

Cognition and the Visual Arts

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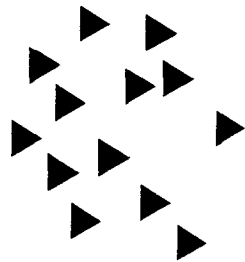
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Context, Cognition, and Art



*This life's five windows of the soul
Distorts the Heavens from pole to pole,
And leads you to believe a lie
When you see with, not thro', the eye.*

—William Blake

Art is always viewed in context. To the layperson, context is the location of the art—such as the Metropolitan Museum of Art or the National Gallery—and one's companions—Aunt Betty from Sun City, your roommate from college, a new boyfriend. To the cognitive scientist, however, context includes two additional features: the physical composition of the visual field and the personal history of the viewer.

The first of these was mentioned in previous chapters. Because the physical composition of the visual field is an important part of the scientific study of context, we shall extend our previous discussion and see how physical factors *interact* with other contextual features in a visual display. Basic perception is fixed by physiological structures that are jointly enjoyed by all members of the species. These invariant structures are an essential element in the understanding of the initial stages of visual perception. As personally portentous as most of us believe we are, the laws of physics and physiology do not wrap themselves around us; rather we wrap our impressions of the world around the laws of nature. Both individual psychology *and* common physiology contribute to the perception of art.

Another type of context will be introduced in this chapter, the context provided by an observer's rich personal knowledge as he or she views art. Sometimes this type of perception is called higher-order cognition, as it engages past knowledge and the social/political setting in the interpretation

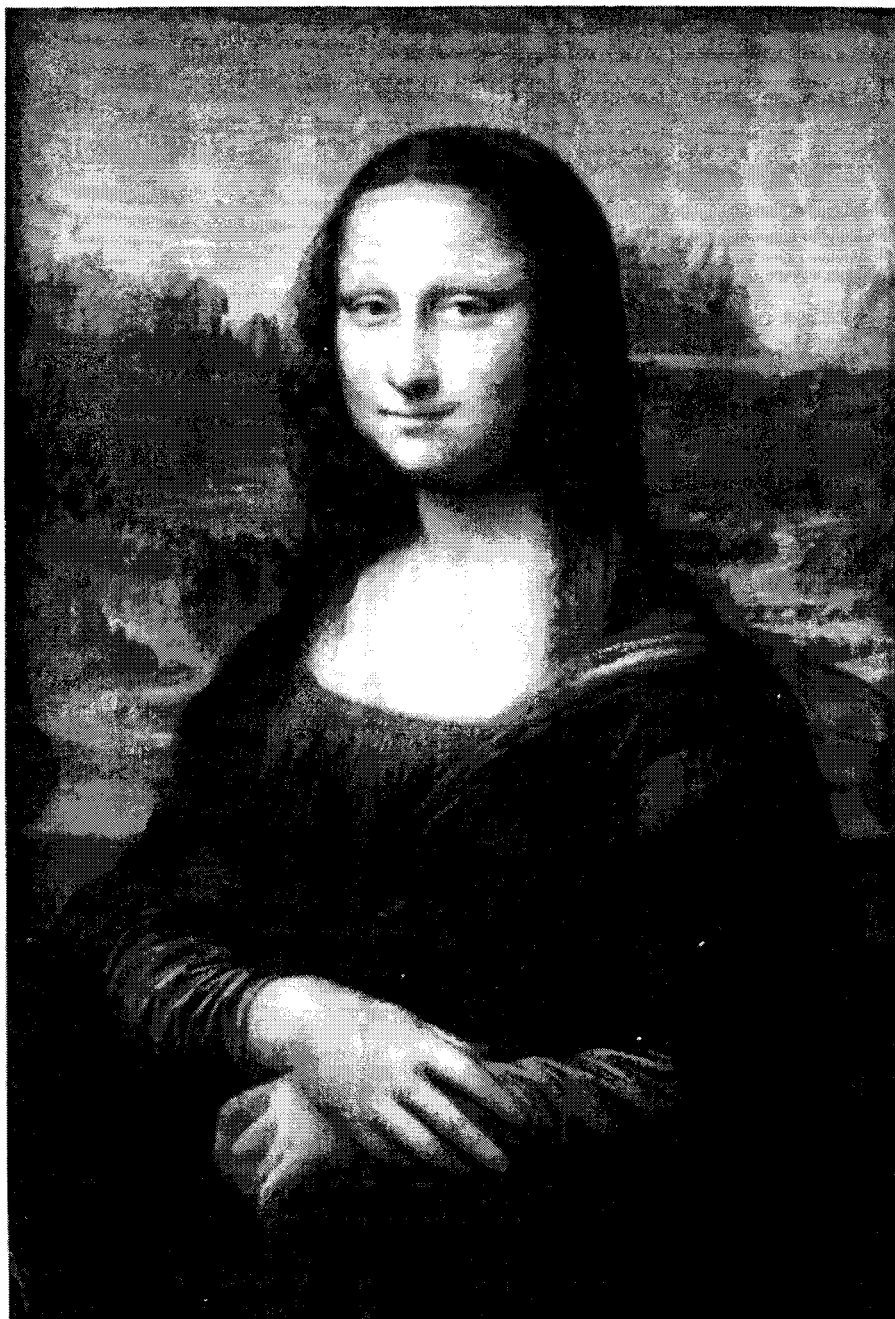
of art. Each of us approaches an art object with significantly different perspectives because of our unique personal history and social experiences. Knowledge is not haphazardly arranged in the brain, but is systematically organized around themes, or schemes, that are important structures in the understanding of art as well as all of reality. We will learn more about this intriguing topic in this chapter, but now consider how physiology and psychology function in the seeing and understanding of a classic piece of art.

Mona Lisa: A Case Study

When you visit the Louvre in Paris and see Leonardo's portrait *Mona Lisa*, you will see the physical features of that painting essentially identically to how all other humans see them—because the light reflected from the painting and the initial processing by one's neurophysiology are fixed by physical laws. In this example, notice the misty ambience that permeates the painting. Leonardo created this effect by *sfumato*, the subtle transition of tones that gives a hazy softness to the contours. In addition, you can clearly see certain contours, note figure-ground relationships, detect colors, discover contrasts and “good gestalts,” and so on. Basic visual information is similarly organized by all people.

The *meaning*, or semantic value, derived from these basic forms, however, is subject to wide individual differences. When *you* see *Mona Lisa's* enigmatic smile, you see it differently than might your companion, or I, or Marcel Duchamp, or indeed Leonardo. But for centuries, the painting and especially the smile have been evocative.

