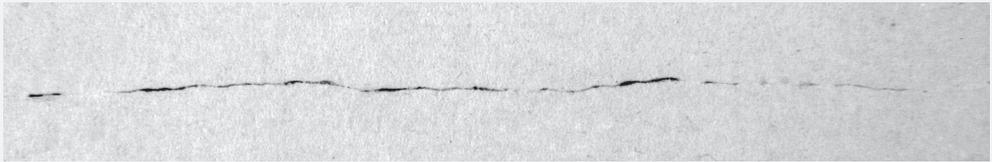


Images and Pictures

1. ON IMAGING A PICTURE

Using a fountain pen and black ink on a rectangular sheet of cream-colored paper (about twice as wide as it is high), I draw a horizontal line (Figure 0.1). It is thin and undulating; in places it is broken where the pen did not touch the paper. For you, my reader, this line could be many things. Probably it is a line drawn on paper—at any rate a line that looks like a line drawn on paper when it is reproduced in this book. Maybe it is *only* a line. But perhaps it is a *horizon* line—the line of the horizon, the edge of a virtual world.

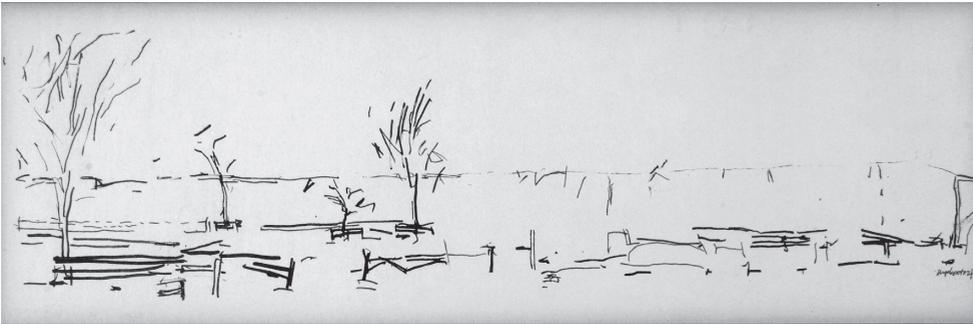


0.1. A line.

For me, however, the line is *not* a horizon. It is much closer than that. It is the strut of the dark woodrail fence standing out of the heavy snowfall covering an endless field in the flat farmland outside the Canadian town where I grew up.

I say *the* dark woodrail fence. Is it, then, a *particular* fence, or field—*that* fence? It is hard for me to say. I can visualize something like it. But maybe the line on the sheet of paper simply suggests the image to me—a memory? For the line certainly looks *like* such a fence in such a field to me. The image is familiar to me—palpable and real. And it is not only visual. I sense not only the shape and color of the things. I also feel their rawness and coldness—the tang of the northern wind and the bleakness of the pewter sky. As I will put it in this book, I can continue “pictorializing” in this way more or less indefinitely (Figure 0.2)—unfolding the line, what I see it *as* and see *in* it, or, as I will sometimes say, what I see it to be like and (as I will suggest in Chapter Two) what I see it *as* to be like. Here, then, are the rain-blackened and snow-softened split rails, and the sagging, rotted fenceposts; here are those bare trees; here is that rusted old iron pump. For you, however, this collocation of lines could continue to be just that: a pattern of intersecting lines, neither horizon nor fence—and certainly not *that* fence.

It happens, however, that I did not draw these lines and that I did not make this picture, though I *have* constituted this image, which perhaps you could partly share with me if you had accompanied me to London, Ontario, on a December afternoon in 1961. The picture was made by the Canadian artist Tony Urquhart, and its relation to *his* imaging is unknown to me. To be sure, Urquhart (born in 1934) was a friend of my parents, and he knows the flat, dreary snowlands quite as well as I do; that is partly



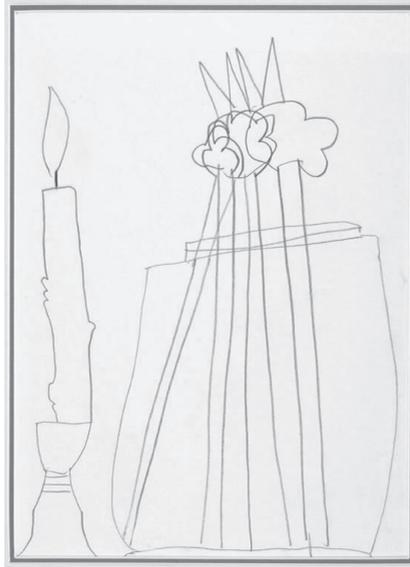
0.2. Tony Urquhart, *Fences I*, 1961. Collection of the author.

why his drawing, made when I was three years old, has been in my hands for a long time.¹ Still, what really counts for me is the pictoriality that the lines now have *for me*.

This is not a simple matter of me *versus* Urquhart. Not only do I see the drawing as something-or-other, namely, a collocation of lines that virtualizes snow, fences, and so on—snow and fences that might well be virtualized by *you* simply as what the drawing pictorializes them to be like. (Presumably you do not know Tony Urquhart, and certainly you do not own this drawing. Moreover, in all likelihood you do not have visual and other kinds of images of wintry farmlands in southern Ontario that *I* likely share in part with *him*.) I also see something-or-other in what the drawing looks like to me, namely, the bareness and spareness, the bleakness and blackness, of the fences and fields of my childhood—as if *those fences and fields* had been drawn in the world as thin inky-black lines on a broad snowy plane. Indeed, and for all I can see right now, the farm in winter that I now imagine—that I now image—as a familiar place from the visual world of my childhood simply *is* the pattern drawn by Urquhart. For me, this visual world is now indistinguishable from this drawing, which has—to use a word now much in vogue—great “presence” for me (see especially Chapter Three).

When I turn to pictorial representations that were actually made by me, sometimes I experience this kind of imagistic recursion, a complex interaction between a picture and images—images not only of the artifact itself but also of the world I take it to depict, which I can image independently (and, in the case of Urquhart’s drawing, as images of something I’ve seen for myself). But sometimes I do not, even when my pictorialization relays images of my world, to which I must have privileged access (so one might suppose) because they are mine.

Consider two drawings that I made in London, Ontario, at roughly the same time as Urquhart made *his* drawing. I have vivid intimate images of the chunky silver candlestick and the waxy white tapers that my mother loved to use, and of the translucent glass cylinder in which she would put the hollow green stems of the yellow daffodils



0.3. Whitney Davis, *Candlestick and Vase of Flowers*, 1963. Collection of the author.

snatched from the soft soilbanks when spring came to her garden beside our big brick house. Maybe this is because (though not *only* because) my mother kept a drawing I made of these things when I was five years old (Figure 0.3) for the rest of her life (that is, for more than forty years), and because after it came to me I have looked at it every day for many years — years long after she had left the house with the daffodils, and her children had moved away.

