Postmodernism

and the Annihilation

of Resemblance
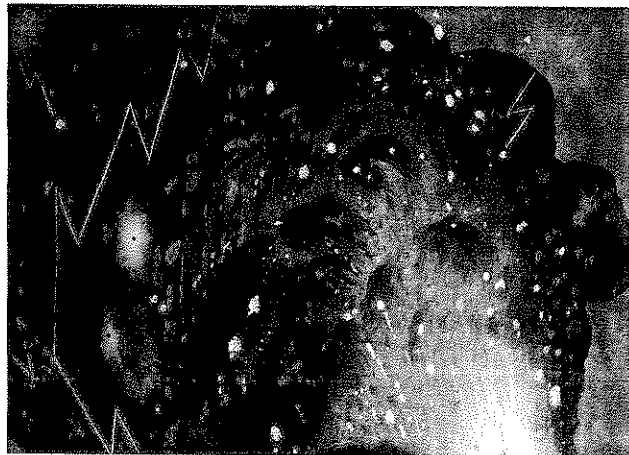
And simulation *is still not duplication.*
John Searle, "I Married a Computer"

Why analogy? Today even the name sounds anachronistic, if not down-right delusional, conjuring up fantasies of the free-associationist impulse run amok. Umberto Eco recently ridiculed it as "Hermetic semiosis," the cabbalistic obsession and paranoid credulity that uncritically leaps to link everything in the cosmos to everything else.[1] Yet Plato, inspired by the early Ionian school, declared that analogy was "the most beautiful bond possible."[2]

Analogia, or *ana/logos,* signifies "according to due ratio" and "according to the same kind of way."[3] *Analogon,* then, is the proportion or similarity that exists between two or more apparently dissimilar things: like the ten-sile harmony that Parmenides maintained fitted together fire and earth, or Empedocles believed conjoined love and hate, or Anaxagoras thought tied the visible to the invisible realm. Both ancient and modern, its figures of reconciliation expressed how self could relate to others, how human beings might exist in reciprocity with society or in harmony with nature.

With Plato, Aristotle, the Neoplatonists, Aquinas, Kant, Mill, Nietz-sche, Heidegger, and the late Wittgenstein, this elastic knot of unity as-sumed a wider epistemological meaning than numerical equidistance and logical symmetry. It emerged as a form of dialectics attempting to bridge the seen and the unseen, the known and the unknown. Proportionality, or the like and reciprocal relation between two proportions, is distinct from mere identity, the illusion of full adequacy in the explication of one term by means of another.

I want to recuperate analogy, then, as a general theory of artful inven-tion and as a practice of intermedia communication. Knowledge is a heu-retic system[4] always in pursuit of equivalences for one thing or another. It results when abstractions are made concrete, when family ties between dis-tant or separated events are exposed. In this chapter, I hope to do three things. I want, first, to provide a brief overview of the historical attitude toward analogy, one that counters Eco's deprecatory interpretation. Sec-ond, I want to show how analogy as the webworking strategy par excel-lence became almost exclusively linked with its wrong turnings. And third, I want to consider the dire need for analogical applications in the contem-porary world. By raising a periscope, so to speak, over the social, biologi-

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cal, technological, and disciplinary landscape, I shall argue that we need both to retrieve and to construct a more nuanced picture of resemblance and connectedness.

Most fundamentally, analogy is the vision of ordered relationships articulated as similarity-in-difference. This order is neither facilely affirmative nor purchased at the expense of variety. Analogues retain their individual intensity while being focused, interpreted, and related to other distinctive analogues and the prime analogue.[5] We should imagine analogy, then, as a participatory performance, a ballet of centripetal and centrifugal forces lifting gobbets of sameness from one level or sphere to another. Analogy correlates originality with continuity, what comes after with what went before, ensuing parts with evolving whole. This transport of predicates involves a mutual sharing in, or partaking of, certain determinable quantitative and qualitative attributes through a mediating image.