The “message,” meaning, and interpretation of art depend on your previous specialized knowledge of painting and related phenomena. That knowledge, plus your vast idiosyncratic knowledge of the world, contribute to the (internal) context in which art is viewed. If you know something of the history of Renaissance art, the work and personal life of Leonardo, the religious dogmas of the time, the medium used, and so on, then when you actually see *Mona Lisa* you have already formed an opinion about what you are seeing. Even if you slept through Art 1, you look out at the world with a thousand hypotheses—about people, fashion, landscapes, facial hair, smiling women, and the unique attributes of great art. Even now, as you read and think about art and cognition, your mind is alive with the formation of ideas about paintings in general, and *Mona Lisa* in specific. Actually seeing *Mona Lisa* is a test of your hypotheses about the world (the world as anticipated by



5.1 Leonardo Da Vinci, *Mona Lisa (La Gioconda)*.

your mind) and what the world is (as represented by your senses). The interplay between the internal (cognitive) representation of reality and the external (physical) representation is a fascinating problem in cognitive psychology, art, science, and philosophy.

If you have ever toured a gallery with a friend, you know that differences in the interpretation of art vary widely; even among professional art critics (those paragons of artistic judgment), sharp differences are commonplace. Each of us carries around with him or her a vast and unique mental storehouse of information about the world. And, since higher-order perception is determined by our past knowledge (a kind of personal “cerebral encyclopedia”), your view of Mona’s smile is probably different from mine.

Physical Context

The physical context of visual objects has a substantial impact on basic perception. Things may appear bigger, smaller, brighter, darker, bluer, redder, closer, farther, clearer, hazier, and so on, than they actually are, depending on the nature of the object and the context in which it is placed. We begin our analysis of physical context with several simple examples, and then move to more complex examples including pieces of art.

BRIGHTNESS CONTRAST

First, consider the importance of physical context on perceived brightness, as shown in figure 5.3. In the sets of concentric squares at left, the two small gray squares are of identical intensity, yet the one at top appears much darker than

While working on The Battle of Anghiari, Leonardo painted his most famous portrait, the Mona Lisa. The delicate sfumato of The Virgin of the Rocks is here so perfected that it seemed miraculous to the artist’s contemporaries. The forms are built from layers of glazes so gossamer-thin that the entire panel seems to glow with a gentle light from within. But the fame of the Mona Lisa comes not from this pictorial subtlety alone; even more intriguing is the psychological fascination of the sitter’s personality. Why, among all the smiling faces ever painted, has this particular one been singled out as “mysterious”? Perhaps the reason is that, as a portrait, the picture does not fit our expectations. The features are too individual for Leonardo to have simply depicted an ideal type, yet the element of idealization is so strong that it blurs the sitter’s character. Once again the artist has brought two opposites into harmonious balance.

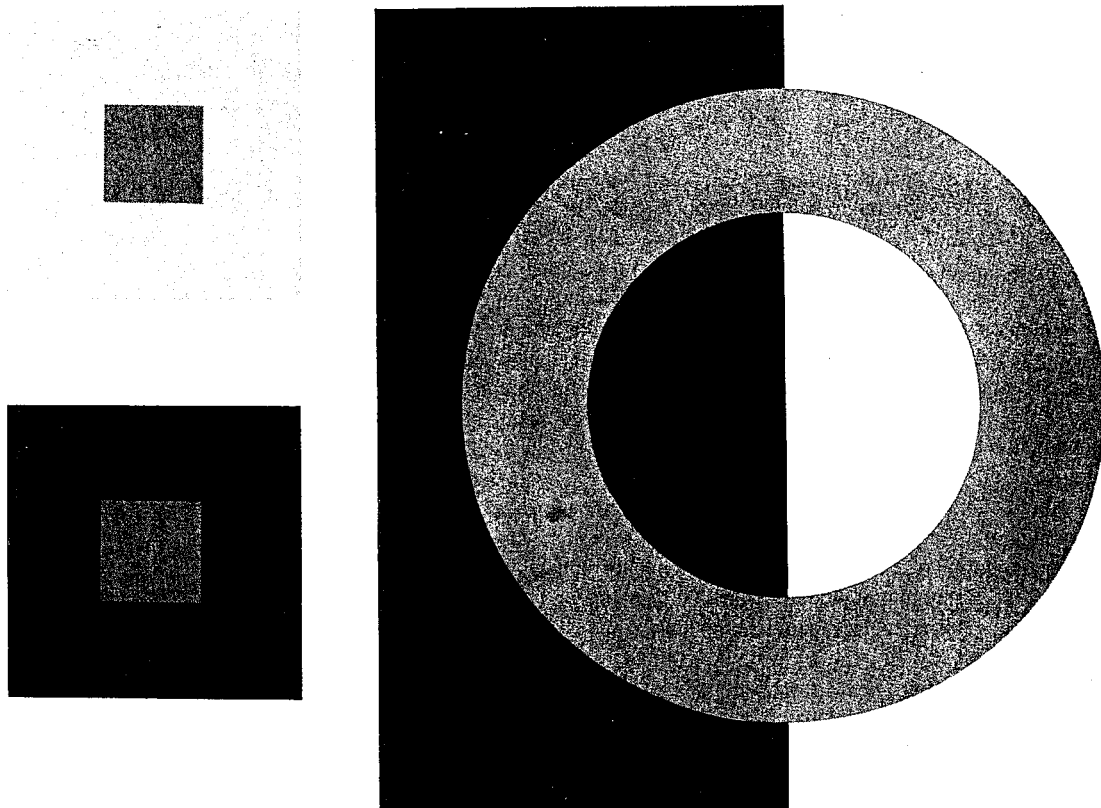
—H. W. Janson

Mona-Leo

Leonardo da Vinci's *Mona Lisa* is probably the most thoroughly analyzed painting in the world. Critics have pointed out that the background is "impossible," and, if you look at the countryside behind the woman, the side on the left does not match the side on the right. Psychoanalytically inclined critics have suggested that Leonardo may have experienced an "Oedipus anxiety" caused by an unresolved sexual fantasy involving his mother, which was manifest in his portraits of women. Yet other critics suggest that in many of his portraits a self-portrait can be seen. Lillian Schwartz has shown us the combined faces of Mona Lisa and Leonardo, in a work called *Mona-Leo*. What do you think of this effort? Is Lisa actually Leo in drag? To my eyes there is a striking symmetry in this image. What alternative hypotheses might be supported by this observation?



5.2 Lillian Schwartz, *Mona-Leo*.



5.3 Two examples of perceived brightness and context.

the one at bottom. The effect is due to the context of the surrounding (darker or lighter) squares: the perception of brightness is determined, in part, by the contrast between a figure and contextual stimuli. An even more dramatic contextual effect is presented in the figure at right, in which a ring of uniform grayness appears lighter on the left-hand part of the display (where it is surrounded by a black field) than on the right (where it is surrounded by a white field).

The influence of context on the perceived intensity of an object is called brightness contrast, a condition in which a viewer tends to bias the light intensity of an object in an opposite direction from the background intensity. Thus, dark backgrounds tend to make enclosed figures lighter, and light backgrounds make enclosed figures darker. Since lightness and darkness are also cues we use for distance, it follows that context can also influence the apparent nearness of an object or, in some cases, whether a figure is concave or convex.