But a drawing I made a year earlier (Figure 0.4), when I was four, yields much less to me. I have a vague sense that it shows my mother, my father, my sister, and me, our collie, Molly, and the neighbors' mutt, Ben, whose floppy ears flapped up when he ran. I can barely visualize Ben now, and my drawing barely virtualizes him for me, though I *can* see it's him. It has just a tinge of pictoriality for me — of the pictoriality, that is, that is my seeing of my family and the two dogs in it. (*You* will likely not see *my* family and the dogs *Molly* and *Ben* until you read this; and even then, you will only see what the drawing virtualizes them to be like for you.) It is no less a picture because of that. But now I am much less able to pictorialize it than I was, I suspect, when I made it to show it off to my parents and my sister, and maybe to Molly and Ben — a picturing event of which I have no image at all. In fact, I have relied on the reports of other people who were there, as well as certain written evidence that survives from my childhood, to pictorialize Ben's floppy ears in the picture — to *repictorialize* them. To do this, I have inquired both into the situations in which Ben's floppy ears were seen by me and into

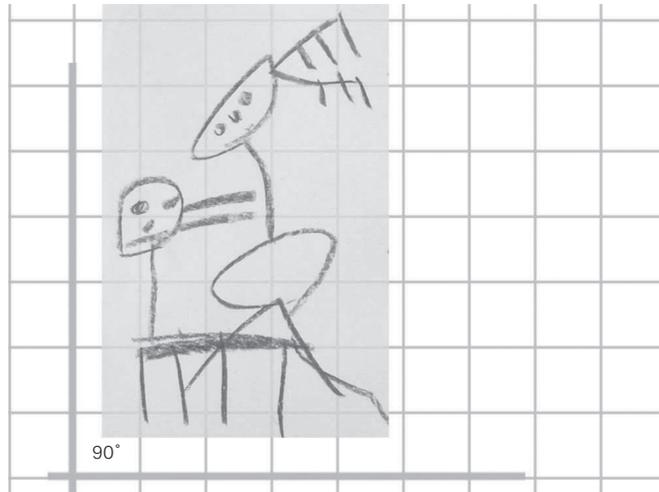


0.4. Whitney Davis, *Family with Dogs*, 1962, collection of the author.

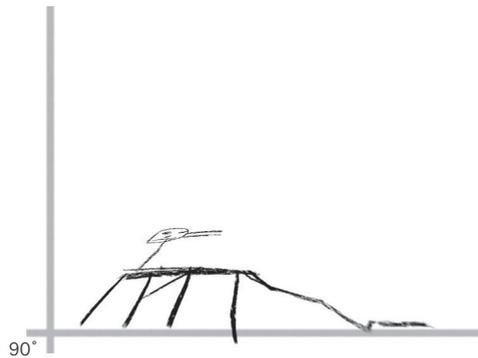
the peculiar circumstance of including him in a picture of my family, to which he did not belong. (I still sense the peculiarity of this; it is the main residual pictorial aspect of the drawing for me now: “what’s Ben doing there?” I feel sure that the drawing was made to show something: “*here’s Ben with us—with me!*”) What remains of this lost visual world are parameters of the “mere picture” (a concept I will develop in Chapter Two) that are partly preserved at standpoint in virtue of the inherent geometrical optics of natural vision. Holding the drawing upright at arm’s length, for example, I can notice the strong affordance of “bottom” and even “ground” at the straight bottom edge of the sheet of paper, as well as the replication in the marks of the ninety-degree angle of the bottom left corner. And I can still see the two long smooth flops of Ben’s ears flapping straight out virtually parallel to the ground as he ran. Note the nearly straight line, parallel to the left edge of the sheet, that constructs the lefthand side of the dog’s otherwise oval face; the strict right angle of the insertion of his neck into his trunk; and the way his feet engage the bottom edge at ninety degrees (Figure 0.5). But take him out of this context in visual space and reorient him (say by laying him out flat in a strongly foreshortened affordance of the drawing [Figure 0.6]), and one might not see this *in* the drawing, or see it *of* him. Indeed, one might not see *him*—specifically Ben running with flapping ears—pictorialized at all.

2. VISUALITY AND VIRTUALITY

Visuality and Virtuality, this book, is a companion volume to *A General Theory of Visual Culture*, published in 2011, and to *Space, Time, and Depiction*, a series of historical studies that I hope to publish soon.² It explores the ways in which human beings have made



0.5. Detail of dog Ben.



0.6. Foreshortened detail of dog Ben.

different kinds of visual space by making pictures in different kinds of ways. I will try to show that the terms used in my title enable new analysis of this matter, what I call a “historical phenomenology”: how “visuality” and “virtuality” relate to “images” and “pictures,” and above all how “imaging a picture” (as I will often put it)—that is, using it in visual space—creates *virtual* space, whether or not this activity counts as “visuality,” a visual culture, in the sense developed in *GTVC*.

In *GTVC*, I examined the question of visual succession to visuality—to visual culture—as a strictly analytic problem. The present book highlights historical variation and transformation in the imaging of pictures—a historical phenomenology. It would be impossible to be comprehensive. But I try to be as broad as my competence allows. I give considerable attention to four very different ways in which pictures have

been constructed to be imaged, to be used in visual space: Upper Paleolithic “cave art” and other prehistoric practices of mark making (see especially Chapters Two and Three); ancient Egyptian pictorialism, often described as highly “conceptual” (see especially Chapters Six and Seven); Classical Greek naturalism in figurative sculpture (see especially Chapter Eight); and early modern European and subsequent experiments in simulating natural visual perspective, notably in linear-perspective projections and in *trompe l’oeils* (see especially Chapter Nine). To a lesser extent my approach throughout has been influenced by the rise of digital image-making in present-day new media as a practice that can be said to be both “conceptual” (insofar as it is generated numerically) and “naturalistic” and even “illusionistic” or *trompe-l’oeil* (insofar as it can produce vivid simulations of visible worlds, even corporeally immersive virtual worlds, whether or not these environments simulate the kinds of objects and spaces to be found in the real visual world). The geometrical and numerical construction of pictures will be a major theme throughout. But I will not deal with today’s new media head-on; the third book in this trilogy, *Space, Time, and Depiction*, will address this matter.

Despite the historical range just described, in Chapters Four and Five I need to focus on one well-defined historical topic: the supposed contrast between the ancient Egyptian mode of constructing pictorial spaces and the Classical Greek mode, despite cultural interconnections between Egyptian and Greek techniques, styles, and motifs between the seventh and fourth centuries BCE. Given the vast diversity of image- and picture-making traditions around the world from prehistory to the present day, this must be a rather local affair (albeit partly a trans-Mediterranean history). Still, it has had disproportionate significance in Western art history in the wake of Johann Joachim Winckelmann’s *History of the Art of Antiquity* (1764) and Georg Wilhelm Friedrich Hegel’s *Phenomenology of Spirit* (1805) and his *Lectures on Fine Art* (1820s; often called Hegel’s *Aesthetics*, as recorded by several of his students), foundational writings in which the world-historical contrast was initially stated—and even though both writers grasped the historical influence of Egyptian art on Greek art and Hegel conceived Egyptian art less as the absolute opposite of Greek art than as the “middle,” the dialectical “transition,” between ancient “Eastern” arts (Persian and Hindu) and “Western” European arts. More recent studies of image- and picture-making in psychology, anthropology, and philosophy (in such landmark books as Margaret Hagen’s *Varieties of Realism* and John Willats’s *Art and Representation*) have continued to explore the contrast between “Egyptian” and “Greek” variants of pictorial virtuality, or at any rate to echo the old art-historical contrast.