As Vico suggested in the *New Science* (1725, 1730, 1744), with his concept of the *verum factum*, we can never completely know nature because God created it. Society and history, on the other hand, were shaped by human beings. We can begin to understand these man-made creations by inventively seeking correspondences between early myths, religious rites, political institutions, pictographic languages and those of our own day. *Fantasia* permits the mind to connect disparate things in analogical form. Like the crisscross, in Wittgenstein's *Philosophical Investigations* (1945), cross-cultural knowledge demands imaginative jumps through space and time to discover continuities and discontinuities with current events. The leap of the *ingenium* captures this intersecting process for going on, for continually approaching the same points afresh from different directions and vantages.[6]

As we shall see in later chapters, conceiving analogy as the subsumption of two inferior, dichotomous terms into a superior, third one (as in Hegel's principle of *Aufhebung* or Marx's theory of exchange) is an elision that dangerously veers into the monism of allegory. In contrast, seeing analogy as analogy, that is, as a metamorphic and metaphoric practice for weaving discordant particulars into a partial concordance, spurs the imagination to discover similarities in dissimilarities (as in Leibniz's *ars combinatoria*).

Whether interpreted negatively as collapsing separate categories or, positively, as associating apparent incompatibilities, the goal of analogy

must sound either poignant or wrong-headed to late twentieth-century ears. The hallmark of contemporary experience is an absence of in-betweenness. No third thing mediates between the immediacy of the current event and its antecedent. Analogy's tireless hunt after a common concept ensured, by contrast, that no two opinions were ever perfectly alike, nor were they ever completely foreign to one another. Nothing was permitted to remain locked within its autonomous denotation, to languish within an isolating frame of reference. Today, however, we possess no language for talking about resemblance, only an exaggerated awareness of difference. In light of the current fragmentation of social discourse, the inability to reach out and build a consensus on anything that matters, analogy's double avoidance of self-sameness and total estrangement again seems pertinent. Our planet is staggering under an explosion of discontinuous happenings exhibited as if they had no historical precedents. We are overloaded with personal statements, irreducibly distinctive subjects, and contradictory opinions.[7]

We live in an age of otherness, of assertive identities, of the "diversification of diversity,"[8] and have been doing so since the eruption of romantic individualism during the late eighteenth century. The gloomy monster in Mary Shelley's *Frankenstein* (1818) embodies just such exaggerated singularity. One of the lessons of the novel is that a wholly original creature, an autonomous thing without precedent, is doomed to the loneliness of absolute freedom without ties. Recall that his basic problem was the fact that he could not find his match,[9] or even someone *like* him—whether father, mother, or wife. Being so intractably unique, without filiation, he is quite literally impossible to analogize or bring into familial relationship with the genealogical structure of the universe. This laboratory-induced grotesque lived in enforced juxtaposition with strangers. Such alienation proved prophetic. At the close of the twentieth century, the erosion of communal life and the multiplication of bizarre cults encouraging the simultaneous withdrawal into mindless acquiescence and embrace of dissident idiosyncrasy has left us equally incapable of speaking across differences.

Analogy—the art of sympathetic thought thriving in antiquity and cresting at the close of the baroque era—forged bonds between two or more incongruities and spanned incommensurables. Like the magnificently frescoed (by Daniel Gran) papyrus-, manuscript-, map-, music score-, and book-lined interior of the *Prunksaal* of the Austrian National

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Library (founded in 1526 and housed since 1727 in a baroque wing of the old Imperial Palace in Vienna), knowledge is both a collection and a labyrinth. Paintings of more modest private holdings also show that early modern polymaths had no illusions about universal comprehensiveness (fig. 1).[10] No repository—whether big or small—can contain all learning, not even a digital database. Since no form of organization, no matter how encyclopedic, can give complete access to the diversity of existing or imagined things, analogy provides opportunities to travel back into history, to spring forward in time, to leap across continents. This was never more true than in today's global informatics reeling under the exponential explosion of publications, the hyperspecialized segmentation of areas, and the intransigence of warring methodologies.[11]