The contextual bias in brightness contrast is based on the same principles mentioned earlier in connection with contour perception and Mach bands (chapter 3). The anatomical explanation is based on lateral inhibition, in which when some retinal neurons are stimulated, adjacent neurons responding to contrasting features of the visual field are inhibited. Sometimes when we study the perception of art, it is easy to be deluded into thinking that these marvelously complex neurological components evolved for the sake of aesthetic felicity. This is wrong. They evolved over millions of years so our ancestors could see contours, differentiate objects, notice movement, and understand a three-dimensional physical world with an image cast upon a two-dimensional eye.

PERCEIVED CONTRASTS IN ART

Artists have known for centuries about these basic visual effects, though not about the psychological/physiological causes. One of the most sublime artistic uses of contextual contrast is seen in Georges de La Tour's *Joseph the Carpenter* (figure 5.4). On the surface, the scene is of a carpenter and a young boy holding a candle, the sole source of light. Almost instantly, our vast personal knowledge, logic, and emotions are called into play. Through higher-order processing the viewer realizes that if the carpenter is Joseph, then the lad must be Jesus. Here La Tour uses the technique of brightness contrast to illuminate the face of Jesus. By providing a dark background upon which the boy's image appears, the sacred face appears to be so radiant that it, not the candle, seems the source of light. The technique of using a single light source makes it possible to accentuate the effects of brightness contrast, as the illumination in the scene ranges from very bright to very dark.

The technique of creating dramatic lighting contrasts was well known among Dutch and French artists during the early part of the seventeenth century. Many of Rembrandt's paintings play on this theme (e.g., *The Blinding of Samson* (figure 5.5), *The Night Watch*, and *The Anatomy Lesson*). As early as the fifteenth century, Geertgen Tot Sint Jans had used a "radiant" Christ child as the single source of light in a Nativity scene, thereby controlling the brightness contrasts with stunning results. In another seventeenth-century example, in which the source of light is more diffused, Judith Leyster gives us her impression of a boy playing the flute (figure 5.6). She establishes brightness contrast by illuminating the scene from a natural source from the



5.4 Georges de La Tour, *Joseph the Carpenter*.



5.5 Rembrandt, *The Blinding of Samson*.

upper left, exaggerating the brightness of the boy's face. Leyster also uses subtle shading to enhance contours through Mach-like bands.

In these examples, it is easy to believe that the illusion of amplified brightness is a function of our knowledge of the characters in the scene, and so it is in part. After all, many representations of the Christ child show him blessed with a holy radiance or encircled by a halo. Therefore, when we see a painting of the boy Jesus we *expect* to see such luminescence. It would be hard to deny that a great deal of higher-order processing is involved in the viewing of these paintings, a topic to which we will now turn.



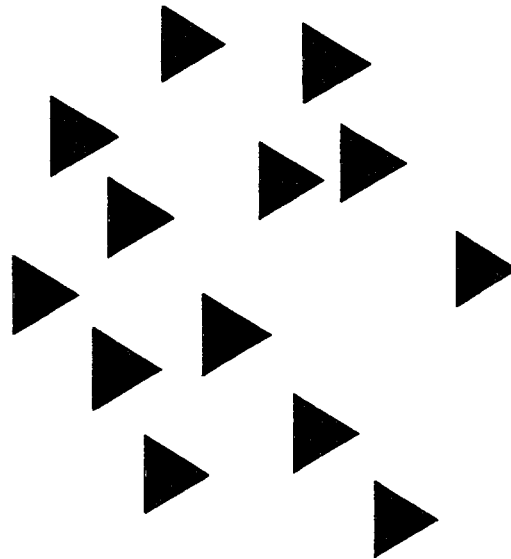
5.6 Judith Leyster, *Boy Playing a Flute*.

Top-Down Processing: Looking at the World with a Thousand Hypotheses

Humans actively seek answers to questions. We want to know the time the theater begins, what influences women's hair fashion, who discovered electricity, what is the origin of the universe, why stomach cancer is more widespread in Tokyo than in Nairobi, and how plants grow. These questions about the physical universe and ourselves are driven by knowledge. So prevalent is curiosity that some psychologists believe it to be a basic human motive. Hypotheses about the nature of reality are essential to top-down processing, and they frequently affect perception. When we read text, for example, we not only detect the letters and words, which are bottom-up features, but we also perceive these characters in terms of our expectations. The expectations are aroused by contextual components.

THE CAT

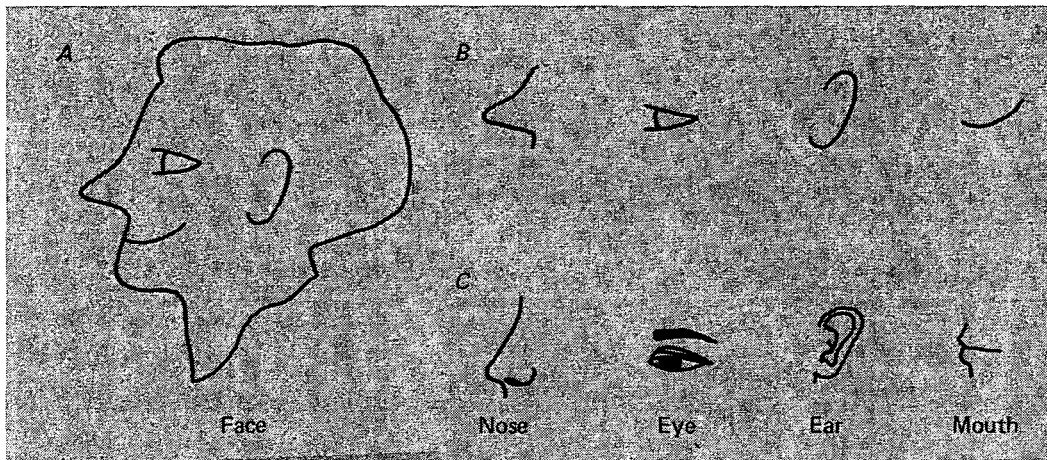
5.7 An example of context. The same stimulus is perceived as an H or an A depending on its context.



5.8 Look at the display of triangles. In which direction do they point? Look again. Does the direction change? Can you control the direction?

As an example, consider figure 5.7. When read, it is “THE CAT”; yet upon close inspection, the H in THE is the same figure as the A in CAT. If this H/A were presented in isolation, we would be confused as to its correct identity. The physical context provided by adjacent letters and our knowledge of the language determine our identification of it. The rules of reading are so much a part of our daily lives that they are applied automatically, as if we do not have to think about them. We process letters rapidly and with little conscious attention because we have experienced these patterns thousands and thousands of times.