It will be obvious from my subtitle (and the title of this Introduction) that I distinguish between “image,” that is, *the generation of a visual space*, and “picture,” that is, *an artifact in visual space that extends visual space into a virtual space of virtual objects*. (Of

course, there are images other than visual ones—a matter addressed below [§3].) In German, this distinction is not easy to make lexically: the word *Bild* can refer both to images *tout court* (including “seeing,” visualization, visual recollection, and visible imagery) and to depiction, not to speak of such mental structures as schemata, and such neuropsychological events as dreams. Perhaps it is partly for this reason that so-called *Bildwissenschaft*—inquiry into the perceptual, mnemonic, cognitive, and cultural varieties of *Bilder*, and the relations among them—is far advanced in German-language scholarship today. (Both Immanuel Kant and Sigmund Freud, for example, put *Bild* to use in characterizing different kinds of images as having determinate interrelations). Still, and given the fact that I write in English, it is useful for my purposes that the English language permits an idiomatic distinction between image and picture.

According to one common English use of the terms, a “picture” is simply *one kind* of image: pictures comprise a well-defined subset of the vast set of images. For this very reason, however, it can be misleading to use “image” and “picture” as wholly interchangeable terms, though the conflation can often be found in disciplines, such as art history, that focus for the most part on the subset (that is, on pictures as “images”) and far less on the full set (that is, on images *tout court*). As we will see (below, §4), there are reasons for this conflation; to some extent it *enables* art-historical and similar inquiries. But in this book I will make an effort to avoid it.

As I will try to show, a picture is a complex interaction of several kinds of imaging. It cannot be wrong to identify this interaction as a kind of image in itself—to identify pictures as *a kind of interaction of kinds of images*. But the discrimination in question requires that we deal with images *beyond* the kind—with the relations between pictures, as a kind of image, and images that are not pictures and imaging that is not pictorial. By far the most important of these relations must be the interaction between “seeing,” or what I will often call “natural visual perspective” (NVP), and pictorial artifacts that have been made to be visible in visual space—the domain of “images” (and imaging) and the domain of “pictures” (and picturing), respectively, as I will use the terms.

I am an art historian, and this book is art-historical. Of course, art historians have traditionally (and rightly) addressed many objects that are not pictorial, a matter briefly addressed in the final section of Chapter One. As already noted, however, my particular concern in this book is the nature of the historical relations between images *tout court* and the imaging of pictures. This entails that I do not limit myself to “pictorial art” in an aesthetic sense—to pictures that have been nominated as “works of art” in modern aesthetic ideologies and their present-day globalized offshoots (after many a critical turn and dialectical vicissitude) in contemporary artworlds, even if the artifacts in question were produced in those visual cultures (that is, even if they were produced

as works of art). In this book (as in *GTVC*) my interest in aesthetic questions will largely be limited to the etymological meaning of *aisthesis*, namely, to sensory perception and embodied awareness. Everything I want to say about images and pictures (including any artworks) can be handled in that frame.

3. IMAGES IN GENERAL AND IMAGING PICTURES

Needless to say, neither an image nor a picture needs be wholly visual, or even *partly* visual. A fully general account of embodied human imaging would need to investigate not only auditory, tactile, olfactory, and gustatory spaces — images constituted in hearing, touch, smell, and taste. It would also need to consider motor-muscular, locomotional-positional, and autonomic-nervous spaces — images constituted in flexions, movements, and fluxes of the body in relation to itself, to other objects, to ambient environments, and to physical conditions and forces (such as the strength of the gravitational field). Indeed, it would need to explore “mental images,” whatever their nature, and image(s) and imagining as a mode of human consciousness — possibly *the* mode. It is likely that all these images interact with one another in complex sequences, hierarchies, circuits, and feedback loops — what I prefer (following *GTVC*) to call “successions” and “recursions.” This has been well recognized in a range of phenomenological inquiries from the late nineteenth century to the present day. At the moment of my present writing, in fact, these inquiries are not limited to psychological and philosophical investigations in the phenomenological tradition and in direct response to it. They also include historiographical critiques and diverse anthropological and historical applications undertaken not only as psychology but also as art history, cultural studies, and media aesthetics.

Still, one sometimes looks in vain for models of interactions among images — models that are well-defined enough to enable a precise analysis of certain *particular* interactions, such as the one I address in this book, namely, the imaging of pictures in visual space, especially the matter of the imaging of pictures under the visual angle constituted at corporeal “standpoint” or what I will often call the “imaging point.” For whatever else might be true of embodied human imaging in general — the overall matter of the most general phenomenology — it is certainly true, I will argue, that no visible picture (more exactly what I will call apparent “pictoriality”) can indefinitely survive geometrical-optical translocation of the imaging point — survive the movement, that is, of the beholder’s standpoint considered literally and materially as his angle of vision.

Once we accept this thesis, we are constrained analytically to approach the imaging of pictures — or at any rate the *visual* imaging of *visible* pictures — in a way that flows not so much from a *general phenomenology of active embodied imaging as such*, valid though

it might be as an overarching philosophical framework, as from *the particular conditions of the interaction of specific successions and recursions of certain kinds of images*. This is a more narrowly analytical matter *within* general phenomenology. But it is this analysis that will—that does—connect the general phenomenology (a very mixed bag of diverse philosophies of images, imagery, and imagination) with various branches of empirical neuropsychology. Without it, these two modes of inquiry, broadly philosophical and anthropological on the one side and broadly scientific and psychological on the other, often seem to talk past one another. Each sometimes fails to generate hypotheses that can be coherently explored in the terms of the other, or even recognized at all.

Visual space in the sense that I will give to the term in Chapter One cannot be wholly assimilated to nonvisual sensory spaces, such as auditory and tactile spaces. Indeed, it cannot be identified with other *optical* spaces, such as the spaces constituted in certain endogenous events in the eyes and the visual cortex. These include the so-called Purkinje Tree, that is, visual images of blood vessels in the retina, and so-called phosphenes, luminous images—sometimes having a definite configuration, a “form”—generated without real light entering the eye. Largely autonomic, some of these “entoptics” can be induced by mechanical, chemical, and electrical means, sometimes partly framed by cultural expectations that allow for continuity—even identity—between endogenous optical events and visual space in the sense adopted here. That is, the entoptic phenomenon seems to be something “out there” in the world, as it were externalized, rather than somewhere inside the visual system *behind* the surfaces of the eyes. This possibility has been explored by anthropologists and historians working with shamanistic visual cultures, including prehistoric ones, and with picture-making traditions that might have been associated with them (see Chapter Three). Indeed, one of the pioneering studies of entoptics investigated the possibility that observations of “Unidentified Flying Objects” (UFOs) by German airplane pilots were, in fact, endogenous visual experiences linked to a cultural fantasy.³

To be sure, elements of my analysis might be applied to certain nonvisual pictures—to pictures, for example, that have been made to be apprehended by the hands in the dark. And it is obvious that some pictures—perhaps many—interweave visual and nonvisual modes of apprehension in attaining the full pictoriality constructed by their makers. I will sometimes touch on these phenomena. But I will not explore them systematically in focusing on my explicit topic: the specifically visual space created by pictures that have been constructed to be used visually by embodied human agents of vision. (For the sake of economy, henceforth I will not append this qualification to my every use of the term “picture.”) Still, and mindful of my own criticisms of what I have called “visualist” prejudices in art history (*GTVC* 278–80), I will not take the *visibility*

0.7. John Constable, *Wivenhoe Park, Essex*, 1816.
National Gallery of Art, London, Widener Collection
1942.9.10.

of such pictures for granted. Indeed, the question of the visibility of such pictures in visual space—that is, how they are imaged—is the very historical question at hand.