Searching for crisscrossing elements to yoke microcosm with macrocosm demanded energy and discernment in the beholder (fig. 2). A performative rhetoric spun a vast web of attracting and repelling forces, chained together by correspondences, linking the lunar to the sublunar world. Homeopathic magic, compelling like to be influenced by like, goes back to Babylonian astrological divination. Priestly prognosticators scanned the heavens looking for auspicious or inauspicious signs concerning the fate of kings, nations, and crops, the outcome of political events and military campaigns.[12] The earth and sky were literally "ominous," emitting signals in the form of portents, compiled and inscribed on tablets as early as 2000 B.C. This "physiognomic" understanding of nature, based on the active perception and construction of affinities, was periodically overthrown—starting already in late antiquity—by a negative allegoresis composed of irreconcilable antinomies. One can think, more recently, of how the structuralist vogue for investigating homologies was discarded by Foucault who insisted, instead, on rupture and dissonance. Central to Lévi-Strauss's anthropology had been the burning question of whether, in a mythology quite unconnected to European antiquity, one could not find the same elements in the same combination.[13]

During the early modern period, specifically, the Leibnizian polyphonic play of the world—visualizable as a magnificent, radiating-aisled baroque palace or church whose multiple distinct paths converged at the center (fig. 3)—hardened into a dualistic poetics and a fracturing aesthetics. Contradictory and ironic structures govern the writings of Novalis, Coleridge, Baudelaire, and Nietzsche.[14] All are gloomily obsessed by vi-
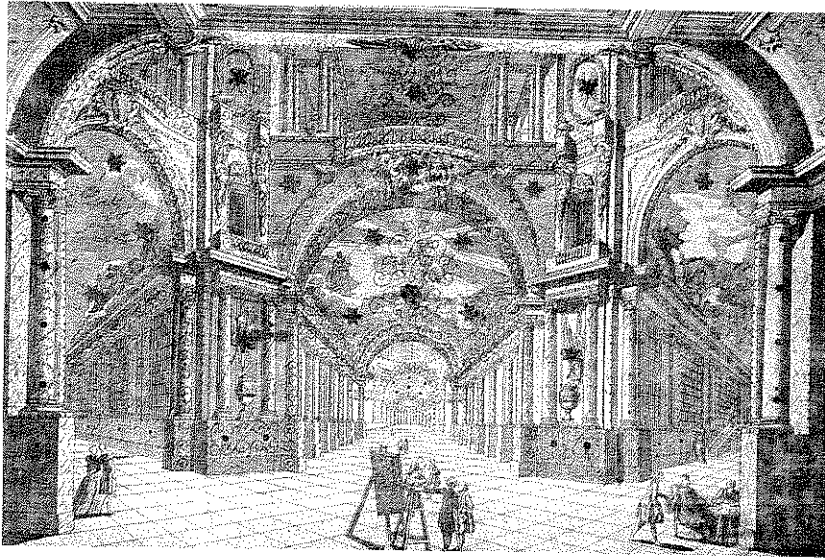
1. Jan van der Heyden, *Library Interior with Still
    Life,* 1711–1712.

2. Athanasius
    Lucis et Um

2. Athanasius Kircher, frontispiece to *Ars Magna Lucis et Umbrae*, 1671.

3. Anonymous, *Vue d'optique of a Baroque Interior,* late 18th century.

sions of an unattainable whole and a universe in tatters. It is not by chance that Derrida's deconstructionism further mined the chasm between the Ideal and the real already dug by the Jena romantics.[15] According to Schelling, every person is driven by nature to seek the Absolute, but as soon as human reason tries to grasp it, it disappears. This intuitive vision of perfection "drifts above him always, but it is, as Fichte excellently expressed it, only there, insofar as one does *not* possess it, and as soon as one seizes it, it vanishes." All description, therefore, is "merely negative and never brings forth the Absolute itself, making it present to the soul in its true essence."[16]

Instead of the fluidities of compossibility, contradictions atomistically pushed apart the corporeal and intelligible realms. Conceiving existence as a lesson in absolute contrariety is exemplified in the oppositional structure determining Joseph Wright of Derby's confrontational *Old Man and Death* (fig. 4). Romantic logic—erected on a paradoxical play of binaries rather than on a dialectics of reconciliation—tended to disintegrate around its two skeptical axes. Members of this post–French Revolutionary generation were the descendants of those Ramist, Cartesian, and Calvinist contrarians