Top-down processing also affects the way we see geometric figures, as in the case shown in figure 5.8. For many people the triangles seem to point to the right. But if we try to reorient them so they point upward and slightly left, we can do so with amazing ease. Or, we can will the triangles to point downward and left. The amazing mobility with which we can change their direction is achieved by entertaining a hypothesis about direction. That

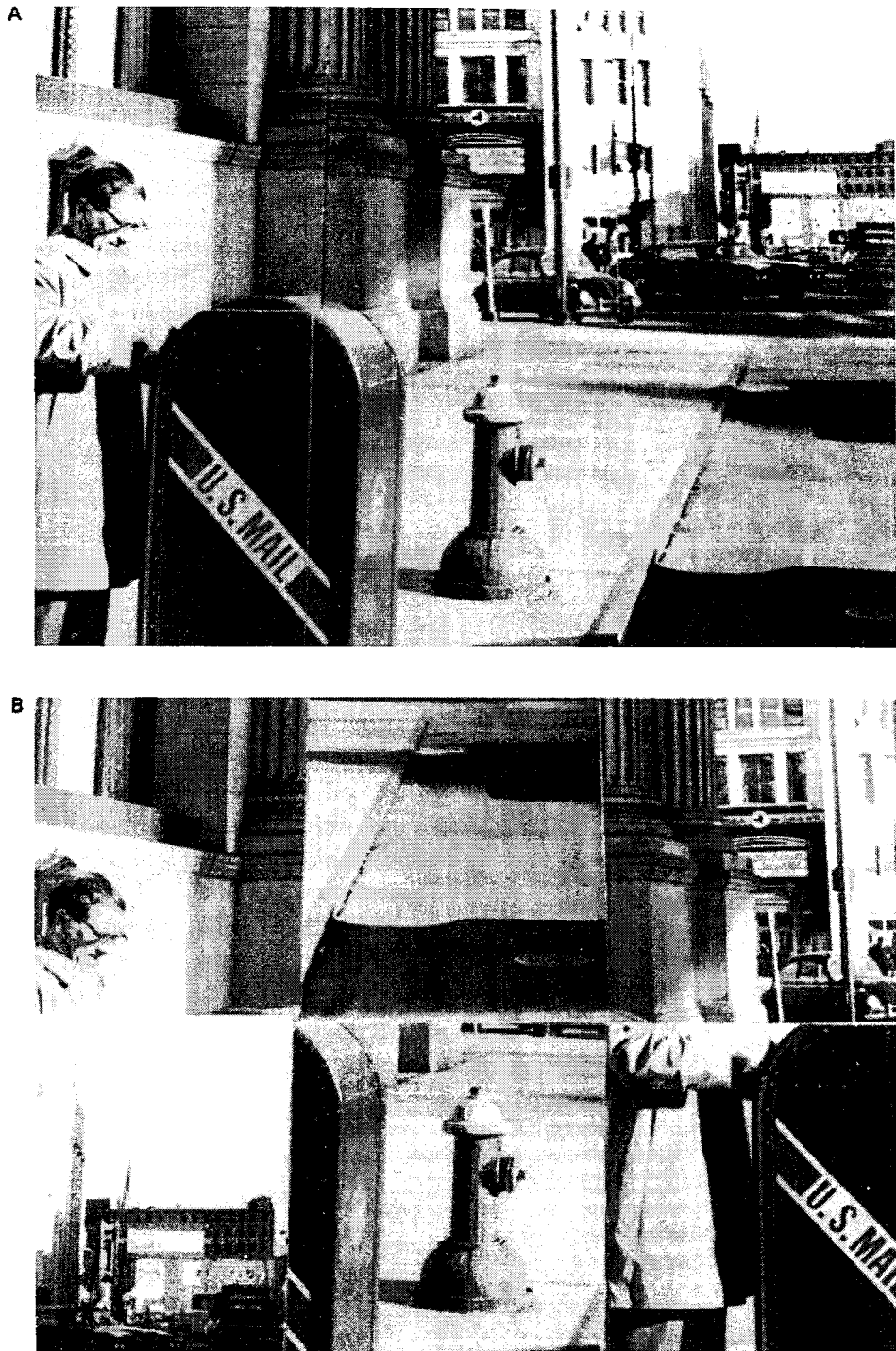


5.9 Facial features recognizable in context (A) are less recognizable out of context (B). Differentiated more fully and realistically (C), the features are more recognizable. From Palmer (1975).

hypothesis is so strong, in most viewers, that suddenly the whole flock of triangles fly in a specified direction.

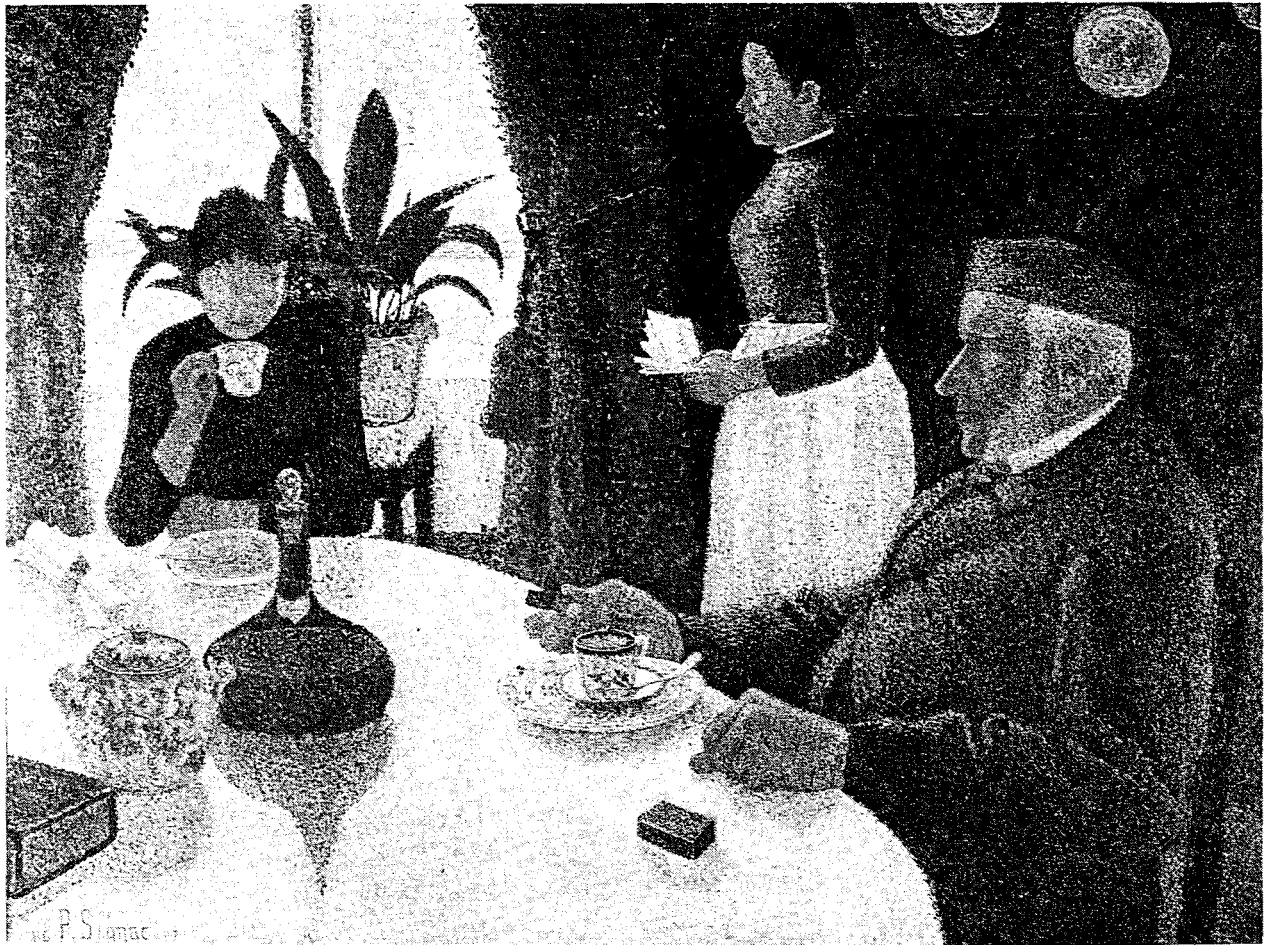
When we process other types of more complex images, we do so in light of their context and the knowledge we have acquired through a lifetime of familiarization with the object. In an experiment that used complex visual displays (see Palmer 1975), it was found that facial features were easily identified when in context but poorly recognized when viewed out of context. In figure 5.9 we see an example of the facial features used in Palmer's experiment. Features out of context require more detailed information for correct identification. The principles demonstrated in "THE CAT" apply to more complex visual stimuli. Both experiments show the importance of context and past world knowledge on perception.