Here a crucial fact of a particular recursion of images will need to be noticed: the very introduction of pictures into visual space—the “presence of pictoriality,” as I will sometimes put it—integrates features into visual space that often would not otherwise be part of it. That is, features are introduced that would not be aspects of the visible world, and indeed are *not* aspects of it for any agents of vision who have not fully succeeded to the form of life in which the pictures as such were made to be used, whatever else might be visible to these people. For one succeeds to the “visuality” of a picture, and indeed to any item of visual culture, by way of the forms of likeness—emergent networks of both the visual and the nonvisual analogies of visible things—that make it salient in particular ways. (This was my argument, at any rate, in *GTV C*.) In this sense depictions might be said to supervene in the visible world. In the recursion of pictoriality in visuality, they virtualize the visual world in partly invisible ways.

Social historians of pictorial style have sometimes proposed that the visual skills needed to interpret pictures—to *see* them—might be coordinated in a “period eye,” to use Michael Baxandall’s version of E. H. Gombrich’s general ethological theory (based on evolutionary psychology) of “perceptual readiness” or “mental set.” Such socially constructed visuality might be found, for example, in a fifteenth-century Florentine merchant’s ability to judge the size, volume, weight, and mass of things in visual space (and therefore their value and cost), a visual skill cultivated in commerce and banking and used by him to make sense of simulations of volume-shape produced in painter’s perspective at the time. As I will argue throughout this book, however, the inverse of the equation deserves just as much analytic and historical attention (see *GTV C* 14–15, 158–60): if the merchant’s commercial skills enabled him to judge virtual pictorial spaces, pictorial configurations, and depicted objects, it was equally true that pictures helped coordinate the imaging he employed in commerce, generating a complex network of forms of likeness within which *both* banking *and* painting were reciprocally organized.⁴

So far I have been making wholly apodictic statements. To begin to explicate them, let me turn to a particular context—one probably familiar to many readers—in which one might try to relate images in general to the imaging of pictures, and to the descriptive and analytical idioms that might be used to do so.

4. “LOOKING AT IMAGES” AND “LOOKING AT PICTURES”

Needless to say, one can look at all kinds of things other than pictures. But it seems that one cannot *but* look at pictures insofar as they function *as* pictures (have pictoriality):



supposedly we look at pictures, looking at things in them that include not only the depicted objects and spaces but also what is often called the “form” and “style” of the depicting. If pictures are a kind of image, it seems in turn that we also “look at images” when they are pictures—the conflation, or at any rate the elision, that I have already mentioned. But I will avoid the latter locution because it obscures the economy of the very interaction that I want to put in question.

Consider a professor of art history (I am one) giving a lecture to students in a college classroom. The professor might say “look at this image” while pointing at a projected digital photograph of a painted picture (Figure 0.7), an artifact exhibited in a museum that is somewhere else—a fact perfectly plain to the students.

What exactly does the professor mean to indicate? That the students look at the projected digital photograph, certainly. But likely enough the professor’s lecture is not *about* the photograph or *about* the projection (or both). The object of the lecture (and somehow *in* the lecture as it were) is the painted picture in the museum—or in a collector’s home, or in the artist’s studio. The students should look, then, at the painted picture (the image the professor wants them be looking at) so far as the projection of the digital photograph is an image of it (an image of an image).

Taking the students to the museum, the professor might again say “look at this image,” here indicating the painting itself; the classroom lecture tried to simulate this looking. And back in the classroom, the professor—*not* being in the museum—might point out the ways in which the photograph visibly differs from the painting the students have now seen. “Look at this image” now means “look at how the photograph differs from the painting.” (If the professor works in a university like my own, he might also bemoan the quality of the *projection* of the photograph of the painting: “look at this image” could mean “look at this projection of the photograph.”) But in the museum, this locution might be unusual—somewhat confusing to those students who have learned that in the professor’s vocabulary “images” are classroom illustrations. When pointing to an actual painting hung on the wall before their eyes, what could the professor mean in instructing them to “look at this image”?

Perhaps the professor is specifically discussing a landscape depicted in the painting: the painting is an “image” of it. The students have images of that image *both* in the painting hanging on the wall of the museum *and* in the projected photograph in the classroom. “Look at this image” tells the students to look at the painting’s way of representing the landscape. (To sharpen this looking, and perhaps give it historical context, the professor could show them a photograph of the actual topography, and, of course, might summon tactile, verbal, and other “images” of it as collateral data.) But suppose, even further, that the professor is discussing the way in which the painting depicts the landscape *in perspective*, and therefore wants to point out phenomena of anamorphosis

that are inherent in any perspective projection. Here the students must deal with images within images beyond the mere imagistic relation of illustrating a picture, or even the imagistic relation of illustrating a picture's illustration of something. At the very least, they must explicitly recognize a projection of a photograph of the painting in the perspective constructed by the painter in looking at the landscape, or perhaps at preexisting pictures of it, or perhaps in simply "imagining" it.

In this tortuous context, "look at this image" could indicate that the students should try to envision a certain optical-geometric angle between the plane of the picture as projected and the visual axis of someone looking at it, regardless of where he or she might be sitting in the classroom. This person might not notice any anamorphosis where he or she is actually sitting, that is, find the perspective to be visibly distorted. But perhaps he or she can visualize how one *could* so see it, especially when the professor indicates the relevant sightlines in the room.

Better, the professor might project a digital virtualization of an anamorphosis in the picture painted in perspective projection—that is, the anamorphosis that would be visible to a student located at a particular spot in the room, or, for that matter, anywhere else, such as in the museum the students had visited, so long as *that* particular optical-geometric standpoint of *this* anamorphosis is occupied there. (If the professor has the requisite software to run the digital projection of the photograph of the painting, the digital image—in a recomputation of its size, shape, luminance gradients, and colors—could be rotated and foreshortened on an axis, simulating how the painting might look to someone viewing it a highly oblique angle.) One can "look at this image": the projection, the painting, and the anamorphosis.

Given the complexity of this entire activity—the students must deal with many relations among several different kinds of images—it would be well for the professor to be explicit about *which* image is indicated for *what* purpose in the overall consideration of the painting (and its images), and how *it* is to be imaged.

