

BEAUTY VISIBLE AND DIVINE

Robert Augros

Contemporary artists have, in great measure, abandoned the quest for beauty. Critic Anthony O'Hear points out that the arts today "are aiming at other things . . . which, by and large, are incompatible with beauty."¹ Some artists contend it is the duty of art to proclaim the alienation, nihilism, despair, and meaninglessness of modern life. They see cultivation of beauty as hypocritical, preferring to shock and disgust the public with scatological, pornographic, or blasphemous works. Others have politicized their art to such an extent that they no longer concern themselves with beauty or excellence but only with propagandizing the cause. Others consider most important in a work not what is perceptible by the audience but the abstract theory it represents. This yields, among other things, the unrelieved dissonance of atonal music, never popular with concert-goers, and the ugliness of much of modern architecture. Virgil Aldrich asserts that the "beautiful has, for good reasons, been discarded by careful critics."² Reflecting on the motives for eliminating beauty in recent art, Arthur

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¹ Anthony O'Hear, "Prospects for Beauty" in *The Journal of the Royal Institute of Philosophy* 2001; 48 (Supp.), 176.

² Virgil C. Aldrich, *Philosophy of Art* (Englewood Cliffs, N.J.: 1963), 99.

Danto predicts, "Beauty may be in for a long exile."³ The human price is high: bankruptcy in the arts and the uglification of the world we live in.

Nor does contemporary philosophy put a premium on beauty. Christopher Janaway remarks, "Despite its ancient aura as one of the supreme values in human life and in the cosmos, some philosophers give beauty short shrift."⁴ Philosopher Mary Mothersill observes, "Beauty is a topic of great philosophical interest and one that is relatively unexplored. Few would deny its importance and yet the mere suggestion that it be defined drives intelligent people to witless babble."⁵ Ironically, only the mathematicians seem to care about beauty.⁶

Fortunately beauty cannot be dismissed so easily. It is alive and well outside academia, where it is acknowledged by all as important and desirable. The desire to be beautiful fuels a whole beauty industry: cosmetics, diets, exercise programs. People are not satisfied with only seeing beauty, they want to *be* beautiful. Neuropsychologist Nancy Etcoff, author of *Survival of the Prettiest*, remarks, "I defy anyone to point to a society any time in history or any place in the world, that wasn't preoccupied with beauty."⁷ Beauty is deferred to and given privileged status. From infancy onward, personal attrac-

³ Arthur C. Danto, "Beauty and Morality" in *Embodied Meanings: Critical Essays and Aesthetic Meditations* (New York: Farrar Straus Giroux, 1994), 375.

⁴ Christopher Janaway, "Beauty" in *The Oxford Companion to Philosophy* (New York: Oxford University Press, 1995), 80.

⁵ Mary Mothersill, "Beauty" in *A Companion to Aesthetics* (Blackwell: Oxford University Press, 1992), 44.

⁶ "Whereas painters and musicians are likely to be embarrassed by references to the beauty in their work, mathematicians instead like to engage in discussions of the beauty of mathematics." Gian-Carlo Rota, "The Phenomenology of Mathematical Beauty" in *Synthese* May 1997; III (2), 171.

⁷ Nancy Etcoff, quoted in "The Biology of Beauty" *Newsweek*, June 3, 1996, 62.

tiveness is a grace and a social asset. Studies show that people assume handsome men and beautiful women are more intelligent, more competent, and live happier, more successful lives.⁸ To stumble onto beauty is delightful—an unlooked-for field of wild poppies, an unexpected waterfall, a Scarlet Tanager on the wing. To make something beautiful is very satisfying—be it a painting, or a flower garden, or a rocking chair. Everyone prefers the beautiful to the ugly or the plain, hence the importance of ornament. The primitive who lives in the jungle decorates his spear because he wants a weapon that will not only bring down the prey but also one that looks good. We adorn our homes and even ourselves. Not every aspect of clothing can be explained by the need for warmth and modesty. A neck tie, for example, serves neither of these ends and is pure adornment. Everyone delights in nature's beauty. Thousands of tourists travel great distances every year simply to view the Grand Canyon, or the spectacular New England foliage in autumn. In some ancient religions divine worship was offered to certain animals and natural phenomena, in part because of their great beauty.⁹ It is not accidental that *lovely* things inspire *love*. Saint Thomas writes, "Every man loves beauty: carnal men love carnal beauty, and spiritual men love spiritual beauty."¹⁰

Beauty is not the only good or the highest good, but other things being equal, wherever it is available, it is preferred. Even items of daily utility, such as eating utensils, we desire to be not only durable and useful, but pleasing to the eye. What woman would marry in casual clothes if she has the option of an elegant wedding gown? In the *Pensées*, Pascal muses, "Cleopatra's nose: had it been shorter, the whole aspect of

⁸ Karen Dion, et al., "What is Beautiful is Good" in *Journal of Personality and Social Psychology* 1972, vol. 24, no. 3, 289.

⁹ *Summa Theologica*, II-II, q. 94, a. 4.

¹⁰ Saint Thomas Aquinas, *In Psalmos Davidis Expositio*, Psalmus 25, no. 5, in *Opera Omnia* (Paris: Ludovicum Vives, 1889), vol. 18, 371. My translation.

the world would have been altered"¹¹—a clear tribute to the importance of beauty. Plato says a man who knows nothing about things of beauty must be a perfect fool.¹² And Aristotle, when asked why men concern themselves so much about beauty, answered simply, "That is a blind man's question."¹³

Beauty invites contemplation and disposes the soul for philosophy. The man who does not love the truth for its beauty is no philosopher. The contemplation of beauty has two things in common with the contemplation of wisdom: it is delightful and is not sought for the sake of anything beyond itself. Beauty teaches in an easy and delightful way that some things are worth looking at for themselves quite apart from any use we might make of them. What is true for the eye is true for reason. This yields the theoretical sciences, which investigate things worth looking at with the mind. And we, as Americans, especially need beauty as an antidote to the pragmatism of our culture that threatens to sweep all before it. Tocqueville says of Americans, "They habitually put use before beauty, and they want beauty itself to be useful."¹⁴

Beauty is important but by no means easy to analyze. I will now give a preliminary overview of some of the difficulties before taking them up in detail in subsequent sections of this article. The first difficulty is how to define beauty. Art historian Francis J. Kovach catalogues more than 85 conflicting definitions of beauty,¹⁵ from philosophers and aestheticians throughout history, enough to discourage anyone from pursuing the matter further. Many simply despair of finding a definition. Tolstoi, for example, thought, "the question, What is

¹¹ Blaise Pascal, *Pensées* (New York: E. P. Dutton, 1958), no. 162, 48.

¹² Plato, *Hippias Major*, 289e.

¹³ Aristotle, quoted in Diogenes Laertius, *Lives of Eminent Philosophers* (Cambridge, Mass.: Harvard University Press, 1972), vol. I, 463.

¹⁴ Alexis de Tocqueville, *Democracy in America* (Garden City, N.Y.: Doubleday, 1969), vol. II, ch. II, 465.

¹⁵ Francis J. Kovach, *Philosophy of Beauty* (Norman, Ok.: University of Oklahoma Press, 1974), ch. VII, 138-65.

beauty? remains to this day quite unsolved."¹⁶ Critic Alexander Nehamas asserts that "beauty is not a determinate feature of things (as the dismal failure of all attempts to define it implies)."¹⁷ And yet despite all the skepticism, it seems strange to say that we can give no precise account of something we directly experience every day.

Is beauty something added to the nature of a thing? If so, it would seem that only that added thing is beautiful and not the thing that takes it on. If one were to gild a crutch, only the gold would be beautiful. But if we say that beauty is part of the very nature of a face, for example, then no face could be ugly, since every face has the full nature of a face. Is there such a thing as false beauty? How could there not be, since there is false currency, false reasoning, false gold, and false everything else? But how could a beauty be false if it pleases the beholder? Can something only seem to please but not really do so?

What cause is responsible for the beauty found in natural things? Should it be explained by chance, necessity, evolution, or by some other cause? Is beauty perceived by the senses, or by the intellect, or by both? Do animals perceive beauty? Charles Darwin argues that when a female bird witnesses a male displaying his splendid colors, "it is impossible to doubt that she admires the beauty of her male partner."¹⁸ Yet if animals are aware of beauty, it is odd that they do not produce any artifacts merely for beauty and not utility.

Saint Augustine raises the question whether "objects are beautiful because they please us, or please us because they are

¹⁶ Leo Tolstoi, *What is Art?* (1898) Maude, A., tr. (New York: Oxford University Press, 1962), 86.

¹⁷ Alexander Nehamas, "The Return of the Beautiful: Morality, Pleasure, and the Value of Uncertainty," *Journal of Aesthetics and Art Criticism* 58, no. 4 (Fall 2000), 402.

¹⁸ Charles Darwin, *The Descent of Man*, in *The Works of Charles Darwin* (Washington Square, N.Y.: New York University Press, 1987), vol. 21, 96.

beautiful."¹⁹ Some philosophers, like Spinoza, refer beauty to the observer and not to things: "Beauty . . . is less a quality of the object studied than the effect arising in the man studying that object."²⁰ Other philosophers, like Aristotle, consider it obvious that "things manifest goodness and beauty both in their being and in their coming to be."²¹ On the one hand, the latter thinkers must explain why people often disagree about which things are beautiful. On the other hand, the former thinkers must explain why everyone speaks as if certain things in themselves are beautiful.

I will take up these difficulties in the following order: what beauty is, whether it is in things or only in the observer, the constituents of beauty, and then beauty's theological implications.

What is Beauty?

The more than eighty definitions of beauty proposed over the last two thousand years at first seem daunting. But if we look to the logical requirements for a definition, the task of sorting through them becomes much easier. Many of the proposed definitions of beauty violate some simple rule of logic. Some of them, for instance, assign the wrong genus, as "Beauty . . . is . . . an emotion that is pleasing."²² Beauty causes emotion but is not itself an emotion. Other definitions are too broad: "Beauty is value contemplated,"²³ which would make veri-

¹⁹ *De La Vraie Religion* ch. 32, no. 59 in *Oeuvres Completes de Saint Augustin* (Paris: Bar-Le-Duc, 1865), vol. 3, 567. My translation.

²⁰ Baruch Spinoza, Letter to H. Boxel, Sept. 1674, quoted by Wladyslaw Tartarkiewicz, *History of Aesthetics*, ed. D. Petsch, (The Hague: Mouton, 1974), vol. 3, 380.

²¹ Aristotle *Metaphysics*, bk. I, ch. 3, Richard McKeon, ed., *The Basic Works of Aristotle* (New York: Random House, 1970), 695. All subsequent quotations of Aristotle are from this edition unless otherwise noted.

²² Thomas Brown, *Lectures on the Philosophy of the Human Mind*, Lecture 53, (1828) (Hallowell: Galzier, Masters and Smith, 1842), II, 19.

²³ Max Schoen, *The Enjoyment of the Arts* (New York: Philosophical Library, 1944), 312.

fyng the balance of one's checkbook an example of beauty. Other definitions are circular. Many, for instance, employ the term *aesthetics*,²⁴ which itself is defined by reference to beauty. Some of the definitions have no regard for what people mean when they use the word *beauty*, but define it, as, for example, "pleasure regarded as the quality of a thing."²⁵ No one thinks the pleasure he experiences when watching a sunset is in the sunset. Some definitions confuse beauty with one of its species. Freud says of beauty in general: "All that seems certain is its derivation from the field of sexual feeling."²⁶ But when people call stars, roses, waterfalls, and rainbows beautiful, it is very clear there is no connection to "the field of sexual feeling." Freud is claiming that all beauty is sexual beauty. This would follow if all pleasure were sexual pleasure. But that again would be to confound a genus with one of its species.