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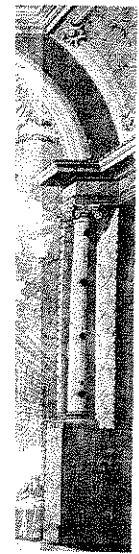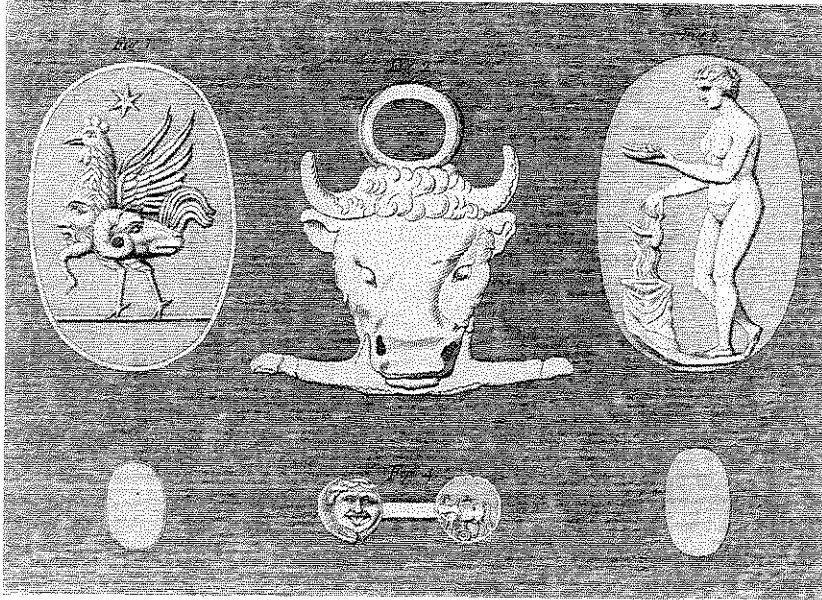tradicti
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of the Protestant seventeenth century no longer able or willing to coordinate competing religious perspectives. Like the Milton of *Paradise Lost,*[17] they were acutely aware of inhabiting a ruined realm in which the Renaissance possibility of magically mirroring the cosmos in words and images had shattered.

The romantic ideal of mental juggling, urging that one hold critical judgments in perpetual equilibrium, all too frequently descended into contradiction, bringing bitterness, pessimism, and ultimately nihilism in its wake. Even Friedrich Schlegel's adoption of the "both and" stance typical of Socratic *eironeia,*[18] rather than rhetorical irony which has as its definition saying one thing and meaning another, fails, in the end, to escape the negative-destructive pole of the desired synthesis of antitheses. In his *Lyceum* fragments of 1797 and *Athenaeum* fragments of 1798, the act of simultaneously combining mutually exclusive ideas or incongruous states-

5. Richard Payne Knight, *The "Symbolical Language" of the Ancients*, 1786.

of-mind hinged not on resolving the conflict between them but on preserving their individual autonomy. Like the monstrous grotesques incised on the cameos and intaglio gems fascinating late eighteenth-century antiquarians, dichotomies were raised into an ironic—that is, a disingenuous—synthesis, one that merely appeared to destroy contrasts (fig. 5).

This illusory coalescence ultimately tainted the work of art, turning it into an allegory whose cold, contrived exterior gnawed away at its imaginative, but fictitious, interior. "Every sentence, every book that does not contradict itself is imperfect," Schlegel declared.[19] From Velásquez's over-the-hill soldier tricked out in a scarlet mantle and the gleaming but ill-fitting helmet of Mars (fig. 6) to Manet's model Victorine Meurand uncomfortably suited in the tight costume of a Spanish espada (fig. 7), the slippage between mask and wearer became increasingly marked.

In the novella *Elective Affinities* (1809), Goethe brilliantly exposed and critiqued the negative dialectics undergirding Novalis's *Naturphilosophie*.