Further psychological experiments have extended these studies to environmental scenes. One study by Biederman, Glass, and Stacy (1973) showed subjects an everyday street scene (as shown in figure 5.10a) for a brief period of time. Then, immediately after the subjects had viewed the scene, a pointer appeared on the screen to indicate the place an object had appeared. The subjects in this experiment were asked to identify the object, such as the mailbox. As you might guess, this is not a very challenging task, and most subjects performed accurately. In a separate condition Biederman and his colleagues took the same scene, cut it into six different sections, and rearranged some of the sections (see figure 5.10b). Under these conditions, subjects had far greater difficulty in naming the designated object.



5.10 Scenes used in a study by Biederman, Glass, and Stacy (1973): a coherent scene (A) and a jumbled scene (B). It is more difficult to recognize the fire hydrant in the disorganized scene than in the conventional one.

Seeing Bit by Bit



5.11 Paul Signac, *The Dining Room*.

The French neoimpressionist Paul Signac used dabs of paint in a style called pointillism. Consider the enlarged details of this painting: the artist has composed a whole scene from bits and pieces. The technique is reminiscent of a refined mosaic style of art popular in the Middle Ages. (Roy Lichtenstein developed a similar technique in the twentieth century; see figure 2.9 for an example.)

The reason people have difficulty in remembering the object is because the context of the street scene is disturbed. When we look at an object, we see it in context, supported by immediate environmental cues and by our knowledge that makes those cues meaningful.

The human sensory system is constantly being stimulated by an enormous amount of information, some of which is important, some trivial, and

Signac's painting illustrates the way the human eye and brain interpret visual signals composed of a multitude of individual signals—dots and dabs of paint. When examined in detail, these signals are perceived to be mere dots, but when viewed from a distance or in some other way degraded, they become part of larger objects. Contours in such art are not usually produced by lines but by dots that are tightly clustered or darker. Through lateral inhibition, our eye “sees” lines. In addition, our brain organizes the dots and dabs into a whole pattern to which it can ascribe meaning. Our eye and brain search visual fields for some recognizable and/or stable forms (“good gestalts”). In Signac's painting we easily “see” a teacup in a dining room scene partly because we “expect” to see such an object there. We have an idealized image, or prototype, of what a teacup looks like and where it is likely to appear. Yet a detailed examination of this teacup shows it is merely a cluster of dabs of paint. Only when we relate these impressions to the context of the entire scene and combine that information with knowledge, stored in our long-term memory, do we “understand” the meaning of these paintings.



some worthless. If we processed all stimuli equally, it would not only be a wasteful allocation of energy but would overload a limited processing system. In order to make sense of our world, visual information must be processed rapidly and accurately. The human system is truly remarkable in the performance of this task. Human visual perception utilizes various pattern recognizers, such as those identified by Gestalt psychologists, in the basic organization of

features. These features normally appear in context. The combination of features and context is detected by the eye and processed by the mind utilizing the brain's large compendium of knowledge about what the features in context mean.

The principles learned in the experimental laboratory may help us understand the processing of artistic information.

SCHEMATA

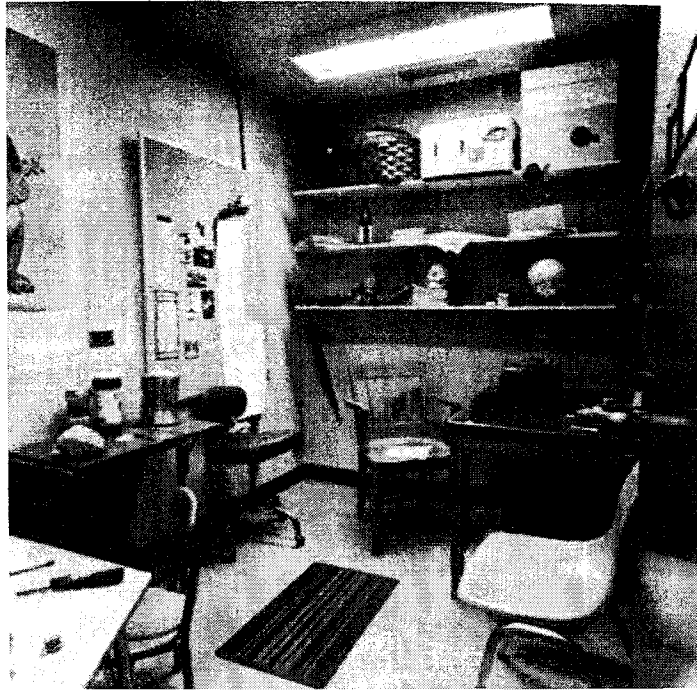
It appears that the human system has acquired a form of information processing based on the organization of information in long-term memory. The organization of this information and the rules that govern its use and combination are called schemata. Schemata represent the structure of an object, scene, or idea. When we look at a street scene, we activate the "street schema," which informs us of the features we might see and how they interact. We expect to see a fire hydrant near the street and not flying high in the air. When we view art, we also activate various schemata that expect certain objects and juxtapositions. The activation of schemata, in turn, allows us to make inferences about the art and to construct a larger interpretation and understanding of it. (See the discussion of schemes, canonic forms, and prototypes in chapter 9.) Most immediately activated are "art schemata," which are influenced by one's knowledge of the art.

The typical memory system used by humans involves the formation of abstract cognitive structures, or schemes. These schemes arise from prior encounters with the environment, as a result of which certain kinds of information have come to be organized in specific ways.

—Howard Gardner

If the painting, for example, is by Degas, we might further activate our "impressionism schema"; if by Andy Warhol, our "pop art schema"; if by Rubens, our "baroque schema"; and so on. Additional themes are also present that influence our perception. These schemata are part of our collective knowledge of the world and will be addressed in chapter 6.