What is agreed upon by many thinkers is more probable than what just one man asserts. If we look to what the majority of definitions have in common, two features emerge: beauty is perceivable by the senses, especially the eye, and is pleasing.²⁷ It is good also to recall that a definition does not

²⁴ The replacement of the word *beauty* by the phrase "aesthetic value" in current literature is a most unfortunate and needless obfuscation. Nor is there any necessity for advancing "aesthetics" as a science. What is called aesthetics today includes too many disparate topics and hence has no unity of a single genus. Certainly Aristotle and Saint Thomas never considered discussions of beauty and the fine arts as constituting an autonomous science. The notion of aesthetics as a science was first proposed by Gottlieb Baumgarten, a disciple of the rationalist Christian Wolff, with the publication of his work *Aesthetica* in 1750.

²⁵ George Santayana, *The Sense of Beauty* (Cambridge, Mass.: M.I.T. Press, 1988), 33.

²⁶ Sigmund Freud, *Civilization and Its Discontents*, trans. James Strachey (New York: Norton, 1962), 30.

²⁷ These features are seen even in some of the faulty definitions cited above. When Freud tries to reduce beauty to sex, for example, he clearly has in mind something sensory and something pleasant.

give us the first knowledge we have of what beauty is. Prior to and more authoritative than any definition is the knowledge everyone has of beauty from the immediate experience of it. This knowledge is reflected in the common way we speak about beautiful things. Everyone acknowledges that we can see beauty with our eyes and that the seeing by itself is good. The phrase *good looking*, an equivalent for beauty, captures both the aspect of perception and of pleasure. When we say of a beautiful thing that it is "a feast for the eyes" or "easy on the eyes," both aspects again are present and primacy is given to vision over the other senses. Saint Thomas defines beauty aptly, then, in four simple words: *id quod visum placet*,²⁸ that which pleases merely by being seen. *Visum* names the part of beauty pertaining to knowledge, and *placet*, the part pertaining to its ability to gratify. The notions *seeing* and *pleasing* are appropriate for this definition because they are more known than beauty and together manifest its nature.

At this point someone might object that surely Saint Thomas' definition is too narrow. Not all beauty is optical. Music, for instance, can be beautiful and is not perceived by the eye. More generally, one of the reasons for despairing over the possibility of a definition is that beauty seems to be too all-encompassing. Thomas Reid protests that he cannot define beauty because he is "unable to conceive any quality in all the different things that are called beautiful, that is the same in them all."²⁹ Similarly, Mortimer Adler can find nothing in common among "the admirable beauty of a prize-winning rose, Beethoven's *Kreutzer Sonata*, a triple play in the ninth

²⁸ *Summa Theologica*, I, q. 39, a. 8. The text actually says, "pulchra enim dicuntur quae visa placent." In this article I will not discuss beauty as a transcendental, since that pertains to the metaphysician who studies the properties common to all being. My aim is the beauty that divides being: some things are beautiful and others are not.

²⁹ Thomas Reid, *Essays on the Intellectual Powers of Man*, Essay VIII, ch. 4: "Of Beauty" (Cambridge, Mass.: M.I.T. Press, 1969), 779.

inning of a baseball game, Michelangelo's *Pietà*, a Zen garden, Milton's sonnet on his blindness, a display of fireworks."³⁰

But these many examples of beauty are not species of a single genus as Reid and Adler seem to think. They illustrate various meanings of the word beauty. To divide a genus into its species and to distinguish the meanings of a word are two very different operations. *The Oxford English Dictionary* lists seventy-nine meanings for the word *run*.³¹ Seeking a single formula that would apply equally to all of these meanings would be a fool's errand. Dictionaries attempt nothing of the kind. Instead they determine the first meaning and order the rest in consequence. All important words in philosophy have many meanings, not by chance but by design. When Aristotle distinguishes eight meanings of the word *in*, he is not listing species that have some single genus in common.³² It pertains to philosophy to order the meanings of key words, as Aristotle does in the *Metaphysics*.³³ He does this by determining the first and most known meaning and then explains and orders the others by reference to it.

Beauty is no exception. It has a wide range of meanings, so wide in fact that something beautiful according to one meaning can be ugly according to another.³⁴ Therefore, our task is to discover what beauty *first* means. We have seen evidence that beauty first means what pleases the eye. The word has other related meanings but they are derived from this first meaning. But why give priority to vision? Saint Thomas

³⁰ Mortimer Adler, *Six Great Ideas* (New York: Simon & Schuster, 1997), 122.

³¹ *The Oxford English Dictionary* (Oxford: Clarendon Press, 1989), vol. 14, 244-64.

³² *Physics*, IV, ch. 3, 273.

³³ *Metaphysics*, V.

³⁴ The third meaning of beautiful according to the *Oxford English Dictionary* (vol. 2, 37) is "exact adaptation to a purpose" which is "sometimes applied to things that, in other aspects, are even repulsive, as a beautiful operation in surgery."

gives a reason why sight and hearing have primacy regarding beauty: "Those senses chiefly regard the beautiful, which are the most cognitive, viz., sight and hearing, as ministering to reason; for we speak of beautiful sights and beautiful sounds. But in reference to the other objects of the other senses, we do not use the expression *beautiful*, for we do not speak of beautiful tastes, and beautiful odors."³⁵ Sight also takes precedence over hearing. For if an object that pleases sight and hearing is called beautiful without qualification, it is because of what sight apprehends. For example, a woman is not called beautiful because she has a beautiful voice, but only if her appearance is lovely.

For several reasons sight exceeds the other external senses regarding beauty. Only vision perceives light and color. But light itself is beautiful and more so than the special objects of the other senses such as sound, flavor, odor, temperature. Shape pertains to the essence of beauty because, if proportionate and perfect, it gratifies the eye. The simple shape of an egg, if perfect, is pleasing to behold. The connection between shape and beauty is reflected in the word *shapely*, a synonym for beauty in English. Shape is perceived by two senses, sight and touch, but of these two, sight knows it much better. Touch is limited by how much of a shape it can feel at one time, having to go over it part by part. And even what touch does perceive of shape it apprehends very indistinctly. It would be a serious challenge to recognize the face of a close friend if one were blindfolded and restricted to touch alone. Contrast this with the instant recognition sight gives.

Beauty entails the order of a unified whole. Of all the senses, sight perceives order most powerfully. We can see all the parts of a painting at once, and appreciate their order. Music, by contrast, is parceled out over time and so its beauty is not brought into the soul by the ear alone, but requires memory and expectation to perceive order and the whole. Taste

³⁵ *Summa Theologica*, I-II, q. 27, a. 1, ad 3, vol. I, 707.

can discern flavors and some order or harmony among them, but with difficulty, and usually one after another. The same holds for smell. Touch is so rudimentary it barely distinguishes things.

Beauty is pleasing, and pleasure is best when sustainable and continuous, as Aristotle says.³⁶ One can gaze at a color for a very long time without experiencing any trouble or discomfort in seeing it. But anyone hearing the same sound continuously eventually tunes it out. The same is true for continuously tasting or smelling something. After we feel a temperature for a while, say the warmth of the water in a shower, our discernment diminishes. Sight, then, is the sense of beauty *par excellence*, because it can enjoy its special object more continuously than any other sense.

Many aestheticians have recognized the primacy of vision in regard to beauty. "Beauty appeals principally to the eyes," says F. W. Ruckstull.³⁷ Max J. Friedlander writes, "We call beautiful that which pleases the eye."³⁸ Shakespeare declares "beauty is bought by the judgment of the eye."³⁹ And there is the cliché that beauty is in the eye of the beholder.⁴⁰

Not just anything that causes pleasure when seen is an example of beauty. If a jealous woman feels pleasure when she sees her rival's face disfigured because of an auto accident, the pleasure is not caused by beauty. If a mugger rejoices at the sight of an elderly woman walking down a deserted street alone and carrying a large purse, this is not beauty. A beautiful object pleases and is enjoyable to look at quite apart from any

³⁶ *Nicomachean Ethics*, X, ch. 5, 1101.

³⁷ F. W. Ruckstull, *Great Works of Art* (Garden City, N.Y.: Garden City Pub. Co., 1925), 98.

³⁸ Max J. Friedlander, *On Art and Connoisseurship* (Boston: Beacon Press, 1960), 87.

³⁹ William Shakespeare, *Love's Labor's Lost*, act II, sc. 1, ln. 15.

⁴⁰ This expression was apparently first coined by Lew Wallace in his novel *The Prince of India* (1893), bk. 3, ch. 6, 178, where he writes, "Beauty is altogether in the eye of the beholder."

utility it may have for us. The woman in the first example would not find the disfigured face pleasant if it belonged to someone unknown to her. And the mugger's interest in his potential victim would be the same even if she were quite hideous to behold. *Id quod visum placet* means, not that the pleasure merely happens to follow vision, but that the vision alone causes the pleasure. An art collector can enjoy looking at the *Mona Lisa* in a museum even if there is no possibility he will ever own it. Why do antique car enthusiasts attend auto shows if they can never own or drive any of the cars? It is because simply *looking* at a perfectly restored 1939 Rolls-Royce Wraith is a delight. This is beauty. The contemplation that characterizes beauty was described by Immanuel Kant as *disinterested*. He was not the first to discover this feature, but he did name it aptly and brought it to general recognition.

Independence from utility distinguishes the beautiful from the good. Although beauty is a special kind of goodness, the two are distinct. Aristotle observes, "The good and the beautiful are different; for the former always implies conduct as its subject, while the beautiful is found also in motionless things."⁴¹ To know that an apple is beautiful, one need only look at it. To know that it is good, one must bite into it. Saint Thomas explains:

The beautiful and the good are the same in subject because they are based on the same thing, namely form. Because of this the good is praised as beautiful. But they differ in definition. The good, properly speaking, is related to appetite, for the good is what all desire. Therefore, it has the notion of an end, for desire is a motion to some thing. Beauty, on the other hand, is related to a knowing power. For those things are called beautiful which please when seen. Hence beauty consists in a due proportion, since the senses are delighted in things duly proportioned, as in things similar to themselves. For sense is a certain ratio, as is every knowing power. And since knowledge is by assimilation, similarity

⁴¹ Aristotle, *Metaphysics*, 893.

being based on form, beauty properly speaking belongs to the notion of formal cause.⁴²

Someone might object that "what pleases merely by being seen" does not really say what beauty is but only what it does to us. But to define a thing through its effect is a perfectly legitimate procedure, since in most cases effects are more known to us than their causes. Thus we do not begin by knowing the essence of beauty in itself. We first notice it by the effects it produces in us: pleasure, love, admiration. From these effects in us we draw our first grasp of what beauty is. The word *good* is first defined in a similar way by its effect: "that which all things desire."⁴³ Moreover, there are two kinds of definitions. One states what the name means (nominal definition), while the other defines the nature of the thing named (essential definition).⁴⁴ The former conveys less information but is more known to us and functions as a natural starting point for discovering and confirming the latter. It is natural for us to know a thing imperfectly before we come to know it perfectly⁴⁵ and to use the less perfect knowledge as a bridge to the more perfect. "Praiseworthy habit" is a nominal definition of moral virtue. Aristotle uses it to confirm the essential definition of moral virtue.⁴⁶ He also uses the nominal definition of the soul—"whatever first in the living thing causes it to live"⁴⁷—to argue to the essential definition of the soul.⁴⁸ Saint Thomas' definition of beauty, then, is a nominal definition of the first and most known meaning of the word *beauty*.