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6. Diego Velásquez da Silva, *The God Mars,*
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7. Edouard Manet, *Mademoiselle Victorine in the Costume of an Espada*, 1862.

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Stretching Robert Hooke's notion of the "sociability" existing between the opposite poles of a magnet,[20] Goethe created a scientific romance to meditate on the mysteries of why and how people are drawn toward one another. He also expanded Newton's theory of gravitational attraction to include chemical and electrical phenomena, correlating these with the lodestone-and-iron-filing patterns of human behavior. Inspired by the fact that mixing certain chemical compounds resulted in their astonishing exchange of "partners," Goethe developed an extended material metaphor to capture the emotional switches occurring among a quartet of lovers. The Captain, one of the story's four characters, thus explained how close and strong, remote and weak connections—just as in an experimentally induced precipitation—really became interesting "only when they bring about separations." The chemist, then, was primarily an "artist in separating." To which the horrified Charlotte vainly protested: "Uniting is a greater and more deserving art."[21]

Paradoxically, the paramount romantic virtue of sympathy was the opposite of analogy. Goethe's novel used the artificially stimulated breakup of elements, violently severed in a chemistry laboratory, to capture the Jena romantics' glorification of the chaotic fragment.[22] In the process, he revealed the allegorical underpinnings of this group's conviction that any "friendship" between ruptured parts—whether nonhuman or human—was ultimately unrepresentable. Romanticism's essentially nonvisual, dissective procedure expressed the isolation, intense interdependence, and resulting disconnectedness from the rest of creation felt by two things or discrete individuals joined in a tenuously exclusive union.[23]

After the polymathic epoch of wonders and curiosities was decisively cast off by Cartesian systematizers, Hobbesian skeptics, and romantic ironists, the inductive art of finding and making connections became aligned, as I suggested, with its hermeneutical excesses. It also suffered by being exclusively associated with its occult manifestations. Even more basically, analogy's mimetic impulse to couple unlike presentations was taken by Stoic-inspired critics as proof of its deceptive illusionism. The deist high Enlighteners, especially, identified a blurring and conflating analogy with astrological necromancy, with the pagan demonology of Neoplatonic "charlatans" past and present (fig. 8), with "Greek Cabbalists," "miracle-mongering" sophists, and polytheistic sects of every stripe.[24] Among these syncretizing "Enthusiasts"—attempting to integrate the cults of Egypt,
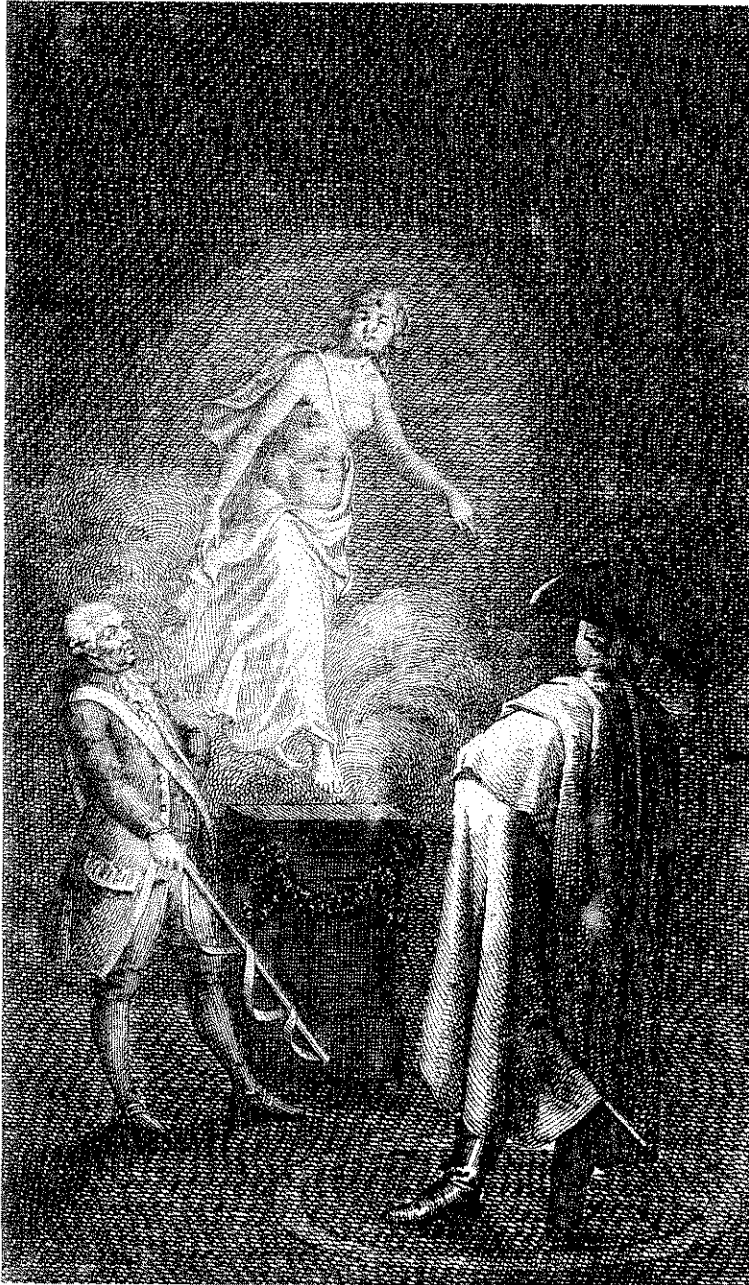
8. Karl von Eckartshausen, *Female Apparition Appearing to Two Men,* 1788–1791.