5. IMAGES AS REGISTRATIONS AND IMAGES AS REPRESENTATIONS

Adding to the complexity of the professor's classroom lecture and to the students' possible confusion, two background idioms seem to be circulating in the professor's lecture overall, and in particular in his use of locutions like "look at the image [the picture; the painting; the photograph...]." They overlap at points, likely leading to uncertainties and questions among students. And each is somewhat unsatisfactory for some of my main analytic purposes.

First, the professor might be saying that we (that is, his audience of beholders, the people in the classroom) have *an image of a picture*—that we *register* it somehow. In turn,

and in view of the fact that in the museum the painting is likely registered in a different way, one particular sense of the professor's locution (more exactly one specification of the registration in question) could be that we have a specifically *optical* registration of the picture: a "view" of it in visual space, a "seeing" and perhaps a "beholding" insofar as we see something that we realize (or that we eventually come to understand) has been generated specifically for us to look at. (To be precise, optical or visual imaging is not the same thing as a so-called retinal image, that is, the total pattern of distribution of the intensity of reflected light received by the rods and cones of the eyes at any given time. Visual imaging is the awareness of a moving, full-color, three-dimensional object-world that arises in visual processing of these intensities—an activity of the entire visual brain.) This will be the primary sense in which I will use the terms "image" and "imaging" with reference to pictures in this book: for my purposes, *an image is a space constituted visually at optical standpoint* (see Chapter One, §§1, 2). But it can be conflated with other senses of the same locution that refer to other ways of registering something that could be seen—to other registrations or "images." And it might be necessary to allow such confluations, because the registrations could be partly continuous in some ways—could be feeding into one another. Indeed, the professor's lecture seems to be rife with these confluations precisely because he is trying to get the students to recognize and assess the continuities—imagine, envision, and even *see* them.

Likely enough, in fact, there is no such thing as a *purely* optical or visual image (of a picture) that lacks within it other imagistic elements, however these may be registered. For example, we might have an image of a picture in the sense that we have a visual memory of it (the professor remembers the painting in the museum, or thinks he does, and can visualize it in recalling it to his mind's eye, or thinks he can), or a verbal description (the professor produces one such in the discourse of the lecture), or, needless to say, another picture of it (such as the projected digital photograph he uses to illustrate the painting). Still, the professor wants his students to be able to distinguish among these kinds of images in certain respects, above all with respect to pictures as he illustrates them in his lectures (on the one hand) and to actual paintings encountered by the students in visual space (on the other hand), whether or not that visual space is the visual space in which (and likely *for* which) the paintings were constructed by their makers to be used visually, perhaps by people in a different visual world.

As it happens, the professor is a student of the philosophical writings of Ludwig Wittgenstein and Nelson Goodman. According to his theoretical vocabulary, then, neither visual memories nor verbal descriptions are in fact pictures. Therefore they can never be *pictures of* a picture in the way that a photograph of it can sometimes depict it. (According to the professor in his Wittgensteinian moment, visual memories have no pictoriality, even if they can remember depictions; the professor does not *see* his

visual memory of the painting in the museum as a picture of it, even if pictures of it have affected his memory. And according to the professor in his Goodmanian moment, verbal descriptions do not depict at all; they describe.) Still, all register the picture in a definable way, and common idiom — the idiom that the students start with, and that the professor wants them to refine — allows that they are images of the picture.

Given all this, it would surely be best for the professor to be precise: in any given case to specify an optical image, a visual memory, a verbal description, or a pictorial representation (or any other kind of image), or, most likely, their kind of interaction as “images” — their interdetermination in and as a historical process.

In this book (and to use this idiom) I will address the relation between optical imaging (that is, visual space) and pictorial constructions (that is, virtual space): how they register one another; how they are registered *in* one another. Needless to say, however, other writers on this matter have been interested in the relations between pictorial constructions and visual memories (maybe “unconscious” ones), and still others have scrutinized the relations between pictorial constructions and verbal descriptions.⁵

None of these relations can be discounted. In some obvious ways and for certain critical, historical, and hermeneutic purposes, memory and discourse might well take precedence over the mere optics of the visible artifact in visual space. But for my purposes in this book, the relation between natural visual perspective and pictorial space is distinctive. *Both levels of imaging occur in visual space as a real place* — a real space in terms of which both natural visual perspective and depiction can be analyzed — and *as an interaction of images for embodied human agents of vision in that place*, however mediated by any *other* images in bodily sensation, in memory, and in discourse. Whatever else a depiction might be, it is an extension of visual space into *virtual* visual space. In dealing with pictures visible as such, this is *the only logically necessary imagistic relation to be considered*, even if it is not — is probably never — sufficient in any given case. All other relations are contingent imagistic interdeterminations.

So far I have considered one of the professor’s idioms in his lecture: in his classroom illustrations, verbal descriptions, museum visits, and all the rest, he proffers “images” of the picture (and of many other items of visual culture) to the students. By way of complex mediations and conflations, and to some extent despite them, he tries to get his students to have an image of the painting — to register it. As I have already noted, however, probably his lecture is chiefly about the painting as an *image of something*: it “images” something-or-other — depicts it. When art historians say that a painting is an image, often they mean that it is a picture *of something*: it is an *X*-picture, or depiction-of-*X* (see *GTCV* 150–86).

Like the first idiom, this second idiom can sometimes be misleading. The picture is undoubtedly a *representation*. The landscape painting illustrated and described in

the professor's lecture represents the landscape, and perhaps other things such as the social relations of the people who are in part responsible for creating the landscape's topography. (Wivenhoe Park was the family seat of the Rebow family; in the distance in Constable's painting [Figure 0.7], the landowner's daughter is depicted steering a donkey cart with a friend.) But it is obvious that representations need not be pictures, even when they are visual and visible. Consider the ways in which the professor could illustrate the painting in his lecture—represent it to the students, giving them an “image”—as well as the ways in which the painter could represent the landscape (producing an image of it) while making his painting. As I have assumed, in his classroom lecture the professor could use a digital photograph of the painting—a *pictorial* representation. But he could also use a diagram, a device often used in certain schools of “formal analysis” to identify essential visual facts about pictures, paintings, and indeed artifacts of all kinds (see *GTVC* 54–64). And in making his painting the painter could use his sketch of the landscape—a pictorial representation. But he could also use a scale map, a device often used to determine distances between points in real space. In the professor's theoretical vocabulary, it is not obvious that every diagram (including the art formalist's representation of “pictorial form”) and that every map would be a picture of its objects, whether painting or landscape, though some of them might be. And even if it *were* obvious, it would still be far better to say explicitly that the students deal specifically with a diagram or with a map, especially if the diagram is a representation of a picture and the map is a representation needed to make one.

In other words, and complementing the idiom of images-as-registrations, it would be best to speak of images-as-representation by specifying the kind of representation (the kind of image) one is dealing with in any given case—a picture, a diagram, a map, a scale model, and so on. Of course, these types and functions of representation can intersect. A picture could be used in a map, a map might be a scale model, and so on. But then there is all the more reason to be explicit about the particular interactions of imaging in each case.