⁴² *Summa Theologica*, I, q. 5, a. 4, ad 1. My translation.

⁴³ Aristotle, *Nicomachean Ethics*, I, ch. 1.

⁴⁴ Aristotle, *Posterior Analytics*, bk. II, ch. 10, 169-70.

⁴⁵ For example, the things most certain for us are vague and indistinct (*Physics*, I, ch. 1). Also we use probable arguments to discover principles of certainty that can settle the matter absolutely, as Aristotle does in his *Physics*, bk. I.

⁴⁶ Aristotle, *Nicomachean Ethics*, II, ch. 6.

⁴⁷ *Summa Theologica*, I, q. 75, a. 1.

⁴⁸ Aristotle, *On the Soul*, II, ch. 2.

I will, in a subsequent section, use this nominal definition of beauty to identify the specific features of objects that render them pleasing to the eye.

Finally, it might be objected that the definition, "that which pleases when seen," contains no genus. This defect is easily remedied. Aristotle marks off the category of quality as "that in virtue of which people are said to be such and such."⁴⁹ But people are said to be beautiful in virtue of their beauty. Therefore, beauty is a quality. To be more exact, it falls under the first species of quality, disposition. Aristotle further specifies that beauty, along with health and strength, are virtues of the body.⁵⁰ Virtue here is taken very broadly, meaning any quality that makes its possessor good and its work good.⁵¹ Health, for example, is a virtue of the body because it disposes each organ properly, allowing it to function well. Disease is a vice of the body because it prevents the good function of one or more organs. Beauty differs from health and strength in that it pleases the eye of the onlooker. A body, animate or inanimate, must have its parts properly disposed to do this. An ugly body is ill disposed to this end and causes displeasure in the viewer.

Saint Thomas adds that beauty, because it is easily changeable, has more the nature of a disposition than a habit.⁵² Beauty in a human being, for example, is easily diminished or lost by sickness, age, emotional stress, and other causes. Health and beauty are called natural virtues because their causes are in the nature of each thing.⁵³ In this respect they are unlike dispositions imposed from without, such as when the weather makes a man hot or cold. Thus beauty flows from natural principles and does not depend on any externally added thing such

⁴⁹ *Categories*, ch. 8, 23.

⁵⁰ *Physics*, VII, ch. 3, 346-47.

⁵¹ *Nicomachean Ethics*, II, ch. 6, 957.

⁵² *Summa Theologica*, I-II, q. 49, art. 2, corpus.

⁵³ *Summa Theologica*, I-II, q. 49, art. 2, corpus.

as ornament. From this it follows that beauty differs from one species to the next. Just as what is healthy for a fish is not necessarily what is healthy for a man, so too, what is beautiful in a fish is not the same as what is beautiful in a man.⁵⁴

From these considerations the proximate genus may be joined to the definition: beauty is the virtue of a body that renders it pleasing to the eye. This definition, of course, applies only to the first meaning of the word beauty. I will discuss below how the word beauty is extended to the moral virtues and beyond.

Is Beauty in Things?

Is nothing either beautiful or ugly but thinking makes it so? Let us examine carefully whether beauty is only in the eye of the beholder. The first question we must ask is, if beauty is not in the things we call beautiful, how then does it get into the eye of the beholder? Where does it come from?

Does the beauty in the eye come from the imagination? If so, we would never really see the beauty of anything but merely imagine it, a consequence no one believes. It would also follow that imagining a beautiful thing would be as good as seeing it. Why, then, bother buying and decorating a Christmas tree? One could easily imagine a perfect one with much less trouble and no expense. Darwin maintains that beauty comes entirely from the observer and has no foundation in things. "The sense of beauty," he writes, "obviously depends on the nature of the mind, irrespective of any real quality in the admired object,"⁵⁵ thus making the perception of beauty indistinguishable from a hallucination. The same holds for David Hume's contention that "Beauty is no quality in things themselves: It exists merely in the mind which contemplates

⁵⁴ *In Physicorum*, VII, L. 5, no. 918, 470-71.

⁵⁵ Charles Darwin, *The Origin of Species*, ch. 6 (New York: Mentor, 1963), 185.

them.”⁵⁶ Furthermore, there is nothing in the imagination which has not first been perceived by the external senses.⁵⁷ Therefore, to get into the imagination, beauty would have to first be seen by the eye. So the imagination cannot explain how beauty gets into the eye. These same difficulties follow if one postulates that beauty comes into the eye from the mind.

Moreover, beauty has the capacity to cause in us emotions, such as joy, peacefulness, admiration, delight. But how can this happen if there is no beauty in the object? Something not at all frightening cannot cause terror. What is in no way loveable cannot compel us to love it. Saying beauty comes from the observer alone puts beauty on a par with an anxiety attack, where a person feels groundless, irrational fear not connected to any real object.

If beauty is not in things, then no changes in a woman's clothing, hair style, cosmetics, no changes resulting from diet or plastic surgery, can make any difference in her beauty. And yet as a Yeats character, Kathleen, confesses, “To be born a woman is to know . . . that we must labour to be beautiful.”⁵⁸ The privatization of beauty is also inimical to the fine arts, implying that no painter, or composer, or other artist can put beauty into his work, since it all comes from the observer.

It is the intention of those who call anything beautiful to praise it and attribute beauty to it. Dictionaries typically define beauty as the “combination of qualities, as shape, proportion, color, *in* a human face or form, or *in* other objects, that delights the sight.”⁵⁹ This is how the word is used in

⁵⁶ David Hume, “Of the Standard of Taste,” from *Essays: Moral, Political and Literary*. In *David Hume: The Philosophical Works*, edited by T. H. Green and T. H. Grose, (Darnstadt: Scientia Verlag Aalen, 1964), vol. 3, 268.

⁵⁷ Aristotle, *On the Soul*, III, ch. 3, 589, 429a 1.

⁵⁸ W. B. Yeats, *The Poems*, edited by Daniel Albright (London: Dent, 1990), 106.

⁵⁹ *The Concise Oxford Dictionary of Current English* ed. J. B. Sykes (Oxford, England: Clarendon Press, 1988), 78. My emphasis. Another source

all major languages. To say, “That waterfall is beautiful,” is to make a claim about the waterfall and not about one's eye. Therefore, beauty is in things.

Yet despite this evidence, there are five reasons that might induce someone to think beauty is only a matter of private opinion.

REASON 1. People disagree about which things are beautiful. For example, it frequently happens that two persons cannot agree on the beauty of a face or of a work of art. But whatever people disagree about has no foundation in things. Therefore, beauty is not in things. “Each mind perceives a different beauty,” writes David Hume.⁶⁰

REASON 2. Beauty is a cause of visual delight. But the cause of visual delight seems to be custom, since the men of each race and country find most beautiful their own women, who dress and keep themselves according to the customs of their people. The same holds for the beauty found in music, painting, and in all the fine arts. Now custom is something in the one who is accustomed. Therefore, beauty is a kind of habit in someone accustomed to a certain thing which he calls beautiful. English painter Joshua Reynolds held that the sense of beauty is based entirely on custom.⁶¹ Darwin maintains, “It is certainly not true that there is in the mind of man any universal standard of beauty with respect to the human body.”⁶²

defines beauty as “the quality present *in* a thing or person that gives intense pleasure or satisfaction to the mind.” *The Random House Dictionary of the English Language* (New York: Random House, 1987), 184.

⁶⁰ David Hume, loc. cit.

⁶¹ Sir Joshua Reynolds, “Essay on the True Idea of Beauty” in *The Idler*, no. 82, Nov. 10, 1759. *The British Classics*, XXIV (London: W. Suttaby, 1810), 110-14.

⁶² Charles Darwin, *The Descent of Man* in *The Works of Charles Darwin* (Washington Square, N.Y.: New York University Press, 1987), vol. 22, 607.

REASON 3. Beauty is what pleases when seen. Therefore, if beauty were in an object, then whenever someone saw that thing, it would please him merely by its appearance. But such is not the case. For any given object called beautiful, there are some persons who, seeing it, are not pleased by it. Therefore, beauty is not in objects.

REASON 4. If beauty were in things, then one thing would be absolutely more beautiful than another, and not just in the opinion of this or that person. But often it is impossible to say which of two things is the more beautiful. For example, which is more beautiful, Bach's first *Brandenburg Concerto*, or Michelangelo's *Pietà*? And it happens that there is a division of opinion about which of two women, held by all to be beautiful, is the more beautiful. Therefore, beauty is not in things.

REASON 5. If beauty were something in objects, then it would be impossible for the same thing to be both beautiful and ugly at the same time. And yet it happens that a child who is homely in the sight of most people, is beautiful in the sight of his mother. Therefore, beauty is not in things.

To resolve these opposing arguments we must begin by considering pleasure and what causes it, because beauty is defined by pleasure. What delights us is not under our voluntary control. If someone moves into what he considers a horribly ugly neighborhood, he cannot choose to delight in its appearance simply by an act of will. This is because of definite dispositions and qualities in him. No one can suddenly hate a certain kind of music and love another kind, then do the reverse a few minutes later. Rather, a man with a calm disposition will be inclined to like calm music, whereas an energetic man will tend to prefer energetic music. In general what agrees with something in ourselves, whether it be our habits, our temperaments, our level of maturity, or our human nature, we find pleasant. Agreeable is a synonym for pleasing. The cause of pleasure universally is the perceived

presence of a fitting good.⁶³ For example, we take pleasure in certain kinds of change because we ourselves are of a changeable nature. No one would delight in eating the same thing for every meal. Thus the conformity of some perceived object with ourselves makes it pleasant to us. The beauty of an object, therefore, consists in its possessing some perceived quality which likens⁶⁴ it to the one who perceives it. But this quality is in the beautiful thing, otherwise, it would not be like the observer who has a similar quality. Therefore, beauty is always some quality in things.

But a difficulty remains. Since not all men are alike, what accords with one man might not accord with another. From what we have argued so far, although beauty will always be something in things, it will only be relative. The fact that Goliath was *taller*, was something in him, but in him only in relation to those who were shorter than him. Must we say similarly that a woman's face can be called beautiful only for particular observers?

This question is not unique to the beautiful, but pertains to the delightful in general. Some things are pleasant only in a relative sense, to someone of such and such a kind, whereas others are pleasant absolutely and without qualification. Some things are pleasant "not from nature but from disease."⁶⁵ For example, putting something cold and wet on one's skin is not pleasant simply speaking, but it might be pleasant for a burn victim. What delights the person with the best taste is absolutely delightful or beautiful.⁶⁶ But this raises the critical question of how to define "he who has the best taste." Someone might suggest that the person with the best taste is any-

⁶³ *Summa Theologica*, I-II, q. 31, a. 1, c.

⁶⁴ This conformity or fittingness does not necessarily mean similarity. Complementarity is also a kind of fittingness. A nut is not similar in appearance to a bolt of the same size but they are made for each other.

⁶⁵ Aristotle, *Nicomachean Ethics*, VII ch. 5-6. See also *Summa*, I-II, q. 31, a. 7.