Syria, and the entire Greco-Roman world—were the number-rigging Pythagoreans, the Egyptian adepts Apollonius of Tyana and Proclus, and the dream analysts Macrobius, Lucian, and Apuleius. All set store by animism, possession, inspiration, and the craft of inducing out-of-body experiences.[25] There is an uncanny parallelism between Second Sophistic[26] philosophical debates, occurring during the later second and third centuries in Rome, and eighteenth-century ethical invectives directed against an eclectic, uncritical mixing of images that seduced ignorant viewers by the apparent naturalism of their shared looks and content. Just as the Enlighteners sought to establish their radical difference from superstitious "popish" fanatics, early Christians wished to separate themselves absolutely from the grab bag of plural gods preceding their single divinity.

James Christie, in his *Essay on That Earliest Species of Idolatry* (1814), even castigated the ecstatic "Mosaic Ceremonies" found in the Old Testament as being, in reality, a disguised worship of the personified four elements.[27] It is not accidental that the founder of one of the two original auction houses in Europe (the other being Samuel Baker of Sotheby's)[28] was interested in the nature of spectatorship and spectacle management, old and new.

Modern Free-Masons, I propose, were the descendants of the ancient "Eclectics."[29] This international network of initiates worked in secret to establish religious tolerance and to distill a common theology out of many local practices. The Baron d'Hancarville, himself a most peculiar adventurer, popularized the view of the earliest Greeks, and indeed the remnants of humanity who survived the aftermath of the biblical Flood, as animating rocks, trees, columns.[30] The trauma of this global destruction and renovation, he and others argued, was commemorated in the shadow plays of the Eleusinian mysteries, the ghostly heroes and gods decorating Greek black or red figure vases (fig. 9), the Chinese feast of the glowing lanterns, and, more generally, in what Silvestre de Sacy termed the Eastern "mystères du paganisme."[31] Perhaps earlier and more extensively than anyone else, d'Hancarville was responsible for reformulating and illustrating the principles of philhellenic syncretism for the modern era.