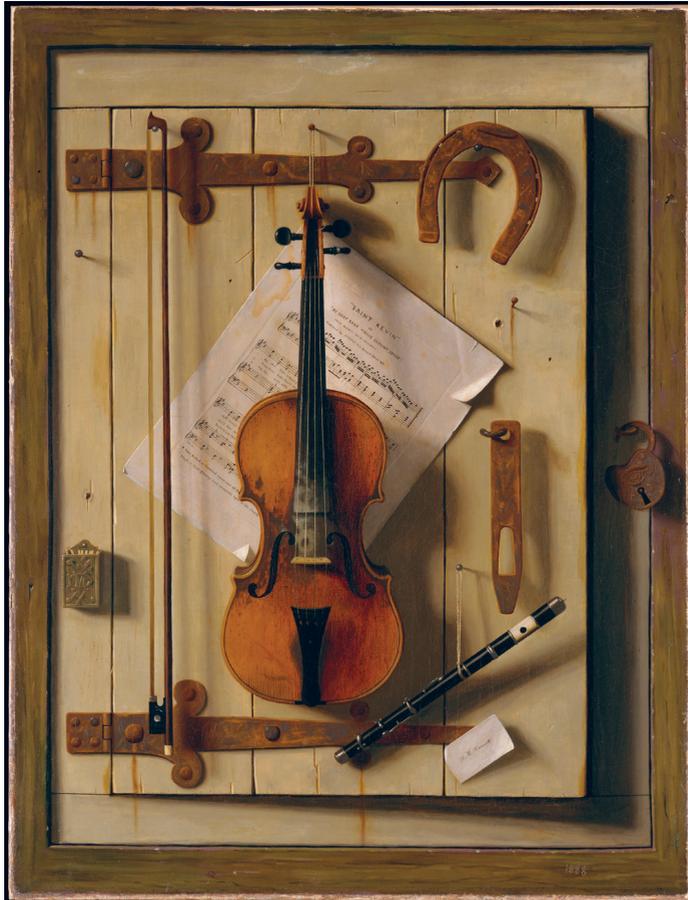
Some schools of psychology and philosophy have urged that vision—human seeing—is representational: an optical image, the registration of real space by human vision in visual space, is a representation (see Chapter Seven, §11). On some accounts, in fact, the representation might be specifically pictorial. But I do not explicitly need this terminology, and therefore I will not adopt it. Indeed, for the sake of clarity (and in line with a familiar idiom) I will proceed oppositely: generally I reserve the term “representation” for man-made artifacts in visual space (pictures, diagrams, maps, scale models, and so on), whether or not the imaging of them—as things in visual space—is “representational.”

6. THE ANTHROPOLOGY OF IMAGES AND IMAGING PICTURES

I have described two idioms that can be found in such academic disciplines as art history, film studies, and architectural criticism and in visual-cultural studies broadly defined: images as registrations and images as representations. It would be foolhardy to claim that these idioms exhaust everything that one has meant by “image,” “images,” and “imaging” even in those disciplines, not to speak of radiography and ophthalmology. (To speak only of influential writings in English, in “What Is An Image?” W.J.T. Mitchell has offered a “family tree” of the many notions and connotations of “image,” and in *The Domain of Images* James Elkins has charted the different arenas in which images become both objects of study and means of observation.⁶) But their idioms do relay the highly articulated ways of thinking that have constituted art history, film studies, architectural criticism, and their ilk. They identify the supposed objects of such disciplines, which supposedly “look at images,” and to a lesser extent the *means* of such disciplines, which use images as their very media of inquiry — as in the professor’s classroom lecture.

In art history one hears, for example, not only that a picture is an image, that is, that it depicts — and perhaps that it is a map, a scale model, and so on. One also hears, perhaps, that a *painting* (suppose it is not pictorial) is an image, that an effigy (suppose it is aniconic) is an image, or that an architectural setting for paintings and effigies (suppose it contains no representational elements beyond whatever the paintings and effigies might represent) is an image. Here “image” simply designates a phenomenon in visual space that has been produced specifically to be registered, at least in part, including visible representations. Indeed, in art history as it has expanded to include visual-cultural studies and *Bildwissenschaft* one might hear that a solar eclipse (a physical event in real space that does not occur *because* it is a phenomenon) is an image, that is, that we have an image of it or a way of registering and maybe representing it (suppose that we watch it through special sunglasses, or photograph it through a telescope [Figure 0.8]). And one might hear that the fission of mitochondria is an image (suppose that we watch it under high-resolution microscopy, or alternately as an animated digital simulation). In all these cases, and to repeat the main point, the term “image” can be replaced with a more particular and precise label: “abstract painting”; “aniconic effigy”; “solar eclipse photographed through a telescope”; or “mitochondrial fission visible under an electron microscope.”

In this sense, it seems that sometimes the analytic work of the term “image” — as distinct from the terms stating an extension in a given instance — is best limited to cases in which we do not know, or cannot discern, what kind of phenomenon we are dealing with in visual space. Someone might not discern, for example, that a phenomenon in his visual space is a representation, even a picture. To take a well-known



0.8. Anonymous, nineteenth century. Solar corona observed at Wadesboro Observatory, North Carolina; photograph of the total eclipse of May 28, 1900.

0.9. William Harnett, *Still Life—Violin and Music*, 1888. Metropolitan Museum of Art, New York (63.85), open access collection.

case that I will address in detail in later chapters, suppose that the phenomenon is a successful painted *trompe l'oeil* (Figure 0.9). Should the art historian, then, write of its beholders' experience of a "picture"? (*Trompe l'oeils* are often included in art-historical catalogs of paintings said to be pictures, and they have been included, with caution, in philosophical taxonomies of depiction.) In order that we not assume what remains to be demonstrated—namely, that beholders *do* see a picture, or eventually will see a picture—and in order to describe the beholders' visual space, we might best say that an "image" (a slice of visual and visible world that the *trompe l'oeil* has successfully called into being) is present or active in the beholder's visual space, but not *as* pictorial. In this case the *trompe l'oeil* virtualizes (what the beholders see as) particular real objects in space. Beholders have a visual image of—just *see*—a real violin, a sheet of music, a horseshoe, etc., hung on a cupboard door that is unlocked and slightly open.

Here we reach a well-known conundrum. To use the theoretical apparatus that I developed in *GTV*C and will refine in the present book, nothing warrants the reflexive art-historical assumption that a "succession" of an image—the phenomenon in visual space—to any such particular recognition as "picture of *X*" or "*X*-effigy" will actually occur, or, if it *does* occur, that it will occur in the same way for every agent for whom the image (resolved as the picture) can be said to be present and active. In the case of one agent, the image—the phenomenon in visual space—might succeed to "picture of *X*" (or to "*X*-effigy"), while in the case of another agent it might succeed to "the god *X*" or to "*X*-emanation," "*X*-incarnation," or "*X*-exemplification." In this book, however, I will not need to be troubled by this intriguing possibility, though it formed part of the basis of my approach to pictoriality in *GTV*C (and see Chapter Two) and it has been much discussed by anthropologists, historians of religion, and other writers, among whom a so-called anthropology of images (*Bild-Anthropologie*) has developed. This book is not primarily an anthropology of images—of their analytic classification, of their indigenous typology, ontology, and aesthetics, or of their affective and social power and agency. It is specifically about pictures in relation to imaging—an anthropology, in other words, of *those images that are pictures at the phenomenological level*. (I will take it, however, that there must be phenomenological succession here, a history in visuality and virtuality: the "mere picture" must be resolved to have the pictoriality of an *X*-depiction.) And in my definition a picture—if it is visible at all as a picture, if it is "present" as pictorial—has to be a "picture of *X*," an "*X*-picture." If it is a god-incarnation or a god-emanation—without pictoriality—then it is not a picture.