⁶⁶ *Summa*, I-II, q. 1, a. 7, c.

one who can recognize what is absolutely delightful or beautiful. Although true, this is circular and therefore not helpful. Rather, we should define the man of good taste by at least four criteria.

I. A Superior Ability to Perceive and Discern. A wine expert must be able to taste the subtle differences in wines. Anyone who can do this better than others is a more authoritative judge. This ability is easily enough distinguished. For example, give to the one claiming to be an expert ten glasses of very similar wines, only two of which are identical, and ask him to pick out the two that are the same. The same holds for music: anyone who can hear subtle differences in rhythms, melodies, and musical themes, is a more authoritative judge than someone who does not discern them. In general, whoever can distinguish the differences of things is a better judge in that subject matter than someone who cannot.

II. A Natural Disposition. A healthy person, rather than one who is sick, or insane, or disoriented, will be a better judge of what is pleasant or beautiful. A pregnant woman with severe morning sickness might find all food disgusting, but that says more about her condition than about the food's quality. Someone in an angry passion might be ill disposed to delight in anything and might find music he would normally enjoy to be obnoxious. Similarly, someone might mistakenly interpret his own good mood as a delight caused in him by some music which he would normally find annoying. In such cases, the delight or disgust says more about the person's passing state than it does about the object. By the same token, the person with the best judgment will be one who has acquired no customs contrary to reason or contrary to human nature in general. A miser is not a competent judge of which activities are absolutely most pleasant and beautiful when dealing with money. Aristotle points out that custom can make even painful things pleasant.⁶⁷

⁶⁷ Aristotle, *Rhetoric*, I, ch. II, 1362, 1370a 14.

III. Impartiality. One qualification for a judge in a court of law is that he or she not be personally implicated in the matters of the case. The same holds for beauty. A judge in a poetry contest ought not to be the father of one of the contestants, since he has reason to delight in his daughter's poetry apart from its intrinsic merits.

IV. Maturity. The man of good taste in whatever matter is physically, morally, and intellectually mature. Regarding physical maturity, an adult palate is able to appreciate a wider variety of flavors and discern subtler differences than a child's palate can. Children love sweet things and not much else. Adults enjoy sweet things, too, but many other flavors as well. As for emotional maturity, a rebellious teenager who resents his parents' authority might enjoy rebellious music. Once he has grown up, this same music will not delight him in the same way, and perhaps not at all. An example of intellectual maturity: a young child enjoys comic books, but not Shakespeare, not because he understands Shakespeare and finds him inferior, but because he does not understand Shakespeare at all. Maturity includes any education or experience necessary to make a reliable judgment.

These four criteria may not be exhaustive, but they are a good indication of what is needed for someone to be a competent judge of what is beautiful absolutely speaking. Such criteria, easily verifiable in particular cases, give an answer to the insistent question of relativists, "But who is to say?" Of course there can be pseudo-experts, and genuine ones sometimes err. But it remains that, in matters of taste, as in all other matters, the judgment of a trained expert is more reliable than that of an inexperienced person.

Beauty is always a quality in things that accords with those who see it and delight in it. Since men differ, what delights them can differ. Hence, there is such a thing as a kind of relative beauty in things. But not all dispositions are equal. And even in the same man, one disposition is good and another bad, one abides, another is temporary. What is beautiful

absolutely accords with the abiding and healthy dispositions of the man of good taste. It will also accord with the dispositions common to all people. For example, symmetry in facial features is pleasant to everyone. Therefore, what is "beautiful to someone" might also be beautiful absolutely, or, if he has very poor taste, it might be ugly absolutely.

In light of these distinctions, I will now reply to the five reasons to the contrary.

REPLY 1. The first reason argued that beauty is not in things because people disagree about what things are beautiful. The major premise of this argument is false: we cannot hold that whatever people disagree about has no foundation in things. If an optometrist and his patient disagree on which letters are written on the eye chart ten feet away, we do not conclude that the shape of letters is merely a matter of opinion. Nor do we conclude that colors are not in things because colorblind persons sometimes disagree with persons of normal sight about whether two colors are the same or not. The major premise of this argument would force us to say that the truth has no foundation in things because people sometimes disagree on what is true. Disagreement, therefore, does not prove that beauty is private.

Finally, people do not always disagree on what is beautiful. Disagreement is more likely regarding faces and works of art, for the reasons given above. The opposite is true of natural beauty. No one thinks sunsets are ugly or that tropical butterflies are painful to look at. There is universal agreement on the most obvious kinds of natural beauty. And even regarding the beauty of faces there is universal agreement about the most common principles: that a uniform complexion is preferable, that crossed eyes or thick facial hair on women is not beautiful.

REPLY 2. This reason sought to reduce beauty to custom. Both custom and temperament can be causes of visual delight, as said

above, but not every cause of visual delight is called beauty, only those pleasing qualities seen to be in the visible object. For instance, when I delight in my wife's appearance, I call her beautiful, not my eyes or the lamp in the room, even though these are also causes of my visual pleasure.

The cross-cultural agreement on such things as rainbows and tropical birds shows that these kinds of natural beauty are not derived from custom. The objection does not address these cases.

Further, many studies have shown cross-cultural agreement on facial beauty: "Agreements in facial aesthetic preferences were shown by Asian-American and Caucasian females; Chinese, Indian and English females judging Greek males; South African and American males and females; and blacks and whites judging males and females from both races."⁶⁸ This demonstrates that, though we generally prefer our own race, we are able to recognize beauty in other races as well. The face that a Black or Caucasian would select out of a thousand Asian female faces as the most beautiful, is the same one Asians are likely to prefer. The beauty of a face is not based on culture or race but on the intrinsic qualities in that face. Another study showed that two-month old infants preferred to look at female faces rated by adults as beautiful rather than ones rated as plain. A two-month old infant has not learned cultural standards yet and is merely reacting to the real beauty he perceives. The study concludes, "The results challenge the commonly held assumption that standards of attractiveness are learned through gradual exposure to the current cultural standard of beauty and are merely in the eye of the beholder."⁶⁹

⁶⁸ Michael R. Cunningham, "Measuring the Physical in Physical Attractiveness: Quasi-Experiments on the Sociobiology of Female Facial Beauty" *Journal of Personality and Social Psychology*, 1986 vol. 50, no. 5, 926.

⁶⁹ Judith H. Langlois, et al., "Infant Preferences for Attractive Faces: Rudiments of a Stereotype?" *Developmental Psychology* May 1987, vol. 23, no. 3, 363.

REPLY 3. The third reason argued that no object pleases everyone. But, as explained above, beauty is not the only cause of pleasure in seeing. Therefore, it does not follow that if an object of beauty is placed before someone, it will necessarily delight that person. One of the other causes of visual delight pertaining to the beholder might be lacking, if, for example, he is colorblind or otherwise unperceptive, or if he is too immature, or uneducated, or inexperienced to appreciate what he is looking at, or if he has an emotional prejudice against the object placed before him. There are persons in this world who would be bored in the *Louvre*. This does not prove that there is nothing beautiful in that museum. It means those persons have an underdeveloped sense of what is worth looking at.

REPLY 4. The fourth reason urged that some beauties are incomparable and that in some cases we cannot determine which of two beautiful things is the more beautiful. To say that beauty is in things does not require that all beautiful things be comparable. Quantity is clearly in things, and yet it is possible to find two quantities, such as a length and an area, that have no ratio between them. Even two quantities of the same species can be incommensurable. In the same way, it may well be that the beauty of a musical composition and that of a statue are incommensurable. Nor does anything prevent us from saying that beauty is truly in beautiful things, and yet refraining, in cases of subtle difference, from saying which of two beautiful things is the more beautiful. If most people were unable to perceive a minute difference in the length of two lines, no one would conclude that length is not in lines.

REPLY 5. The fifth reason contended that if beauty were in things the same thing would be beautiful and ugly at the same time because of the judgments of different persons. It often happens that people take pleasure in something they see, but it is not the appearance itself that delights them, except accidentally. A motorist who runs out of gas might be delighted

by the sight of a gas station, not because it is enjoyable to look at, but because it is useful to him. Again, sometimes we love to listen to a particular piece of music because it has some nostalgic value for us, by association with something else that is pleasant, even if the music itself no longer delights us and perhaps never did. Conversely, some things, though not painful in themselves, cause us pain because they bring to mind something unpleasant. A man might dread Christmas because his wife died on Christmas. He does not dread Christmas as such, but by association. Similarly, the beauty of a woman's face might repulse a man, if she is too much in love with her own beauty. But then it is not the beauty of her face as such which he finds disagreeable, but her vanity, which her facial beauty calls to mind.

Finally, something can be beautiful to one person, because it accords with something peculiar to that person, while not according with anything more common. For example, a man might like his own poetry simply because it is his, though the rest of the world has no interest in reading it. The passions make things seem greater than they are or less than they are because of their effect on the imagination. Hence, a man's love for a thing or a person enhances its beauty in his imagination and inclines him to overlook its defects.

Some or all of these things can be operative in cases like the woman who delights in looking at her child's face, though strangers see nothing attractive in it. Nothing prevents the child from being genuinely unattractive as judged by competent connoisseurs of the human face, but nevertheless agreeable to his mother, because he looks like her and is her child. There is a kinship and agreement between them which is peculiar to her, and therefore is not shared by others. Again, the child might be outwardly unattractive, but inwardly beautiful. This means that only those who know him personally will see his beauty, since it is not on his face, but in his soul. And he might have unattractive facial proportions, but beautiful

facial expressions, thus lacking one kind of outward beauty but possessing another.

Thus the reasons for denying that beauty is in things are faulty. But because of the intellectual customs of our age, these weak reasons easily pass for strong ones. A democratic age demands that all opinions be equal, so that the very notion of good taste is undermined. Over a century ago, Tocqueville wrote of America that "There is a general distaste for accepting any man's word as a proof of anything. So each man is narrowly shut up in himself, and from that basis makes the pretension to judge the world."⁷⁰

The Constituents of Beauty

Next we need to determine what it is in a beautiful thing that causes delight simply by being seen. Saint Thomas proposes three things: "Three items are required for beauty: first, *integrity* or perfection, for things that are lessened are ugly by this very fact; second, due *proportion* or harmony; and third, *brilliance*—thus, things that have a bright color are said to be beautiful."⁷¹ I will now verify by induction in natural things and in man-made things the necessity and sufficiency of these three constituents of beauty proposed by Saint Thomas. Integrity means that the object lacks no part that belongs to its species, for anything deficient or mutilated is not beautiful. This is obvious in the human face where even as little as a missing tooth mars beauty, to say nothing of a missing eye. Baldness, especially in women, harms beauty because it is a lack of something due. Also implied in this first constituent is that the object has nothing in it contrary to its nature, such as a face with scars, tumors, or a rash. Other names for integrity are wholeness, completeness, and perfection. Etymologically

⁷⁰ Alexis de Tocqueville, *Democracy in America* (Garden City, N.Y.: Doubleday, 1969), 430.

⁷¹ *Summa Theologica*, I, q. 39, a. 8, c. Trans. Vernon J. Bourke, *The Pocket Aquinas*, 263. My emphasis.

the word *perfect* means "completely made." An embryo cannot have the fullness of beauty of its species because it is not yet completely made. If integrity has especially rich content achieved through very economic means, it is given a special name, simplicity.