Evidence of the influence of a schema on perception and memory is presented in a paper by Brewer and Treyens (1981). Subjects were asked to participate in an experiment and led into a college office, shown in figure 5.12. There they waited for 35 seconds, after which they were taken to a testing room and asked to write down everything they saw. Presumably, when the subjects were led into the office, they activated a kind of "college office



5.12 The experimental room used in the memory experiment of Brewer and Treyens (1981).

schema.” If this is correct, then we would expect the subjects to recall conventional objects compatible with (and expected in) a college office. Furthermore, it is possible that subjects might invent objects that are highly compatible with the “college office schema” but not actually present in the office where they waited. These hypotheses were confirmed by the results obtained by Brewer and Treyens. Almost all the subjects recalled that the office had a chair, a desk, and walls. Only a few recalled that it had a bulletin board or a skull. But, most interestingly nearly one-third of the subjects *falsely* recalled that the college office had books, which it did not. Apparently, the college office schema was powerful enough to enhance the recall of compatible objects, diminish the recall of incompatible objects, and fabricate nonexisting objects.

INDIVIDUAL DIFFERENCES AND SCHEMATA

The subjects in Brewer and Treyens’s experiment saw many of the same things, but they also saw different things depending on their intellectual

Developing and Using an Art Schema

Four different styles of art are arranged in chronological order in figure 5.13. The first is the tomb drawing of Nebamun from ancient Egypt (unknown artist), which on stylistic grounds can be identified as drawn during the reign of King Amenophis III (1417–1379 B.C., 18th Dynasty, New Kingdom). It is characterized by the lack of linear perspective, unique eyes, faces drawn in profile, and hieroglyphics in the background (which translate literally as “Taking recreation and seeing what is good in the place of eternity,” or, my own unceremonious translation, “Capturing these birds is like heaven on earth!”).

In the next painting we see Rubens’s *The Raising of the Cross* (1609–1610), an example of baroque art characterized by a sophisticated arrangement of figures in which multiple and detailed parts blend into a unified design. Human figures are commonly shown well muscled and in agonizing poses. Religious themes then prevailed, and this example by Rubens (who is better known for his bountiful, if not corpulent, nudes) is part of an altarpiece.



5.13 Left to right: Egyptian tomb painting; Peter Paul Rubens, *The Raising of the Cross*; Auguste

Next we see Renoir's *Danse à la campagne* (1883), an impressionist painting. Here reality is captured by portraying the feeling of vibrancy and intimacy of a couple dancing. The impression is dreamlike, flid, with a hint of fantasy.

Finally we see an example of pop art, in which popular images are the theme. Andy Warhol, formerly a commercial artist, liked to point out the artistic merit of everyday images (such as a soup can), which he frequently showed in multiple copies, as in the case of Marilyn Monroe (1962).

With even this limited knowledge of these four art styles, a type of art schema has been learned. Should you be shown other exemplars from each of these periods, it is likely that you would be able to activate your (limited) art schema and correctly identify them by category. Of course, with greater experience of these types you would develop greater sensitivities within each classification, as well as a better appreciation for the prototypical examples. By learning some of the salient characteristics of an art period, you organize information in long-term memory and thus increase your memory load as well as your ability to think rationally about artistic concepts.



Renoir, *La Danse à la campagne*; Andy Warhol, *Four Marilyns*.

backgrounds. Our knowledge of the interaction between individual experiences and what we see in art (as well as in all sensory experience) has recently been formalized in schema theory. But as early as 1890, William James, a founder of American psychology, knew the importance of (unconscious) individual differences in perception and memory:

Let four men make a tour of Europe. One will bring home only picturesque impressions—costumes and colors, parks and views and works of architecture, pictures and statues. To another all this will be non-existent; and distances and prices, populations and drainage arrangements, door and window fastenings, and other useful statistics will take their place. A third will give a rich account of the theaters, restaurants and public balls, and nought beside; whilst the fourth will perhaps have been so wrapped in his own subjective broodings as to tell little more than a few names of places through which he passed. (James 1890, p. 286)

Because each of the four men carries a unique mental structure of the importance of things, each sees and records different impressions.

Modern cognitive psychologists have conceptualized the way people organize the impressions of the world within a theory of schemata. Through our vast experience with the objects and ideas of the world, we form generalized impressions, or “idealized” forms, much like the Platonic forms. Thus, when I ask you to conjure up an image of, say, a teacup, it is likely that your image is one of a “standard” teacup, that is, more or less, an idealized image. If I showed you an odd-shaped teacup and asked you what it was, you would probably call it a teacup. You may never actually have seen the idealized image you conjure up (or the odd-shaped teacup either), yet the mental image is clear. These images reside in memory and derive from numerous experiences with a large variety of teacups. (See chapter 9 for more on teacups.)

The same cerebral vehicle is used when we think of a category of art. Rococo art is characterized as highly decorative, nonfunctional, and with too much attention to fussy little details; impressionist art as displaying natural objects that are vibrant and create a mood, or “feeling”; Egyptian art as consisting of clear lines, absence of linear perspective, people drawn in profile; and so on. Even though we have not previously seen a particular piece of art,

we can easily identify it as belonging to one of these categories or to another category stored in memory. It is unlikely that we would mistake a painting by Renoir as belonging to Egyptian or rococo art. We have formed an impression, or an idealized image, of these art types through numerous experiences with paintings that share common features of the category.

Individual personalities also represent a type of idealized form, much like teacups. When you characterize the personality of a close friend or a popular figure, you select the salient and more or less permanent traits of that personality. Thus, you might recall the person's commitment to a belief or attitude. It is further possible to subdivide these traits into subordinate features, such as religious beliefs that are expressed zealously, or political attitudes that are displayed in support of a particular candidate. Further subdivisions are feasible until a composite structure of the personality is attained. These personality structures are particularly relevant to our discussion of the cognition of art as they influence what we see and remember, much as James's four visitors to Europe see and remember different things.

Experimental psychologists have demonstrated just how powerful individual perspectives are in determining top-down impressions of reality. In one experiment by Anderson and Pichert (1978) it was possible to create a type of personality schema that influenced perception. In the experiment, subjects were asked to assume the role of a certain individual. In one case some of the subjects were asked to assume they were thieves; in another case some were asked to assume the role of a prospective home buyer. In each case, an entire (imitated) structure of personality, or a schema, was activated. The two groups then read a brief story about a wealthy family home that included such details as the fireplace, the musty basement, leaky roof, silverware, coin collection, television, and so on. Afterward, the groups were tested for what they recalled from the story. Predictably, the "thieves" recalled the valuable items that could be stolen and the "home buyers" items related to the quality of the home. In this case the personal context influenced perception and memory.

We see art through a filter created by our personal schema, much as the "thieves" remembered things in which thieves are interested. Each person has formed a personality that is laden with attitudes about how the world should appear. But what if we see things that do not coincide with our expectations of how things should appear, such as in watching a magician or seeing a painting that is, in some way, distressing to our eyes? We have all had these experiences and each goes about resolving the conflict between

what one sees and what one expects to see in a slightly different way. For generations, artists have known that people experience a type of psychological dissonance when the eye sees things incompatible with one's hypothesis about how the world actually is. Some modern and pop artists have shocked us by showing iconoclastic or scatological images (such as a contemporary photographer who showed one man urinating into another's mouth). While some of this art is dissonant only because it is clearly offensive, other pieces require a deeper interpretation to resolve their sense of dissonance.

