on (implicit) appreciation of the beautiful or sublime. Many could be based instead on lustful feeling or vague sensations of what is right or apt, for example.

We can get a sense of when aesthetic modes of appreciation arose in evolutionary history by considering their role in the creature's ecology. As I wrote earlier, the aesthetic lights up the world and prompts us to alter our behavior accordingly. The response teaches us about our relation to the world, it is a source of knowledge. Such a response would be evolutionarily adaptive only in a creature that had the behavioral (and cognitive) plasticity to put that knowledge to evolutionarily useful work. It must be capable of learning from

¹ See *The Descent of Man and Selection in Relation to Sex*, London: D. Appleton, revised and augmented edition of 1880. See Pt. 2, Ch. 11:329. For similar claims about birds, see Pt. 1 Ch. 3:92, Pt. 2 Ch 13:381–2, Pt. 3, and Ch. 21:616.

experience and modifying its behavior accordingly, rather than being driven by what is rightly called *blind* instinct.

Earlier I compared the aesthetic response to an emotion. We can similarly ask when all but the most basic emotional responses could have contributed positively to a creature's survival and reproduction. And the answer I think is similar. Higher emotions and aesthetic reactions often are prompts to sophisticated or complexly extended behavioral sequences. They would not be of evolutionary use to insects.

What counts, though, as the kind of behavioral and cognitive plasticity to sustain and draw value from an interest in the beautiful and the sublime? Plainly, that question is not easy to answer. And again we might draw the comparison with emotions. Probably these emerge only gradually and in degrees across the tree of life. The more complex and sophisticated they are, the more likely that they belong to the primates, say, rather than to all the mammals. It is fairly clear that apes are capable of experiencing fairly complex emotions. I would not be surprised to learn that they also have an aesthetic sense, though the evidence in favor of this is so far equivocal.

In the human lineage of now extinct ancestral species, the earliest suggestion of aesthetic behavior dates to about 400,000 years before the present; that is, prior to our own species' evolution. Around this time there appears to have been a change in the attitude to the production of a minority of hand axes. About 2% were worked on far beyond what was necessary for them to serve their practical purpose of butchering dead animals. The focus was on smoothing them and making them perfectly symmetrical. Moreover, many of the finest examples were never actually used for cutting. In other cases, the axe makers worked unusual kinds of (sometimes colored) stones, or highlighted fossils or mineral veins in the stones. And some of the axes were outsized to an extent that made their use impractical. It is possible these axes were being coopted for some new function, for example as a sexually appealing display to females of male dexterity and skill. Alternatively, perhaps they were made "for their own sake." It is difficult to know. Nevertheless, it seems plausible to recognize aesthetic intentions behind what was done.

So, as it was inherited by *Homo sapiens* and later further developed, the aesthetic sense played an evolutionary function. It drew us toward conditions that made for survival and reproductive success and repelled us away from conditions that impacted negatively on longevity and fertility. But for us, those desirable outcomes were incidental and uncalculated. Our search was for the beautiful and sublime. And there are many opportunities and options for pursuing these, including ones in which there is no question of biological benefit.

Our interest in the aesthetic is one of the more common prisms through which we consider the world at large. And we apply that interest not only under the conditions in which our hunter-forager ancestors lived thousands of years ago, but to all aspects of modern life. We prefer a slim, elegant e-reader to one that performs equally well but is clunky and ill-proportioned. Nevertheless, it is interesting to observe how deeply rooted are our aesthetics interests in landscapes and environments, in non-human animals, and in the appearance and behavior of our fellow humans. In all of these cases we should be sensitive to the echo of our species' evolutionary past.²

² For further and more detailed discussion, see my *The Artful Species: Aesthetics, Art, and Evolution*, Oxford: Oxford University Press, 2012.