Simplicity is clearly a goal of the artist. Great works of art are generally recognized as fulfilling the exacting standard of nothing lacking, nothing extra. Painter Albrecht Dürer certainly has the principle of simplicity in mind when he advises artists, "There is a right mean between too much and too little; strive to hit upon this in all your works."⁷² Vincent Van Gogh praises the simplicity and economy of the Japanese watercolorists: "Their work is as simple as breathing. And they do a figure in a few strokes with the same ease as if it were as simple as buttoning your coat. Oh! I must manage some day to do a figure in a few strokes."⁷³ Johannes Brahms speaks of the difficulty of achieving simplicity in music: "It is not hard to compose, but it is wonderfully hard to let the superfluous notes fall under the table."⁷⁴ A fine painting expresses a wide range of experience in a simple way. As Matisse puts it, "I want to reach that state of condensation of sensations which constitutes a picture."⁷⁵

The second constituent of beauty is due proportion or harmony, which requires that all the parts be of the appropriate size and shape in relation to each other. A sketch of an attractive human face can be rendered ugly by making the nose too big, the eyes too close together, or otherwise interfering with the delicate balance of due proportions. Studies have isolated

⁷² Albrecht Dürer, in *Artists on Art*, Robert Goldwater and Marco Treves, eds. (New York: Pantheon, 1947), 82.

⁷³ Vincent Van Gogh, in Walter Sorell, *The Duality of Vision* (Indianapolis: Bobbs-Merrill, 1970), 137.

⁷⁴ Johannes Brahms, in Joseph Machlis, *The Enjoyment of Music* (New York: Norton, 1963), 177.

⁷⁵ Henri Matisse, in *Artists on Art*, Robert Goldwater and Marco Treves, eds. (New York: Pantheon, 1947), 411.

the characteristics that make a female face beautiful: large eyes, small nose, small chin, prominent cheekbones, large pupils, and wide smile, all of which are expressible in mathematical ratios.⁷⁶

Due proportion of parts results in a pleasing shape, so that form is connected to this second constituent of beauty, as is balance. Symmetry means equal opposition of parts and gives a satisfying sense of completion to the viewer. The right side of the human body is the mirror image of the left side. For each limb and digit there is an equal but opposite one on the other side, thus exhibiting unity in variety. Symmetry is a critical element in the beauty of a face. Saint Augustine writes "Shave off one eye brow and the loss to the mere mass of the body is insignificant. But what a blow to beauty! For beauty is not a matter of bulk but of the symmetry and proportion of the members."⁷⁷ Small shards of colored glass, uninteresting in themselves, become objects of fascination and delight in a kaleidoscope. This illustrates the power of symmetry: multiple reflection transforms what is dull and boring into an object of beauty. The symmetry found in buildings, butterflies, and flowers is part of their beauty.

Painter Albrecht Dürer remarks, "Without just proportion, no figure can be perfect, no matter how diligently it might be executed."⁷⁸ Eighteenth-century composer Christoph Gluck compares harmony in music to proportion in a drawn figure: "The slightest alteration in outline, that could in no way destroy the likeness in a caricature, can entirely disfigure the portrait of a lovely woman . . . and the greatest beauties of melody and harmony become defects and imperfections when

⁷⁶ "Measuring the Physical in Physical Attractiveness: Quasi-Experiments on the Sociobiology of Female Facial Beauty," *Journal of Personality and Social Psychology*, 1986. Vol. 50, no. 5, 928.

⁷⁷ Saint Augustine, *The City of God*, bk. XI, ch. 22 trans. Gerald Walsh et al., (Garden City, N.Y.: Doubleday & Co., 1958), 229.

⁷⁸ Albrecht Dürer, in Tartarkiewicz, *History of Aesthetics*. Vol. 3, 257.

used out of place."⁷⁹ Painters speak of friendships of certain colors and their natural harmonies. Matisse describes his goal in painting: "When I have found the relationship of all the tones, the result must be a living harmony of tones, a harmony not unlike that of a musical composition."⁸⁰

The third constituent of beauty is brilliance, with its equivalents or dependent notions of color, light, splendor, luster, and clarity. Color and clarity are critical to the beauty of diamonds, rubies, sapphires, and other gemstones. Clarity is a transparency through which light can travel unimpeded. What do we mean by a beautiful day? Certainly not one which is rainy or so foggy that one cannot see beyond twenty feet. To be beautiful a day must be bright, clear, and full of light. The stars are beautiful because they are scintillating points of pure light set off against the firmament, like brilliant jewels strewn on a black velvet cloth. A lovely face demands a healthy color and suffers loss of beauty if it becomes ashen with terror or jaundiced. Even a strikingly-proportionate and symmetrical face becomes scarcely recognizable if covered with green face paint.

"Light," says Edouard Manet, "is the principal personage of a painting."⁸¹ Leonardo da Vinci, in his handbook on painting, suggests sketching persons seated in the doorway of a dark house: "This manner of treating and intensifying light and shadow adds much to the beauty of faces."⁸² Light takes on a special splendor when divided into colors. One reason the impressionist paintings of the late nineteenth century are admired is that they emphasize the special beauty of light and color. In music, the clarity of a sound is an undeniable element of its beauty. "Timbre in music," writes composer

⁷⁹ Christoph Gluck, *Composers on Music*, ed. Sam Morgenstern (New York: Bonzana Books, 1956), 66.

⁸⁰ Henri Matisse, in *Artists on Art*, 411, 412.

⁸¹ Edouard Manet, quoted by Pierre Schneider, *The World of Manet* (New York: Time-Life Books, 1968), 104.

⁸² Leonardo da Vinci, in *Artists on Art*, 53.

Aaron Copland, "is analogous to color in painting."⁸³ Timbre or tone color is the quality of sound that enables the ear to distinguish a flute from a trumpet, even when each plays the same note. In the nineteenth century, composers began to use tone color to produce a musical brilliance similar to the visual brilliance of impressionist paintings. Rimsky-Korsakov comments on "the age of brilliance and imaginative quality in orchestral tone-coloring. Berlioz, Glinka, Liszt, Wagner . . . and others have brought this side of musical art to its zenith; they have eclipsed, as colorists, their predecessors."⁸⁴

Saint Thomas' three-fold distinction of the constituents of beauty rebuts the accusation that talk of beauty is mere emotional gushing with no content. The three constituents also explain how there can be differences of degree in the beauty of two things the same in kind. For integrity, proportion, and brilliance admit of more and less. All three are required for a thing to reach the fullest beauty of its species. If one is found in isolation from the rest, the beauty will be of a lesser kind, as when we speak of a beautiful color. The three are ordered such that proportion builds on integrity, and brilliance builds on both of them, in a way similar to how substance, quantity, and quality are ordered.

Finally, the three constituents powerfully reinforce the conclusion drawn above that beauty is in things. Integrity is undeniably in things and its presence or absence makes the difference between beauty and ugliness in the object. A beautiful object is perfect in some degree and its perfection is visible. In contrast with the terms *cute* and *pretty*, the word *beautiful* is used to designate "extreme physical attractiveness and loveliness; a perfect combination of characteristics pleasurable to see."⁸⁵ But perfection is clearly in the object that it perfects. And it is precisely because the object is perfect that it pleases

⁸³ Aaron Copland, *What to Listen for in Music* (New York: McGraw-Hill, 1957), 78.

⁸⁴ Nicolai Rimsky-Korsakov, in *Composers on Music*, 275.

⁸⁵ *Webster's Third International Dictionary of the English Language* (Springfield, Mass.: G. & C. Merriam Co., 1976), 194.

when seen. Proportion and symmetry are part of the structure of the objects in which they are found. As for harmony of sounds, physics demonstrates that two notes will harmonize or be discordant depending on the overtones in each note.⁸⁶ Brilliance of color is one reason why many natural things are beautiful, and their colors are perceived to be in them.

If beauty were not in things, we would never be able to point to features in objects, observable by others, that are the reason why we call them beautiful. Since we can do this, it follows that beauty is in things. We have reached, then, an essential definition of beauty that corresponds to and completes the nominal definition given above. To perceive beauty is to receive into oneself from the object some kind of excellence that delights.

Intelligible Beauty

It is natural for the first meaning of a word, though most known to us, to exemplify the notion more superficially than subsequent meanings. For instance, the word *grasp* first designates a certain act of the hand, and then is extended, because of a likeness, to the act of understanding. Yet the latter is certainly a more profound kind of grasping. The hand can do no more than wrap itself around the surface of an object and hold it firmly. The mind grasps what things are and why they are. The same holds for sensory and intelligible beauty.⁸⁷ For example, we speak of the outer and inner beauty of a person, a distinction familiar to everyone. The beauty of character is not perceived by the senses, yet it is far more profound than the beauty of appearance, which is taken in at a glance. The wise know this well, but not those men who live by appearance and passion. Confucius once said, "I have never seen a man

⁸⁶ Joseph Kane and Morton Sternheim, *Physics* (New York: John Wiley & Sons, 1988), 511-14.

⁸⁷ This distinction does not imply that sensory beauty is unintelligible, for it also is understood by the mind.

who loves virtue as much as he loves a woman's beauty."⁸⁸ A parallel but loftier point is attributed to Plato: if the beauty of virtue were visible to the eye, it would draw the whole world after it.⁸⁹ Saint Augustine completes the thought, "Beauty is indeed a good gift of God; but that the good may not think it a great good, God dispenses it even to the wicked."⁹⁰

Each virtue exhibits its own beauty and each virtuous act its own splendor. Spiritual beauty is far superior to bodily beauty. Yet there is a greater beauty still. For, as Saint Thomas observes, "Beauty is in the moral virtues by participation, in so far as they participate in the order of reason." But "since the contemplative life consists in an act of reason, there is beauty in it by its very nature and essence."⁹¹ Beauty is what pleases when seen. But the word *see* has several ordered meanings. It first refers to the act of the eye; then it is extended to the act of the imagination, as when we say something like, "I can just see him running a marathon." Finally, the word *see* names the act of understanding, as when we say, "Do you see what this editorial implies?" The understanding sees more things and sees them more perfectly than does the eye or the imagination. Therefore, beauty is found most fully and perfectly in the life of the mind. For instance, a superb essay exhibits the three constituents discussed above. If it has everything it needs to accomplish its purpose and nothing superfluous, it has integrity. If none of its sections are of undue length, it has proportion. And if it has great clarity and sheds light on many things, it has brilliance. These constituents comprise an intelligible beauty not perceived by the senses at all.

⁸⁸ Confucius, *Analects*, IX-17, XV-12, in *The Humanist Way in China: Essential Works of Confucianism*, ed. Ch'u Chai, trans. Winberg Chai (New York: Bantam Books, 1965), 30.

⁸⁹ See Plato, *Symposium*, 211D and following.

⁹⁰ Saint Augustine, *City of God*, bk. 15, ch. 22 in *Basic Writings of Saint Augustine*, ed. Whitney J. Oates (New York: Random House, 1948), 306.

⁹¹ *Summa Theologica*, II-II, q. 180, a. 2, ad 3.

