

Maurer, Charles, and Daphne Maurer. 2019. *Pretty Ugly: Why We Like Some Songs, Faces, Foods, Plays, Pictures, Poems, etc., and Dislike Others*.

Newcastle upon Tyne: Cambridge Scholars Press. 318 pages, 148 tables, charts, diagrams, photos, b/w line art, and color illustrations.

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This handsome book promises a great deal in the thirteen chapters between its covers. Like other works from this publisher, the first hardback edition cost a pretty penny, but fortunately a paperback version is now available at a more accessible price.

This is a work of popular neurology, if there is such a genre. Daphne Maurer specializes in infant learning while Charles Maurer is a professional photographer. Although neither stakes out sections of the book, one can intuit the contribution of each to the whole. The authors claim, reasonably enough, that the development of aesthetic preferences in music, dance, the visual arts, literature, and food and drink stem from the interplay of neural mechanisms, innate predispositions, and learning.

The sense of beauty is an emergent phenomenon, something complex that arises from the repetition of simple things many times, which permits the perceiver to separate information from background noise. This universal process is not specific to humans. Each time a neuron activates, it changes the local neurochemistry which will fire more readily under the same circumstances, creating neural pathways reinforced through experience. The authors analyze the neuronal processes involved in sorting out information from sound and then pass to the visual system, which uses waves of electromagnetic radiation instead of pressure waves. Objects exist in the context of other objects, which also impart information about size and distance. We interpret and infer almost all of what we see and

hear. When viewing paintings, we sample bits of it at a time, assembling our impression of the whole from the pieces we saw at different moments. In pictures and in music we often enjoy some phase distortion, some “fuzziness” that softens the impact. The experience, expectations, and sensibilities of the perceiver construct the object they appreciate.

This whole process requires a close study of how the brain works, presented in language comprehensible to most nonspecialists. Since human anatomy is universal, many infant behaviors are universal and appear to be wired in the brain, although they actualize in a particular environment. Humans also naturally divide the world into categories, which lie mostly in the perception of the beholder. They must reflect reality to some extent, but we define them by our experience. To survive we must attend to things that might matter to us, which entails leaving unexamined things that do not. This is done through the process of attention.

Like other animals, humans have inborn sensors to evaluate the nutritional value of foods, such as glutamates, which are concentrated in cooked and fermented meats. Babies are born enjoying the taste of sugars, and salt we find pleasurable up to a certain point. Whatever flavors a baby experiences, he or she is likely to come to enjoy, but some preferences are innate biases. Acidity and bitterness require experience to enjoy more fully. Babies quickly develop a prototype of the human face, and new faces are more remarkable if they fit the stereotype. An

average face looks more attractive than the faces of normal individuals. With time, these associations will become rich enough to form an aesthetic preference in the modern sense, but time and the development of complexity are crucial. Fundamental to any aesthetic preference is familiarity. In faces as with other objects, beauty appears when our expectations are exceeded.

Babies are also born hearing pitch and timbre, and possess basic understandings of rhythm and harmony. Half a year after birth they can distinguish between happy and sad music. To retain listeners' attention, musicians must make sounds vibrate to keep them "interesting," or increase or soften the volume, quicken or slow the tempo. Since we naturally and universally prefer consonance, the introduction of dissonance creates a tension, quickly resolved by a return to consonance: herein lies the satisfaction. Babies' brains are equipped with neurons that respond to rhythms and to movements. Infants come to enjoy synchrony in a social setting with other people, which enhances social bonding, a rationale for tribal dancing all over the world. In the brain, rhythmical sounds and movements are inextricable, and it is difficult to listen to rhythm without twitching or rocking in synchrony. Songs and dances might become too complex to sing or dance to, and some court music, as in Japan, is excruciatingly slow, but sounds more like ordinary song and dance if the tempo is increased.

In architecture, repetitive structures work at a distance, but decorative details keep the background alive and ebullient decoration catches the eye. Two-dimensional images provide

information through the brightness of different objects in it. Arbitrary contrasts in color and light are the stock in trade of naturalistic painters, who must appeal to the biases of the brain. The contrasts we hear in music resemble those we see in paintings; in fact, we hear only contrasts, scaled to milliseconds over time. Rhythmicity makes the sounds of poetry easier to remember, which is advantageous in an oral tradition. Writers must compress the broken dialogue of spoken language much as painters must compress visual information. Beauty lies in the variations from the norm in directions we have become biased to deem pleasant, and ugliness with comparable variations we are biased to deem unpleasant. In prose, we can introduce all means of horrors, like dissonance in music, the tension increasing with duration. Dramatic tension is created by contrasts, while humor relies on surprise and incongruity.

Human thinking is not logical, but analogical; we connect one thing to another, as in metaphors. Greater experience leads to more extensive pathways, which lead to a greater complexity of association, and more directions of divergence from any norm. The more experience we acquire, the more complexity the brain becomes used to, and the more complexity is required to seem novel. That is why adults form more complex tastes than children or adolescents.

This book is much richer than these few paragraphs can depict. Literate readers will be impressed by the range of erudition and international exposure of the authors, and will probably derive pleasure from the metaphors and similes that ornate the text.