Of course, determining whether a picture is present—the anthropological *sine qua non* for my purposes—is not an easy matter, even if art historians tend to assume that what I will call "mere pictures" always depict. There are pictures that are not visible as pictures to some agents at certain standpoints. Notably these include the kind of highly

successful *trompe l'oeils* that I have already mentioned; their “deceptions” are crucially dependent on certain optical standpoints. And they might include the icons and effigies, recognizably pictorial to many agents, that are sometimes supposedly taken by particular agents in certain religious visual cultures (as it were spiritual visualities) to be divinities and other kinds of extraordinary being. Whether or not these images are dependent on certain *optical* standpoints, they do seem to require a certain perspective on the part of devotees—an imaging, envisioning, and imagining. Still, *trompe l'oeils* must almost always give themselves away as pictures to *all* agents at *some* standpoints; they become visibly anamorphic, and likely reveal themselves in tactile handling to be painted surfaces. And religious icons can almost always be described as pictures (or some other kind of representation, such as an effigy) by *some* agents at *all* standpoints. Not everyone in the group fully believes, and not every belief denies pictorial mediations. Indeed, some embrace them.

Stated another way, the *trompe l'oeil* and the religious icon—however pictorial—can function as “images” within a particular visual culture, perhaps even as kinds of images that are specifically *not* pictorial—instances of pictoriality—in that visual culture. (Pictoriality visible as such might defeat their purpose, drain them of their meaning, and compromise their power and value.) But in the natural history of these images—that is, in successions to visuality and in recursions within it—pictoriality itself must inevitably become visible (though not in the same way for everybody), and image will become either illusion specifically or icon specifically (though not, of course, to agents of a visuality within which the mere picture has been construed as a nonpictorial image). There is, then, no ultimate conflict between an anthropology of images and a theory of the imaging of pictures, even when the images in question are nonpictorial pictures in visuality. There is simply a difference in historical scope—in the actual historical moment in the phenomenological succession of pictoriality that has been consolidated in visuality. Because of the importance of this matter to any general theory of visual culture and to any historical phenomenology of images and pictures (and of imaging pictures), I pursue it in detail in Chapter Three.

7. “WORLDING” PICTURES

None of the pictorial traditions that I address—prehistoric European (Aurignacian and Magdalenian), ancient Egyptian, Classical Greek, and the rest—needs be identified with a particular human culture in the late-nineteenth-century sense of that term, that is, with a particular socioethnic group and its internally shared customs, laws, and beliefs. In principle, they can be described not only as visual cultures located in a particular historical time and place—that is, as visualities. They can also be

described as pictorial spaces that can be replicated wherever a certain kind of imaging occurs—that is, as virtualities. The former—visualities—ordinarily would be the province of so-called visual-culture studies. But the latter—virtualities—probably are better tracked and explicated in a world history of imaging and picturing, whatever this inquiry might be called.⁷

This is because pictures often *make* visual culture as much as they are *made by* it (see Chapter One, §4). By definition, this process cannot be fully grasped if one takes a given visual culture (singular) to be a *fait accompli*—as an entrenched preexisting visuality that dictates how pictures will be made and seen. It must be complemented by a history that deals with the inverse process—how picture-making sometimes *issues in* visual cultures (plural). At the very least this history would have to be comparative and inter- and transcultural (Chapter Four), and it seems to conform to certain natural-historical principles. It can help make sense not only of the continuities of pictorial configuration from the deep past to the present day—a level of continuity, for example, between Egyptian pictorial “conceptualism” and Classical Greek pictorial “naturalism” (Chapters Seven and Eight). It also helps make sense of their disjunctions—the disjunction, for example, between painted *trompe l’oeils* in early modern depiction (Chapter Nine) and computer-generated three-dimensional object-simulations in present-day new media.

Art history has long taken such continuities and disjunctions to be one of its global purviews—its mission and its mandate as world history. If this were not true, it would have splintered long ago into discrete historical anthropologies of indigenous canons of aesthetic judgment and cultures of pictorial practice. But two obvious caveats are needed. First, discrete historical anthropologies have been built into the philological and archaeological subdivisions, the “area studies,” of professional art history created in the late nineteenth and early twentieth centuries—that is, into relatively compartmentalized studies of European, African, Asian, and other arts. The dominance of these professional territories has sometimes occluded the kind of considerations to be addressed in this book. Second, a world history of imaging pictures need not be the same thing as a “global” history, though substantially global histories can be identified, including histories of the “globalization” of particular visual cultures, now and in the past, and therefore, likely, of their interaction in the world—their mutual succession and feedback. As this phrasing might suggest, a world history need not always be global: as I would like to put it, it only needs to put art, pictures, and images into the world.⁸

In the present book, my central means of worlding pictures—of putting them into the world—is to reconstruct how they are imaged at standpoint.

8. THE ORGANIZATION OF THIS BOOK

Part One introduces the analytic frameworks that I will use to deal with the matters I have outlined so far. In Chapter One I set out the most general of these frameworks: namely, an analytics of visual space; an analytics of imaging pictures in visual space; an analytics of visual cultures in world history (largely based on the approach to visual culture proposed in *GTVC*); and an analytics of “abstraction” and “representationality.” In Chapter Two I present a more specialized framework for the analysis of depiction — one kind of image-making activity in visual space, and the one on which I focus in this book. I develop distinctions between what I will call “radical pictoriality,” “pictorialization,” depiction, and “mere picture,” all conceived as variations of imaging in making pictures. And I try to describe their systematic interrelations.

Chapter Three takes up the question of “presence” mentioned in the first section of this Introduction. We have seen that this book concerns the work of pictures in visual space, in imaging. In part this is a question of their visibility and visibility — how they are seen, what is seen in them, what they are seen as, what those things are like, and so on. But it is also a question of their virtuality — what they construct as a virtual pictorial space, continuous or not with the rest of visual space, and what is “present” to us in that space, or as it. In Chapter Three I explore a problem posed by the anthropology of images — namely, the status of the “presence of pictoriality,” of the visibility of picture as such, in the operations of virtuality.

Part Two deals with different *kinds* of spaces (and correlated temporalities) constituted in depiction, with special reference to art-historical inquiries that have set out to describe them. These inquiries have often been dominated by the phenomena of congruence between pictorial space and natural visual perspective, especially by the issue of *simulating* natural visual perspectives in pictorial spaces.