In the same way a perfect definition must hold true for all instances but not apply to anything outside the species defined (integrity); it must reconcile apparent inconsistencies (harmony); and it should manifest the cause for the various properties of the thing defined (brilliance). "And thus each thing is most beautifully defined," say Saint Thomas and Aristotle.⁹²

Intelligible beauty is found most of all in the speculative sciences: mathematics, natural science, and metaphysics. The word *speculative* comes from Latin *speculare* which means "to look at." The speculative sciences study universal truths worth looking at for their own sake. Such things are of the greatest intelligible beauty and satisfy the mind quite apart from any application or utility they might have. Aristotle speaks of the beauty found in mathematics:

Those who assert that the mathematical sciences say nothing of the beautiful or the good are in error. For these sciences say and prove a great deal about them; if they do not expressly mention them, but prove attributes which are their results or their definitions, it is not true to say that they tell us nothing about them. The chief forms of beauty are order and symmetry and definiteness, which the mathematical sciences demonstrate in a special degree. And since these (e.g. order and definiteness) are obviously causes of many things, evidently these sciences must treat this sort of causative principle also (i.e. the beautiful) as in some sense a cause.⁹³

The uninitiated must take the beauty of mathematics on the authority of the practitioners. Here is the testimony of five eminent mathematicians that beauty motivates and inspires their work. "Beauty is the first test," writes mathematician G. H. Hardy, "there is no permanent place in the

⁹² Aquinas, *IV Physic.*, in *In Octos Libros Physicorum Aristotelis Expositio*, L. IV, l. 5, no. 447 (Rome: Marietti, 1954), 221. My translation.

⁹³ *Metaphysics*, XIII, ch. 3, 893.

world for ugly mathematics.”⁹⁴ S. M. Ulam elaborates: “The aesthetic side of mathematics has been of overwhelming importance throughout its growth. It is not so much whether a theorem is useful that matters, but how elegant it is. Few non-mathematicians, even among other scientists, can fully appreciate the aesthetic value of mathematics, but for the practitioners it is undeniable.”⁹⁵ Bertrand Russell says, “Mathematics, rightly viewed, possesses not only truth, but supreme beauty—a beauty cold and austere, like that of sculpture, without appeal to any part of our weaker nature . . . yet sublimely pure.”⁹⁶ Henri Poincaré observes that mathematicians “admire the delicate harmony of numbers and forms; they marvel when a new discovery opens to them an unexpected perspective; and has not the joy they then feel the aesthetic character, even though the senses take no part therein?”⁹⁷ In a journal article exploring the nature of mathematical beauty, Gian-Carlo Rota writes, “The beauty of a piece of mathematics does not consist merely in subjective feelings experienced by an observing mathematician. The beauty of a theorem is a property of the theorem, on a par with its truth or falsehood.”⁹⁸ Euclid’s proof⁹⁹ that there is an unlimited multitude of prime numbers, for example, is regarded by mathematicians as beautiful. It has simplicity in establishing a very significant conclusion with great economy of means, taking up only half a page to accomplish the task. The clarity of the proof is such that even nonspecialists can follow it.

⁹⁴ G. H. Hardy, *A Mathematician’s Apology* (Cambridge: Cambridge University Press, 1969), 85.

⁹⁵ Stanislaw M. Ulam, *Adventures of a Mathematician* (New York: Charles Scribner’s Sons, 1976), 274.

⁹⁶ Bertrand Russell, *Mysticism and Logic* (Garden City, N.Y.: Doubleday Anchor, 1957), 57.

⁹⁷ Henri Poincaré, *The Value of Science* (New York: Dover, 1958), 76.

⁹⁸ Gian-Carlo Rota, “The Phenomenology of Mathematical Beauty” *Synthese* May 97; 111(2), 175.

⁹⁹ *Euclid’s Elements*, bk. IX, Proposition 20.

The Primacy of Beauty in Modern Physics

All of the most eminent physicists of the twentieth century agree that intelligible beauty is the primary standard for scientific truth. Physicist Richard Feynman says that in science “you can recognize truth by its beauty and simplicity.”¹⁰⁰ Werner Heisenberg declares that beauty “in exact science, no less than in the arts . . . is the most important source of illumination and clarity.”¹⁰¹ Mathematician and physicist Henri Poincaré remarks, “If nature were not beautiful, it would not be worth studying.”¹⁰²

By looking to beauty the great theoretical physicists of our age have made major discoveries. Concerning quantum mechanics in which he pioneered, Heisenberg observes that it was “immediately found convincing by virtue of its completeness and abstract beauty.”¹⁰³ General relativity is considered by physicists as probably the most beautiful of all existing physical theories.¹⁰⁴ Erwin Schrodinger gives it this tribute: “Einstein’s marvelous theory of gravitation . . . could only be discovered by a genius with a strong feeling for the simplicity and beauty of ideas.”¹⁰⁵ And Einstein himself referred to its intelligible beauty at the end of his first paper on gravitation: “Scarcely anyone who fully understands this theory can escape its magic.”¹⁰⁶ James Watson in his book, *The Double*

¹⁰⁰ Richard Feynman, *The Character of Physical Law* (Cambridge: M.I.T. Press, 1965), 171.

¹⁰¹ Werner Heisenberg, “The Meaning of Beauty in the Exact Sciences,” in *Across the Frontier* (New York: Harper & Row, 1974), 183.

¹⁰² Henri Poincaré, *The Value of Science* (New York: Dover, 1958), 8.

¹⁰³ Heisenberg, op. cit., 167.

¹⁰⁴ “Einstein’s theories of special and general relativity are unanimously praised by scientists for their extraordinary beauty.” Gideon Engler, “Einstein and the most beautiful theories in physics,” *International Studies in the Philosophy of Science*, vol. 16, 1, 2002, 27.

¹⁰⁵ Erwin Schrodinger, *Nature and the Greeks* (Cambridge: Cambridge University Press, 1954), 23.

¹⁰⁶ Albert Einstein, quoted by S. Chandrasekhar, “Beauty and the Quest for Beauty in Science,” *Physics Today* 32 (July, 1979), 26.

Helix, mentions how beauty guided the discovery of DNA's molecular makeup: "Almost everyone . . . accepted the fact that the structure was too pretty not to be there."¹⁰⁷ Speaking of his work in genetics, Matthew Scott says, "It's a nice feeling to work on something that at its fundamental level is very beautiful."¹⁰⁸

Very often the intelligible beauty of a theory helps to expose erroneous data. Physicist Murray Gell-Mann explains: "When you have something simple that agrees with all the rest of physics and really seems to explain what's going on, a few experimental data against it are no objection whatever. Almost certain to be wrong."¹⁰⁹ Remarkably, the three requirements Gell-Mann mentions here are the three constituents of beauty distinguished by Saint Thomas seven centuries ago: simplicity, harmony, brilliance.

A good example of simplicity in physical theory is the vast array of phenomena—comets, planetary motion, projectiles, machines—explained by Newton's three brief laws of motion. Poincaré says, "We seek by preference simple facts and vast facts,"¹¹⁰ the same exacting standard as for great works of art. Physicist John A. Wheeler writes that "Every law of physics goes back to some symmetry of nature."¹¹¹ Symmetry means equal opposite parts. Newton's third law shows it wonderfully, "To every action there is always opposed an equal reaction."¹¹² Symmetry is found among subatomic particles,

¹⁰⁷ James Watson, *The Double Helix* (New York: Mentor, 1968), 131, 134.

¹⁰⁸ Matthew Scott, quoted by Terence Monmaney, "Life Taking Shape: A Developing View," *Science* 85, 6 (Sept. 1985), 15.

¹⁰⁹ Murray Gell-Mann, quoted by Horace F. Judson, *Search for Solutions* (New York: Holt, Rinehart & Winston, 1980), 22.

¹¹⁰ Henri Poincaré, *Science et Methode* (Paris: Flammarion, 1949), 16. My translation.

¹¹¹ John A. Wheeler, "The Universe as a Home for Man," *American Scientist* 62 (Nov.-Dec. 1974), 688.

¹¹² Isaac Newton, "Axioms or Laws of Motion," Law III, in *Newton's Philosophy of Nature*, ed. H. S. Thayer, (New York: Hafner Press, 1974), 26.

each having another equal to it in mass but with opposite characteristics. A theory is brilliant if it has great clarity in itself and sheds light on many other things, suggesting new experiments, and connecting things previously thought to be unrelated. General relativity has proven extraordinarily brilliant, shedding its light on cosmology and the fate of the universe.

It is clear that the beauty sought by physics is not private or idiosyncratic. The standards are intellectual, exacting, and the same for everyone. Eminent physicists agree that the beauty they discover is in nature and not merely in the mind of the beholder. Newton ascribes to nature the first constituent of beauty: "Nature is pleased with simplicity."¹¹³ Max Born concurs, "The genuine physicist believes obstinately in the simplicity and unity of nature, despite any appearance to the contrary."¹¹⁴ And Heisenberg insists that "the simplicity of natural laws has an objective character, . . . it is not just the result of thought economy."¹¹⁵

If intelligible beauty were not in natural things, then beauty could never serve as a guide for discovering the truth in natural science. But beauty is an indispensable guide for discovering and judging the truth in natural science. Therefore, intelligible beauty is in natural things. Not only the philosopher and the artist investigate beauty but also the scientist.

Does Nature Aim at the Beauty of Animals?

At first glance it might seem that nature does not aim at beauty because she produces many ugly individuals and species. In most classes of animals some species are beautiful and others ugly. The eagle is undeniably a noble-looking bird, but the vulture is not. Tropical butterflies are gorgeous to behold,

¹¹³ Isaac Newton, "Rules of Reasoning," *Principia*, trans. Florian Cajori. (Berkeley: University of California Press, 1944), 399.

¹¹⁴ Max Born, *The Restless Universe*, (New York: Dover, 1951), 54.

¹¹⁵ Werner Heisenberg, *Physics and Beyond*, (New York: Harper & Row, 1972), 68-69.

but the Common House Centipede (*Scutigera coleoptrata*) is unmistakably hideous. The Bengal Tiger is a beautiful beast but the wart hog is grotesque. Yet what is more surprising, ugly animals seem to possess constituents of beauty. A normal centipede has all the organs that belong to its species and none extra. All its parts are in proper proportion to each other. How can it be ugly despite these constituents? Some animals are ugly in certain individuals only while other animals are ugly in species. Even the most splendid specimen of tapeworm has no beauty to charm the eye.

To solve this difficulty we need only to consider human artifacts. It would be absurd, for example, to attempt to design and manufacture a glamorous crescent wrench. The requirements of utility dominate the tool. One should aim at making it efficient and useful.¹¹⁶ There is much more room for incorporating beauty into the design of a sword or a vase, and even more room in the design of an automobile or a house. Beauty is not, however, a concern in the manufacture of a military vehicle. In the same way, the design of certain animals allows nature great amplitude for ornament, grace, and eye appeal. Others are dominated by the utilitarian needs of making a certain kind of livelihood and, in consequence, have little or no room for beauty. If you must make your living by breaking open ant hills and licking up the inhabitants with a long, sticky tongue, there is good reason to have an enormous snout, but as a consequence, beauty must be sacrificed. Behold the Great Anteater. If your body must be extremely flat, long, and narrow, and you must move about very quickly to find food and avoid predators, then many long, jointed legs will be indispensable, but at the cost of eye appeal. Thus the centipede. Nature has good taste and a sense of the dignity or lack thereof in each of her creatures. She neither dresses up the leech nor dresses down the lion. In these matters nature acts like a wise craftsman. Saint Thomas points out,

¹¹⁶ "Exact adaptation to a purpose" is another meaning of the word *beautiful*. *Oxford English Dictionary*, vol. 2, 37.