These "Oriental" proclivities for a system of luminous emanations, a doctrine of wandering souls or Pythagorean metempsychosis, and a firmament crowded with bright angels and dark demons, blossomed uncontrollably by the close of the eighteenth century. The desire to found a

9. [James Christie], *Red Figure Vase Depicting the Transparent "Shews at Eleusis,"* 1806.

holistic cosmopolitan order based on a common belief system all too quickly dissolved into divisive groups each with its own set of adepts and special interests. From Mesmer's channeling of the unbalanced animal spirits of *ancien régime* hysterics into supposedly therapeutic electromagnetic fields, to Madame Blavatsky's *fin-de-siècle* forays into mental telepathy, to Jung's gnostic vision of the male unconscious as stocked by a corresponding female anima and the female unconscious by a contrasting animus, the paranormal dimensions of this type of communication are what have flourished.[32]

With the approach of another millennium, apocalyptic fervor, along with reclusive electronic communes into which one must become initiated, are again proving alluring. My concern is that the impending explosion of chiliastic cults, such as the Branch Davidians and Heaven's Gate, will redraw old battle lines. While digerati celebrate the lack of restrictions, hailing the fantastic identities assumable in multiuser domains (MUDs and

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MOOs) or the Zen fusions of hacker "telepathy,"[33] they also pay homage to otherworldly forces. Escapist cybergroups who remove themselves from society in order to think alike eerily resemble a militantly monotheistic early Christianity which achieved self-definition by radically denying that it shared any features with the surrounding culture. More dangerously, these fundamentalist gatherings of the faithful no longer wish to transform the world by reaching out to their opponents but are committed to the purism of remaining apart. Yet surely Katherine Anne Porter was right: there are no unmixed emotions and no exact synonyms.[34]

The issue of perceptually blending or distinguishing people, objects, or ideas gets at the specifically visual component of analogy. I want to suggest that, at a deep level, the inherent mimeticism of the method constituted its most fundamental problem, provoking intense iconoclastic or iconophilic reactions. When analogical communication was identified solely with irrational occultism—as happened during the Enlightenment—it was because vision itself had become equated, not with Cartesian clarity and rational distinctness, but with Jesuitical delusion and mystical obfuscation in general. Interestingly, key poststructuralist theorists have lately reproduced the outlines of this initially Byzantine bifurcation. For Foucault, individuals are both susceptible victims and discursively produced subjects wielding a controlling hypnotic "gaze" to seize "regimes" of power and knowledge.[35] Consider, too, the opening passage from Fredric Jameson's *Signatures of the Visible* in which he fatalistically couples vision with impotent absence of will and involuntary mesmerization by a seductive image: "The visual is essentially pornographic, which is to say that it has its end in rapt, mindless fascination; thinking about its attributes becomes an adjunct to that, if it is unwilling to betray its object, while the most austere films necessarily draw their energy from the attention to repress their own excess (rather than from the more thankless effort to discipline the viewer)."[36] Not unlike the ninth-century iconophobic emperor Constantine V,[37] Jameson negatively situates the contemporary icon within a demonic iconocracy (no longer ecclesiastically fueled, but mass-media-driven) that sustains its universalizing "diabolical" power.

In contrast to the intrinsic textuality and nonrepresentational abstractness of allegory (a major source of its appeal, I believe, to these same literary critics), analogy is a demonstrative or evidentiary practice—putting the visible into relationship with the invisible and manifesting the
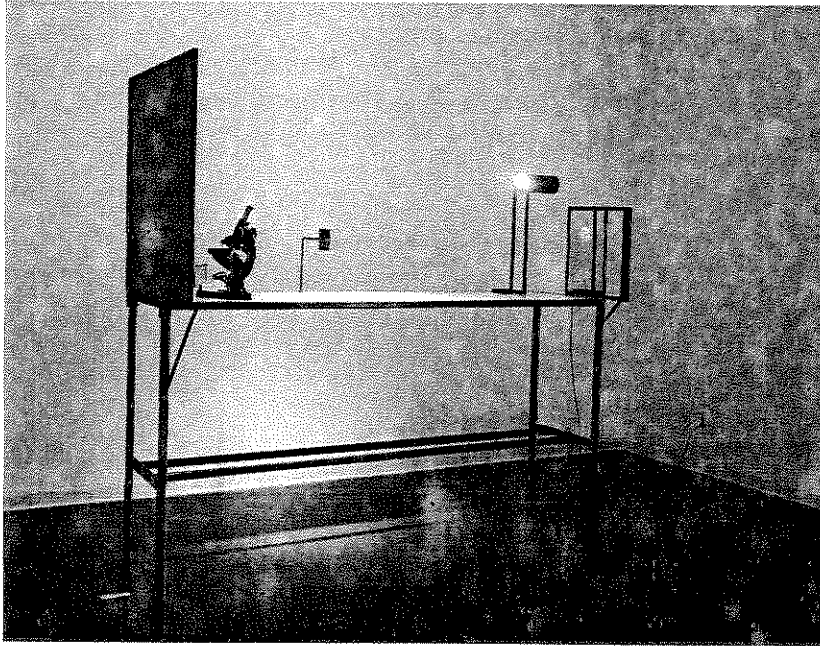
10. Steve Barry, *(Our) Predilection,* 1997.