In Part Two I approach this matter by emphasizing that there is no stable singular relation between natural visual perspective and pictorial space. Natural visual perspective is constantly changing. The eyes never stop moving, and the human body is often in motion. Therefore pictorial spaces are constantly changing, even if we are continuously inspecting one and the same material artifact in real space. It is obvious that a picture which seems to be properly proportioned pictorially at one standpoint can seem to be distorted at another standpoint close by, or to a different beholder occupying the same standpoint at a different time. And therefore — in an unavoidable recursion — natural visual perspectives are constantly changing in so far as pictures are present in them at all (the contingent question explored in Chapter Three). New visual spaces — and many other spaces of embodied awareness — are constantly being opened up by pictures, depending on one’s time and place in the successions of visibility

and virtuality. It is in this domain that art historians have often hoped to describe the “presence,” “agency,” and “iconicity” of depiction, its “efficacy,” “power,” and “action.” But its intricate circuitry—and by “circuitry” I mean no literalization of the metaphor in electrical, cybernetic, neurochemical, or any other terms—has sometimes been taken for granted, as if the picture in its radically external *Gestalt* simply stands determinately over and against a beholder who is always striving toward the recognition of *Gestaltung* that is there to be seen.

In Part Two I describe these successions and recursions in three registers: in terms of the inherent “bivisibility” of pictures in visual imaging, that is, as *visible* objects in visual space (Chapter Four); in terms of the “bivirtuality” of pictures in creating *virtual* visual spaces and *virtual* visible objects therein (Chapter Five); and in terms of the “birotationality” of virtual objects in pictures when imaged (Chapter Six). Flowing from my preliminary definition of picture (an artifact in visual space that extends it into a virtual space of virtual objects), these registers are analytic—ways of describing certain successions and recursions that I take to be inherent in the imaging of pictures. For this very reason, they seem to imply a world history of imaging pictures: there can be no historical situation of depiction, no picture-making practice or culture, that lacks them.

“Bivisibility” (Chapter Four) analytically designates the fact that no pictorial space is one visuality only, as well as the historical process in which this fact emerges empirically for certain beholders at standpoint (as it must in the imaging of pictures). Pictorial space is routinely visible *outside* the visuality in which it was produced, that is, in which it was made to be used visually. And different people see different pictorial spaces depending on the visuality they bring to the visibility of the depiction and the visual space that the picture demands and projects. For these very reasons, pictorial spaces can become one of the primary sites of interaction *between* visualities—different visual cultures.

“Bivirtuality” (Chapter Five) analytically designates the fact that in some respects and at one standpoint a pictorial space can seem to be substantially continuous with the rest of visual space in natural visual perspective—a seemingly uninflected optical extension of it—and to be discontinuous with it in other respects and at another standpoint, as well as the historical process in which this fact emerges empirically for certain beholders at standpoint (as it must in the imaging of pictures). And “birotationality” (Chapter Six) analytically designates the fact that all depicted objects—what an *X*-picture depicts—constitute different pictorial spaces depending on whether they are imaged when “frontalized” and/or as depicting things as “frontal” (on the one hand) or in “foreshortening” and/or as depicting things as “foreshortened” (on the other hand) and on how these angles of vision interact, as well as the historical process in

which this fact emerges empirically for certain beholders at standpoint (as it must in the imaging of pictures).

In historical successions of the imaging of pictures, then, bivisibility (the visibility of the picture to beholders outside the visuality in which it was made to be used visually) could lead *through* bivirtuality to birotationality (a different way of seeing the objects depicted in the picture—of using it visually). By the same token, though inversely, birotationality (such as an imagistic “foreshortening” of a “frontalized” pictorialization of an object) could lead *through* bivirtuality to bivisibility—a sense that the picture does not wholly square with the visuality in which it was made to be used visually (that is, in which it is made to be visible as a picture), and even that it can be used as an alternate virtuality and relative to epistemological and ontological purposes of a different visuality. In general, a succession in any one register could lead to successions in any other. In imaging pictures, bivisibility, bivirtuality, and birotationality are interdetermined in complex successions and recursions that have rarely been described in full.

And successions and recursions are unavoidable. My terms—bivisibility, bivirtuality, and birotationality—designate *inevitable historical successions in the imaging of pictures*. Above all, effectively it is impossible to prevent—to arrest or to foreclose—apparent birotationality, though birotationality can be partly corralled in the real space in which the picture is used visually. Not surprisingly, then, the rotation of depicted objects has long been identified in art-historical and other theories of imaging as the primary visual engine of the historical development of picturing—of pictorial style and tradition. Chapter Five looks at this crucial historiography.

In Part Three, and in view of the three registers of inevitable visual succession identified in Part Two, I address the technical means by which image-makers calculate the ways in which a picture can be imaged, and to some extent control them. In particular, I deal with the construction and experience of “virtual coordinate space,” a concept implied by David Summers’s pioneering treatment of what he has called the “virtual coordinate plane.” Virtual coordinate space is a function of the way in which the picture is visible in the beholder’s visual space—a highly particular function of the angle of vision, and therefore maximally beholden (we might suppose) to the vagaries of bivisibility, bivirtuality, and birotationality. But recursively the virtual coordinate plane must be computed, even envisioned, in configuring the picture: precise proportional and other virtual relations must be worked out—worked out optically, metrically, geometrically, and even numerically—in relation to the standpoints that might be and have been occupied by beholders. These computations can occur intuitively (usually in the very act of making the picture) or they can require laborious planning (often a specialist knowledge), not to speak of the fact that they are often obtained mechanically (at any rate they are implicit in the use of devices that encode and produce them).

Part Three deals, then, with the relation between the material plane (or planes) of the (mere) picture and the virtual space (or spaces) actually constructed by its pictoriality in visual space. Part Three goes into greater technical and contextual detail about particular traditions of depiction than do the earlier chapters.

For reasons to be identified in Chapter One, and already intimated in this Introduction, the analysis of virtual pictorial space in terms of coordinate planes requires that I investigate, analytically reconstruct, “what the image-maker sees” in making the picture—in putting it into the world to be seen by him and others. My model of visual space and virtual pictorial space at standpoint entails that “what the Chauvet Master, Hesire, Phidias, and Brunelleschi saw”—an Aurignacian painter, an ancient Egyptian scribe-draftsman, a Classical Greek sculptor, and a Renaissance Italian engineer respectively, all pictorialists—was in part particular to each of them alone as visual agents. In *GTV*, I argued that this fact—this corporeal, experiential, and social condition—of visual space and artifacts made to be visible in it requires art history to “build down” from large-scale sociological analysis of group behavior and trends of viewing in visual culture. Stated the other way around, it requires art history to “build up” from individual corporealized experience at standpoint in visual space. Some respondents to these proposals have suggested that this kind of investigation is impossible. But I categorically demur; in this book I try to indicate that it flows from the most elementary analytics of visual space.

I sum up. Part One presents an analytic apparatus that enables me to describe the imaging of pictures in a certain way. Part Two deals with the inherent successions and recursions in imaging pictures that can be identified by means of this apparatus. And Part Three explores the empirical history of certain successions and recursions in imaging pictures—certain virtual spaces—that can be tracked in these terms, that is, what we might take the pictorialists and other beholders to have experienced visually in making and using the picture.