Every craftsman intends to put the best disposition into his work—not the best absolutely, but the best in relation to his aim. And if such a disposition involves some lack, the craftsman does not concern himself. If, for instance, a craftsman is making a saw for cutting, he makes it from iron so that it will be suitable for cutting. He does not think to make it out of glass which is a more beautiful material because such beauty entails an impediment to the aim.¹¹⁷

There are thus two ways to consider the constituents of beauty: relative to a given species only, and absolutely. As stated above, a healthy centipede has integrity and proportion if we consider only what is appropriate to its species. Absolutely speaking, however, its body design precludes certain features critical for beauty. It has a ridiculously disproportionate number of legs, not for a centipede, but for a beautiful animal. Contrast the simplicity of the legs of a horse, an animal of Homeric stature. No one is repulsed by the legs of a horse. The face of an animal is also of great import for its beauty. The centipede's face is minute and devoid of lovely features. Contrast the noble face of the cheetah. The parts of a centipede are suited to make it function well. But it lacks the proportions that make for a beautiful living thing. A luxurious coat of fur gives nature much potential for beauty, as seen in zebras, tigers, giraffes, and many other species. Restricted by its exoskeleton, the centipede does not have this opportunity for beauty, not because it lacks anything it needs to live and thrive, but because it is a lower animal. Nature reserves regal attire for royalty. Not only can we make a judgment about whether a particular animal has all the parts it is supposed to have but we can also judge how its species stands in the hierarchy of beauty among natural things. Some species, hamsters for example, because of their diminutive size, are limited to cuteness, a restricted form of beauty.

Aristotle concedes that certain of the lower animals are repugnant to sight but insists that all have intelligible beauty.

¹¹⁷ *Summa Theologica*, I, q. 39, a. 8. My translation.

We proceed to treat of animals, without omitting, to the best of our ability, any member of the kingdom, however ignoble. For if some have no graces to charm the sense, yet even these, by disclosing to intellectual perception the artistic spirit that designed them, give immense pleasure to all who can trace links of causation, and are inclined to philosophy . . . So we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful. Absence of haphazard and conduciveness of everything to an end are to be found in Nature's works in the highest degree, and the resultant end of her generations and combinations is a form of the beautiful.¹¹⁸

Saint Augustine makes a similar point, arguing that though the internal organs of the human body have no beauty for the eye, still, understanding their exquisite fitness gives profound satisfaction to the mind.¹¹⁹ It is interesting to note that nature hides the necessary but unattractive parts from view just like designers who hide the "guts" of an automobile under the hood, or contractors who put the plumbing and wiring of a house inside the walls or under the floor.

By What Faculty is Beauty Perceived?

Is beauty perceived by man alone or also by other animals? Saint Thomas teaches that "the senses are given to man, not only for the purpose of procuring the necessities of life, for which they are bestowed on the other animals, but also for the purpose of knowledge. Hence, whereas the other animals take delight in the objects of the senses only as ordered to food and sex, man alone takes pleasure in the beauty of sensible objects for its own sake."¹²⁰ A lion may delight when it hears

¹¹⁸ Aristotle, *On the Parts of Animals*, I, ch. 5, 656-57.

¹¹⁹ Saint Augustine, *The City of God*, trans. Marcus Dods, (New York: The Modern Library, 1993), 853.

¹²⁰ *Summa Theologica*, I, q. 91, a. 3, ad 3.

the voice of some animal, but only because it wants to eat that animal. Man experiences delight in the senses not connected to food, as when he is pleased by hearing harmonious sounds. This pleasure is not connected with utility.¹²¹

It is unique to reason to know order. Saint Thomas explains, "Even if the sensitive powers know some things absolutely, nevertheless to know the order of one thing to another is exclusively the work of intellect or reason."¹²² The ear alone cannot judge that it is inappropriate for a tuba instead of an oboe to play the solo in *Swan Lake*. None of the constituents of human facial beauty is comprehended by the eye alone, for each requires a judgment as to what is appropriate and what is not. To say a particular face has all the parts it is supposed to have and nothing extra, presupposes a knowledge of what is essential and what is accidental to the human face. Only the intellect can make such judgments. Likewise proportion requires a judgment about whether this nose is too big, too small, or just right for this face. The same holds for knowing that a certain healthy color is fitting for a human face. The eye alone cannot make any of these judgments or comparisons. Sight does perceive the parts of the face, along with shapes, sizes, and colors. But sight does not perceive beauty except accidentally.¹²³ The eye and the ear are ministers of reason, the principal agent that alone comprehends beauty as such. In a similar way, we cannot say, without qualification, that we read with our eyes. If the eye alone could read, then we would be able to read languages without ever having learned them and animals could read. In reading, the eyes are the instruments of the primary agent, the mind.

Consequently, animals do not perceive even sensory beauty, much less intelligible beauty. Darwin's inference that female

¹²¹ *Summa Theologica*, II-II, q. 141, a. 4, ad 3.

¹²² *In Ethicorum*, I, L. 1, trans. C. I. Litzinger (Chicago: Henry Regnery, 1964), 6. See also II-II, q. 58, a. 4.

¹²³ For an explanation of how the external senses perceive certain objects accidentally, see *De Anima*, II, ch. 6 and Saint Thomas' commentary.

birds must have a sense of beauty is faulty. The India Blue Peacock is one of the most spectacular and beautiful birds in the world. One of its mutations, the White Peacock, is significantly less beautiful, its feathers being only white. Females, however, show no breeding preference for one over the other.¹²⁴ Moreover, animals do not ornament themselves. If animals are decorated or clothed, it is because of human intervention.¹²⁵

So in defining beauty as what pleases the eye, we must specify the eye of man. Other animals have no sense of beauty, even their own. The black panther does not perceive its own magnificence. "The cat and the deer," remarks Emerson, "cannot move or sit inelegantly."¹²⁶ But neither is aware of its grace. This means the beauty of natural things exists, at least in part, for the benefit of man, though it also manifests God's power, wisdom, and goodness. Critic Denis Donoghue writes, "When we find a scene in nature beautiful . . . we feel that nature has produced this beauty in our favor. Nature has given a sign that we are the ultimate goal of creation."¹²⁷ Epictetus writes, "God introduced man to be a spectator of God and of his works; and not only a spectator of them, but an interpreter."¹²⁸ Saint Augustine observes, "Material things . . . help to make the pattern of this visible world so beautiful. It is as though, in compensation for their own incapacity to know, they wanted to become known by us."¹²⁹ An anony-

¹²⁴ Thomas Rakos, peacock breeder, Anaheim, California. Personal communication.

¹²⁵ Saint Thomas explains that Aristotle's tenth category, *habitus*, applies only to man. (*In Physicorum*, III, L. 5, no. 322.)

¹²⁶ Ralph Waldo Emerson, *The Conduct of Life*, VIII Beauty, in *Ralph Waldo Emerson Essays and Lectures*, (New York: The Library of America, 1983), 1104.

¹²⁷ Denis Donoghue, *Speaking of Beauty* (New Haven, Conn.: Yale University Press, 2003), 72.

¹²⁸ Epictetus, "The Discourses," *The Works of Epictetus*, trans. Thomas Higginson (New York: Nelson, 1890), 24.

¹²⁹ Augustine, *The City of God*, trans. G. Walsh, *et al.*, (Garden City, N.Y.: Doubleday, 1950), 237-38.

mous Zen poet¹³⁰ around A.D. 700 captured the thought in a single, beautiful image:

The wild geese do not intend to cast their reflection;
The water has no mind to receive their image.

Beauty as a Path to God

Can the mechanisms of nature account for the beauty of snowflakes, gem stones, or rainbows, or sunsets? The beauty of these inanimate things follows by necessity from the laws of physics and chemistry, which are themselves beautiful, as we saw above from the testimony of physicists. Given those laws of nature, an ugly universe could never ensue. The beauty of inanimate things is built right into the machinery of nature. To draw an analogy, one might construct a completely mechanized automobile factory that produced beautiful vehicles. One could build the resulting beauty of design and color right into the machinery. But beauty in an automobile does not thereby become an absolute necessity. Ugly vehicles could still transport passengers efficiently, and machines could be invented to produce them. In the same way, no absolute necessity requires nature's physical laws to incorporate simplicity and symmetry in the first place. Some other universe with asymmetrical, needlessly complex laws could conceivably produce ugly snowflakes by mechanical necessity. Beauty is gratuitous. All of nature could have been like a black and white film. The rain would still fall, the sun would still set, black and white butterflies would still flutter from one gray flower to another. Everything would still function, even if dull and unattractive. But what an impoverishment!

Necessity, then, yields no ultimate explanation of the beauty found in nonliving things. Neither can it account for the beauty found in plants and animals. Biologist Adolf Port-

¹³⁰ From *Zenrin Kushu*, an anthology of over five thousand two-line poems, compiled by Toyo Eichō (1429-1504); see Alan W. Watts, *The Way of Zen* (New York: Random House, 1957), 117 and 181.

mann, an authority on the shapes and markings of living things, points to many features incomprehensible in terms of necessity. Leaves are necessary for a tree to produce its food, Portmann observes, "yet how much in the shape and outline of a leaf is not adaptation to environment but pure self-representation." The requirements of photosynthesis explain why a tree has leaves at all but not why a maple leaf is different from an oak leaf.¹³¹ The same holds for animals. Portmann remarks, "For a long time, feathers were thought to play no other role than to facilitate heat regulation and flight. However, we must now introduce a third role: self-expression, for there are many feathers whose external structure is predominantly ornamental,"¹³² just like the neck tie.

The human body also demonstrates that necessity cannot account for beauty. The human voice, for example, is more versatile and expressive than any musical instrument. That it is able to produce beautiful sounds is not demanded by necessity; a dull monotone or a raucous screech would have sufficed to call for help or to communicate physical needs. Darwin recognized that necessity cannot explain man's musical endowments: "As neither the enjoyment nor the capacity of producing musical notes are faculties of the least use to man in reference to his daily habits of life, they must be ranked amongst the most mysterious with which he is endowed."¹³³ Necessity might explain why a bird call is important to another bird, but not why it is beautiful to a man. By the same token, why should a leopard be beautiful to a man? Why a thistle?

But if the beauty of natural things cannot be explained by necessity, then perhaps it is the product of chance. If so, beauty would be rare. But, on the contrary, nature abounds with beauty. Physicist David Bohm writes, "Almost anything to

be found in nature exhibits some kind of beauty both in immediate perception and in intellectual analysis."¹³⁴ Every level of investigation discloses new worlds of beauty in nature. For instance, a whole field of grass exhibits beauty as it yields and undulates in the wind. On a smaller scale the simple elegance of a clump of grass is immortalized in many Japanese watercolors. Smaller yet, the microscope reveals the hidden geometry of cell structure in a single blade. Photographs of plant parts taken through microscopes and scanning-electron microscopes are found in art galleries and museums because of their stunning beauty. Within the living cell, x-rays manifest the structure of the DNA molecule, the template of life, which James Watson calls beautiful. And finally, the atomic components of the DNA molecule itself are understood in terms of mathematical equations which possess an intelligible beauty according to physicists.

Thus the painter, the biologist, the chemist, and the physicist all encounter the beauty of grass at different levels. Nature's beauty is not skin-deep; it penetrates the marrow. In all natural things, living and nonliving, and at every level within each thing, from grassy plain to electron, proton, and neutron, beauty saturates nature. Such abundant beauty of so many kinds and at so many levels could never come from chance. Physicist Henry Margenau concludes that nature's beauty is not reducible either to chance or necessity:

We do not believe that beauty is only in the eye of the beholder. There are objective features underlying at least some experiences of beauty, such as the frequency ratios of the notes of a major chord, symmetry of geometric forms, or the aesthetic appeal of juxtaposed complementary colors. None of these has survival value, but all are prevalent in nature in a measure hardly compatible with chance. We marvel at the song of the birds, the color scheme of flowers (do insects have a sense of aesthetics?), of birds' feathers, and at the incomparable beauty of a fallen maple leaf, its

¹³¹ Adolf Portmann, *New Pathways in Biology* (New York: Harper & Row, 1964), 101.