Visual Dissonance

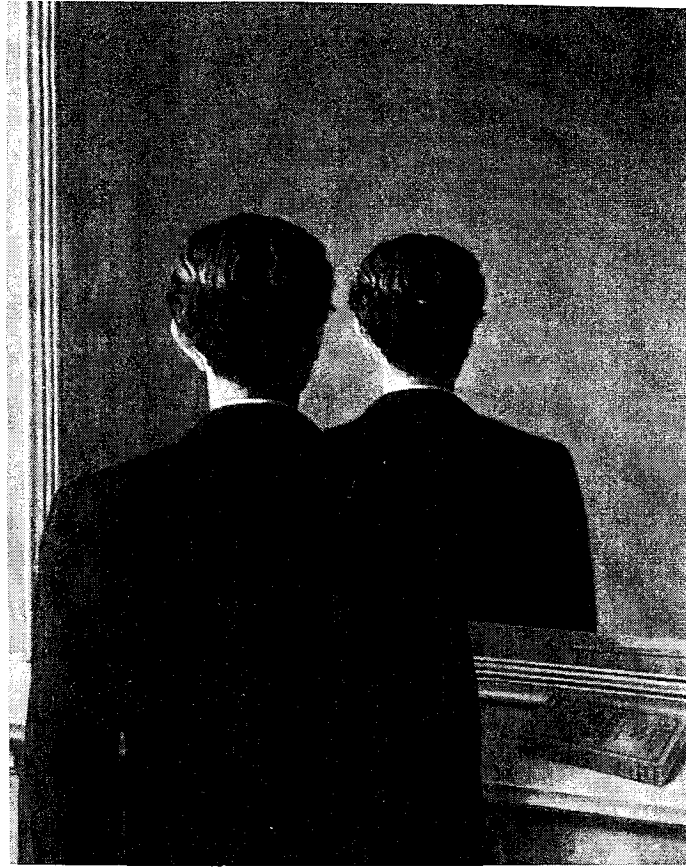
Visual dissonance is defined as a state of psychological tension caused when one experiences a disparity between what one expects to see and what one actually sees. The concept is related to a well-known phenomenon in social psychology called *cognitive dissonance*, which happens when we perceive a discrepancy between our attitudes and our behavior. Our eyes see the world of art with a thousand expectations based on our personality and our cognitive structure (knowledge system). Sometimes those expectations are fulfilled, sometimes not. In the case of unfulfilled expectations, the viewer is required to resolve his or her tension, or simply to abandon the piece and consider another. An important part of human motivation is found in dissonance reduction, in that people do not (normally) choose to live in a state of psychological tension. In psychological terms, such a state is aversive, to be avoided or resolved.

The technique of producing unexpected visual forms is widely practiced by modern artists, who seek to gain our attention, and further intellectual effort, as we attempt to reconcile our expectations with what we see. Some may choose to resolve the conflict by simply turning away with the rhetorical rejoinder, "I can't believe what I saw." While denial of our sensory impressions may make a clam happy, most of us try to overcome the dissonance through cognitive means.

*Every creative act involves . . .
a new innocence of perception,
liberated from the cataract of
accepted belief.*

—Arthur Koestler

There are three basic means used to reduce visual dissonance: (1) reducing the importance of one of the dissonant elements, (2) reinterpreting one or both elements, or (3) changing one of the dissonant elements. We will illustrate these principles by considering a painting by the surrealist artist René Magritte (see figure 5.14). Look at this figure. What do you see? What does



5.14 René Magritte, *Not to Be Reproduced*.

it mean? Do you experience any visual dissonance? Perhaps your first reaction was the same as mine, namely, “Shouldn’t the guy’s *face* appear in the mirror?” (An alternative reaction is, “Shouldn’t the guy be facing you, with the backside correctly reflected?”) There is something radically “wrong” with this painting, or the laws of physics have suddenly been suspended. When one looks at this painting a type of visual dissonance develops, in the sense that what one “sees” is contrary to the “reflected image” schema that is part of our accumulated experience of the world. How can one work oneself out of this cognitive maze? Here are some common means of diminishing the dissonance.

The image of resemblance is what must be painted—if thought is to become visible in the world.