¹³² *Ibid.*, 102.

¹³³ Charles Darwin, *The Origin of Species and The Descent of Man* (New York: Modern Library, 1958), 878.

¹³⁴ David Bohm, in C. H. Waddington, *Towards a Theoretical Biology* (Chicago: Aldine, 1969), 50.

deep red coloring, its blue veins, and its golden edges. Are these qualities useful for survival when the leaf is about to decay?¹³⁵

If neither chance nor necessity can explain the beauty of natural things, there must be a third alternative. Whenever a cause acts by necessity, there is a reason why it acts, but it is not open to alternatives. Chance, on the other hand, is open to alternatives, but there is no reason why one occurs rather than another. Necessity is rigid and chance is irrational. The middle ground between these two extremes is a cause open to alternatives but with a reason why one occurs rather than another. Is there anything in our experience that operates in such a manner? Clearly there is—our own minds.

Consider a craftsman fashioning a bread knife for his own use. The knife will have a blade by necessity, since it could not cut bread without one. But we cannot attribute to necessity the ornate, inlaid design of the handle, since a knife can cut perfectly well with no decoration at all. The craftsman chooses freely to embellish his work with ornament. He can add the decoration or leave it out. And if he adds it, he has an unlimited variety of designs to choose from. The knife's ornament is thus open to alternatives and yet has a reason for being there: the artist wants not only a useful knife but a beautiful one. The decoration is produced neither by chance, nor by necessity, but by an act of free choice. A mind choosing freely, then, is the middle ground between chance and necessity.

In the same way, since beauty is so abundant in nature, it cannot arise from chance; there must be some reason for it. But that reason must be open to alternatives, since there is no absolute necessity that animals, plants, and nonliving things exhibit beauty in the first place. Therefore, the beauty found in nature proceeds from a cause not bound by necessity and yet with a reason for acting. Such a cause is a mind. There-

¹³⁵ Henry Margenau, *The Miracle of Existence* (Woodbridge, Conn.: Ox Bow Press, 1984), 29-30.

fore, a mind is responsible for the beauty of natural things. That mind, standing behind nature and directing it to beauty, all men call God.¹³⁶

Some of the poets have intuited that there is a Mind behind the beauty of nature. Thoreau writes, "We are rained and snowed on with gems. What a world we live in! Where are the jeweler's shops? There is nothing handsomer than a snowflake and dewdrop. I may say that the maker of the world exhausts his skill with each snowflake and dewdrop he sends down. We think that the one mechanically coheres and that the other simply flows together and falls, but in truth they are the product of *enthusiasm*, the children of an ecstasy, finished with the artist's utmost skill."¹³⁷ We perceive the divine in the snowflake, in the rosy-fingered dawn, in the field of grass; beauty's majesty and glory bear the unmistakable signature of God. "Beauty alone," says Thomas Mann, "is both divine and visible."¹³⁸ Emerson remarks, "Never lose an opportunity of seeing anything that is beautiful; for beauty is God's handwriting—a wayside sacrament. Welcome it in every fair face, in every fair sky, in every fair flower, and thank God for it as a cup of blessing."¹³⁹ Elizabeth Barrett

¹³⁶ This argument is a special case of Saint Thomas' second way of proving God, through the agent cause. It also shares something in common with the fifth way that concludes to a Mind behind nature. Aristotle implies that only mind, not necessity or chance, accounts for the beauty of natural things (*Metaphysics*, I, ch. 3, 984b 8-22).

¹³⁷ Henry David Thoreau, *Thoreau on Man and Nature*, ed. Arthur Volkman (Mount Vernon, N.Y.: Peter Pauper Press, 1960), 6.

¹³⁸ Thomas Mann, *Death in Venice and Seven Other Stories* (New York: Vintage, 1954), 72.

¹³⁹ Ralph Waldo Emerson, quoted in *The New Dictionary of Thoughts* (London & New York: Classic Publishing, 1936), 41. One need not be a devotee of Emerson's poetry, or embrace his Unitarianism or transcendentalist leanings to draw benefit from his remarks on beauty. He is one of the few moderns to take beauty seriously and to discuss in some detail every man's experience of it. This is an invaluable aid. Too many others dismiss beauty or explain it away. The same holds for the other poets cited here.

Browning¹⁴⁰ expresses the sentiment in two brief lines:

God Himself is the best Poet,
And the Real is His song.

Thales of Miletus, the first of the Greek philosophers, said, "Of all things that are . . . the most beautiful is the universe, for it is God's workmanship."¹⁴¹ As the poets intimate and the philosophers demonstrate, the loveliness and charm of a gazelle or an orchid are stepping stones to the loftiest and most exalted beauty of nature's Author.

The Beauty of God

Giordano Bruno held that "God does not have beauty in himself, since he does not have ordered composition, and this because he has no parts."¹⁴² But it is impossible that God not be the most beautiful of all things. The book of Wisdom comments on the error of men who, seeing the beauty of natural things, turned them into gods: "Let them know how much the Lord of them is more beautiful than they: for the first author of beauty made all those things."¹⁴³ *Beauty* and *Beautiful* are among the names of God.¹⁴⁴ Scripture calls God a *rock* metaphorically, but calls Him *beautiful* literally. And while many terms such as *body*, *limited*, and *changeable* are denied of God, beauty is said of God affirmatively. Any excellence found in creatures that does not imply a defect is found in God most

¹⁴⁰ Elizabeth Barrett Browning, "The Dead Pan," in *The Complete Works of Elizabeth Barrett Browning*, ed. Charlotte Porter and Helen A. Clarke (New York: Crowell, 1900), III, 157.

¹⁴¹ Quoted by Diogenes Laertius, *Lives of Eminent Philosophers* (Cambridge: Harvard University Press, 1925), I, 37.

¹⁴² Giordano Bruno, (*De Vinculis in genere*, III, 643 (ed. 1879-1891), quoted by Wladyslaw Tartarkiewicz, *History of Aesthetics*, ed. D. Petsch, (The Hague: Mouton, 1974), vol. 2, 295. My translation.

¹⁴³ Wisdom 13:5

¹⁴⁴ Dionysius the Areopagite, *The Divine Names*, trans. Editors of the Shrine of Wisdom (London: Unwin Bros. Ltd., 1957), 34.

fully and perfectly.¹⁴⁵ In this way *wise* and *good* are said of God in a preeminent manner.¹⁴⁶ The reason for this is that the first agent cause pre-contains the perfections of all other things in a much more perfect way.¹⁴⁷ The perfections of creatures "pre-exist in God unitedly and simply, whereas in creatures they are received, divided and multiplied."¹⁴⁸ Because God desires to share his beauty with creatures, the divine beauty is the exemplar, the efficient cause, and the final cause of all things.¹⁴⁹

God's beauty is superior to that of creatures in many ways. For example, moral beauty does not belong to a man by nature but must be acquired. God's beauty is not acquired but pertains to His essence. Beautiful material things eventually lose their beauty. A rose fades, the Parthenon falls into ruins, the loveliness of a face declines with the advancing years. Because God is immutable his beauty never diminishes. God is beautiful by His very nature, whereas creatures have some degree of beauty only by participation in divine beauty.¹⁵⁰

Further, the three constituents of beauty are verified of God in the highest manner. God has the greatest possible simplicity. Saint Thomas proves there is no composition whatsoever in God.¹⁵¹ This means that the divine essence has greater economy than any other possible thing. But at the same time

¹⁴⁵ "Since it is possible to find in God every perfection of creatures, but in another and more eminent way, whatever names unqualifiedly designate a perfection without defect are predicated of God and of other things: for example, goodness, wisdom, being, and the like." *Summa Contra Gentiles*, bk. I, ch. 30, no. 2. trans. Anton C. Pegis (South Bend, Ind.: Notre Dame University Press, 1975), 140.

¹⁴⁶ *Summa Theologica*, I, q. 13, a. 6.

¹⁴⁷ *Summa Theologica*, I, q. 4, a. 2.

¹⁴⁸ *Summa Theologica*, I, q. 13, a. 4.

¹⁴⁹ Dionysius, op. cit., 35.

¹⁵⁰ "The beauty of a creature is nothing but the likeness of divine beauty participated in things." *Exposition of Dionysius on the Divine Names*, ch. 4, lectio 4, in Vernon J. Bourke, *The Pocket Aquinas* (New York: Washington Square Press, 1960), 269.

¹⁵¹ *Summa Theologica*, I, q. 3, a. 7.

God contains in his essence not only all the perfections of creatures in a more perfect manner, but also an infinite plenitude of being not found in creatures. Thus God has in Himself more vastness and richness than any other possible being. So according to simplicity, God is the most beautiful of all things.

As for harmony, God has no parts, but we find in Him, in an immaterial manner, the greatest harmony of opposites. For the beauty of each creature is limited to its own genus. A horse cannot incorporate in its nature the beauty special to an oak tree, nor can a rose exhibit the beauty peculiar to a child. But in God are harmonized in one single essence all the possible beauties of every genus, though these are incompatible in creatures. So by the second constituent we conclude again that God is the most beautiful of all things.

Regarding brilliance, a theory in physics is superior to a competing theory if it sheds light on more things and gives their causes. God's essence is the single thought, as it were, by which God knows not only Himself and all things that are, but also the infinity of things that are not but could be.¹⁵² God's essence, therefore, has greater brilliance and light than any other thought or idea, and again, for this reason we must say that God is the most beautiful of all possible beings.

Because the divine beauty is so sublime, those privileged to look upon the face of God are not simply pleased but are rendered blessed. The beatific vision is not a mere *id quod visum placet* but an *id quod visum beatificat*, fulfilling every desire. "The very sight of God causes delight and he who sees God can never be unhappy."¹⁵³ The beatitude of the blessed in heaven, then, consists in an eternal vision of Beauty.

¹⁵² See *Summa Theologica*, I, q. 14, a. 1-6.

¹⁵³ *Summa Theologica*, I-II, q. 4, a. 1, ad 2.

THE CONCEPT OF THE ABYSS IN THE BOOK OF REVELATION

James Leon Holmes

The Greek word, ἀβύσσου, which is transliterated as *abyss*, occurs seven times in the Apocalypse. Were we to discuss thoroughly the significance of the number seven in the Apocalypse we might never arrive at our discussion of the announced subject: the digression would be too great. The most casual reader, however, will note seven churches, seven lampstands, seven stars, seven seals, seven trumpets, seven angels, seven bowls of wrath, and seven spirits of God. The Apocalypse states that the Lamb of God is worthy to receive "power and wealth and wisdom and might and honour and glory and blessing"—seven things in all—which I take to represent the totality of all good things. Suffice it to say that the number seven is of extraordinary significance in the Apocalypse. That Saint John uses the word *abyss* precisely seven times can hardly be a coincidence. It suggests that the concept of the *abyss* relates in an important way to the theme of the Apocalypse as a whole (which I think is the theme of Scripture as a whole); and that it is worth our while to take some time to try to understand the concept. Let's begin by noting the passages in which the word *abyss* occurs. The first three occurrences are in chapter 9:

And the fifth angel blew his trumpet, and I saw a star fallen from heaven to earth, and he was given the key to the shaft

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