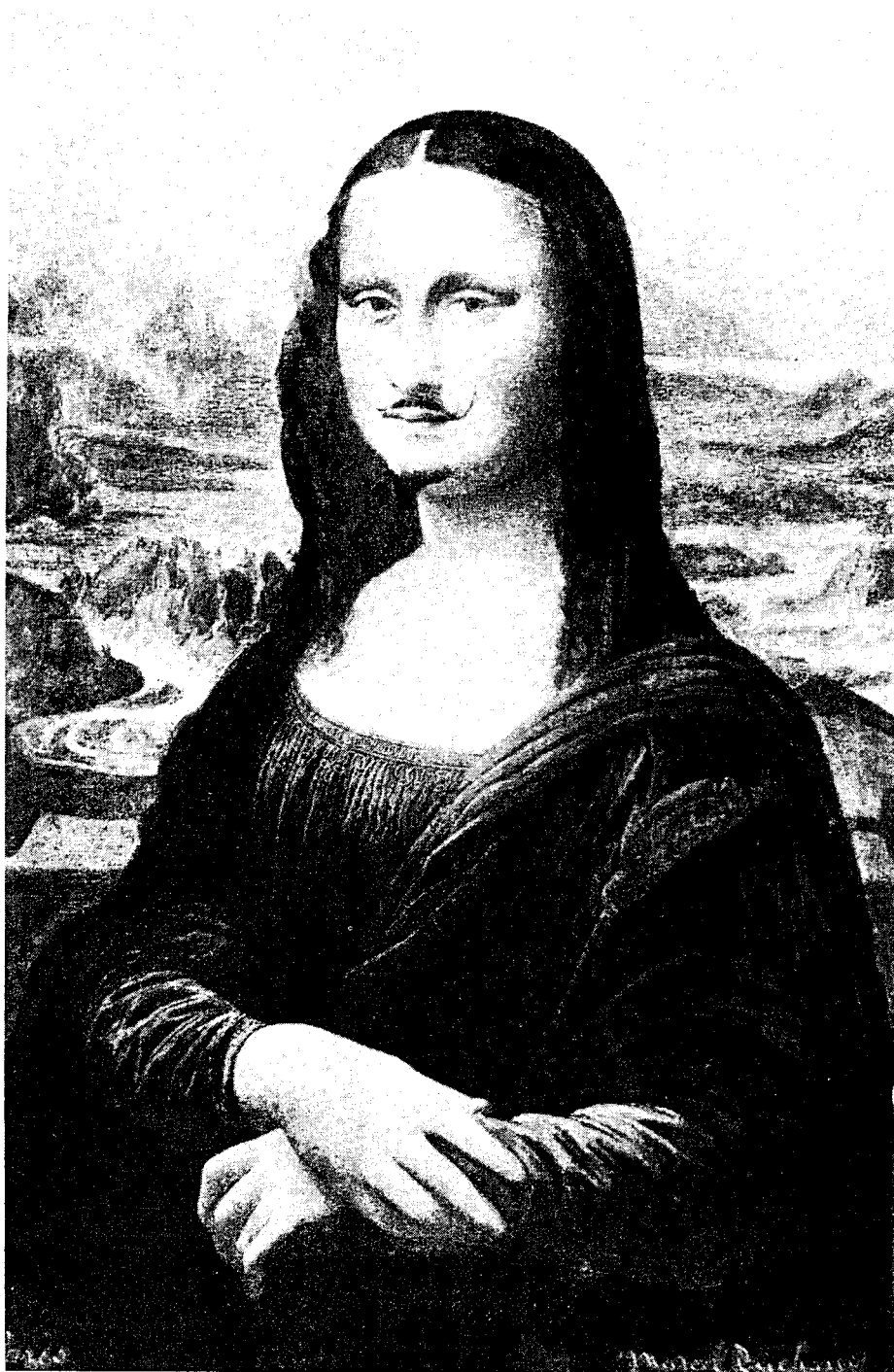
—René Magritte

- “The painting is not important.” In this strategy visual dissonance is reduced by denying the importance of one of the elements. It is an easy solution, as the person may simply dismiss the painting as frivolous and move on to the next painting (if viewing this painting in a museum, for example). Another, more intellectually demanding version of the strategy is to deny the laws of reflected images or to invent new laws. For example, one could argue that Magritte had concocted a really wonderful mirror that showed the back side of the image.
- “The painting means more than is literally depicted.” Here the viewer looks beyond the mere physical representation of the painting. Such interpretation could lead to a hypothesis about symbolic meaning and personal character, such as that the figure in the painting (or all of humanity) is so negative that he cannot even reflect his own frontal image. Deeper thoughts of the nihilistic nature of man might ensue.
- “This painting would be more consistent with my impression of the world if it truly reflected the person’s image.” In this case, an active person might repaint the painting with the frontal image. Or one could discard one’s “reflected image schema” so that it now held that mirrors reflect the backside of whatever faces them.

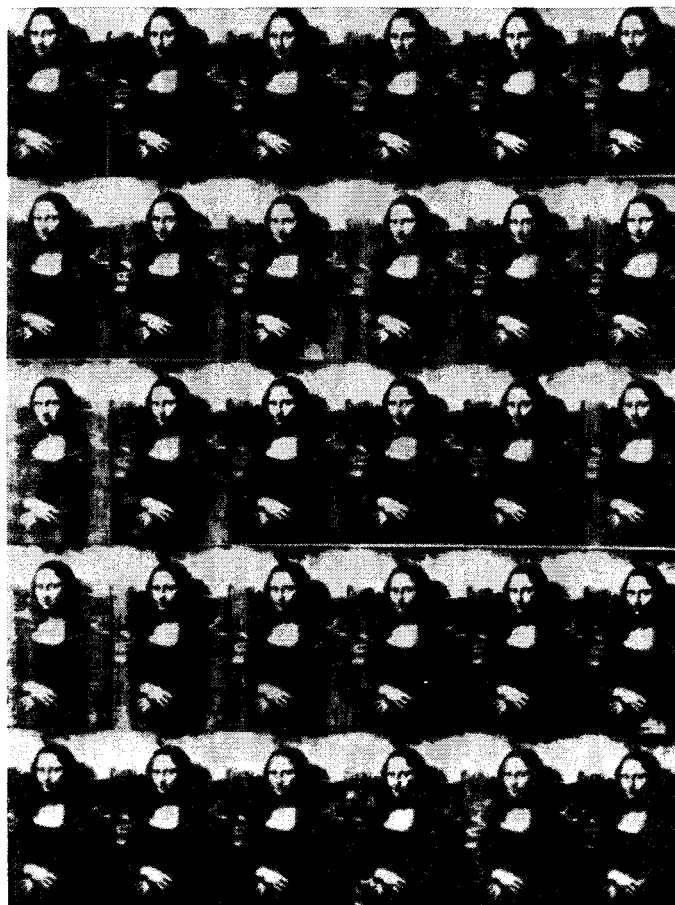
Much of art has been purposely designed to generate a form of creative tension in the viewer that cries out for resolution. In many forms of classic art, the artist presented social issues that embarrassed the establishment, while many contemporary artists present visual statements about art, religion, psychoanalysis, as well as social conditions. All of these are intended to motivate the thinking person to find a deeper message in the art. Although these disturbing art forms may not be as comforting as viewing a Norman Rockwell illustration, they demand active participation in the construction of “reality.”

COGNITIVE DISSONANT ART—MONA REVISITED

Another example of cognitive dissonant art is shown in figure 5.15. Here Marcel Duchamp shows us his *Mona Lisa*, who, unlike da Vinci’s, is sporting facial hair. The title of Duchamp’s *Mona Lisa* is *L.H.O.O.Q.*, which, pronounced letter by letter in French, means “She’s got a hot ass.” (Perhaps we can now understand the meaning behind Mona’s enigmatic smile.) Duchamp thought art should function as a “cerebral pistol shot,” and few can deny that



5.15 Marcel Duchamp, *L.H.O.O.Q.*



5.16 Andy Warhol, *Thirty Are Better Than One*.

the frivolous *L.H.O.O.Q.* gets our attention. The viewer sees something inconsistent with his or her expectation and is prompted to resolve the dissonance. One physical manifestation of this inner reaction is the movement of our eyes. We move them so they focus on the dissonant features, gawking unabashedly at the moustache and goatee.¹

In ending this chapter, we show another variant version of *Mona Lisa* that further illustrates visual dissonance within a social context. When Leonardo painted his *Mona Lisa* it was an original, one of a kind, and intended to be viewed as such. Many consider it to be sacred, a hallowed icon not to be defaced as the graffitiist Duchamp has. But since the original painting was done technological developments have occurred, including photography and mass reproductive techniques, that alter the social position of the work of art. All of these techniques have made “originals” available to a mass audience.

In figure 5.16 the pop artist Andy Warhol has taken the best-known portrait in the world and reproduced it 30 times, satirically calling it *Thirty Are Better Than One*. To many, Warhol's Mona is patently offensive, a banal reproduction of one of the world's greatest pieces of art. It is "common" and cheap. From another point of view, however, the viewer is forced to overcome his or her cognitive dissonance and look beyond Warhol's image. The viewer might consider the context of the twentieth century, which has trivialized the singular masterpieces of art, literature, and music through mass reproduction in which the counterfeit is usually a degraded imitation of the original. Many of these counterfeits are junk, like the popular kitsch art that might use the Venus de Milo as a timepiece, with a clock embedded in her belly; a visual diet that matches the gustatory diet of the masses. Such is the nature of the unreal world we have created. But such an interpretation requires a thinking brain filled with knowledge, not junk. We know these things initially through our eyes, the object of the next chapter.