effect of that momentary unison. From the iconophilic perspective, the earthly or natural image establishes a temporary resemblance with a hidden mystery that one cannot otherwise see. All of analogy's simile-generating figures are thus incarnational. They materialize, display, and disseminate an enigma that escapes words.

Such knotty theological conundrums will be explored in chapter 3. For now I want to change registers and show through a select but diverse range of media how images analogically perform incarnation. Steve Barry's elegant installation piece *(Our) Predilection* (fig. 10), for example, illuminates the instantaneousness of this essentially visual transformation that turns dyadic into triadic relations. As the beholder looks down the barrel of a microscope, she is astonished to see her face reflected back from a mirror, not a lens. But this doubling is not exact. A pink rose—etched on the upper left side of a looking glass located at the opposite end of the table on which the microscope stands and raised perpendicular to it—is miraculously be-

stowed, a present from afar intimately tucked into each viewer's hair. This swift, mysterious gift works analogically since each person is different yet integrates the same attribute in a creatively individualistic way. One might say that the exchange is mutual, bringing a new person or flower to light with every perceptual transportation.

Talking about the tight clustering of objects in her installation pieces, ranging from the sinister pendulous black latex balls of *Articulated Lair* (1984) to the ethereal pharmacy *Le défi* (1991), stocked with multiform crystalline flasks and jars, Louise Bourgeois, said: "In the desolation of human relationships, I group them together, and see that they touch each other. The problem is to put every body in place, to give them a place, and especially to be sure [also] that they are together."[38] Bourgeois's sophisticated sculptural environments minimized the physical distance between disparate things of various shapes and sizes. The very different local situation of each item was both respected and altered through a parallelism that held open the possibility of eventual enfoldment. Repetition—typical of the staggered host of empty Shalimar bottles arranged on a glazed tray in her *Cell II* (fig. 11)—incarnated the insistency, insatiability, and redundancy of desire longing to move from a state of dividedness to resolution. Compulsively repeat the same container, with slight variations, and it is no longer what it once was. Similarly, Nina Levy's curtain of chain mail baubles, composed of jelly-bear torsos pivoting from toy brass meathooks, calls attention to their chromatic and expressive differences through the unnerving sameness of their form and scale (fig. 12).

Remember, too, how through the doubling and redoubling of mass-produced items such as wallpaper, with its bifurcating foliage and recurring border, or chair caning, with its airy woven interstices, the cubists transformed singular debris into tessellated still lifes. These remains of grids and scraps of arabesques—aligning order with disorder in eye-catching conjunction—constituted both the unifying bedrock and the foil for the innovative, dramatic, and equivocal patterns rising in low relief above them. Such "both/and" alchemy, transmuting generic decoration into individualized synthetic ornament, led Picasso to claim that art is "a form of magic designed as a mediator between this strange hostile world and us" (fig. 13).[39] All artifacts can become coeval when their contradictions are recomposed or reconfigured.

Creating correlatives across antitheses is also a central feature of body
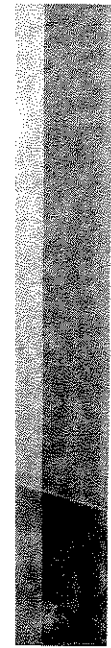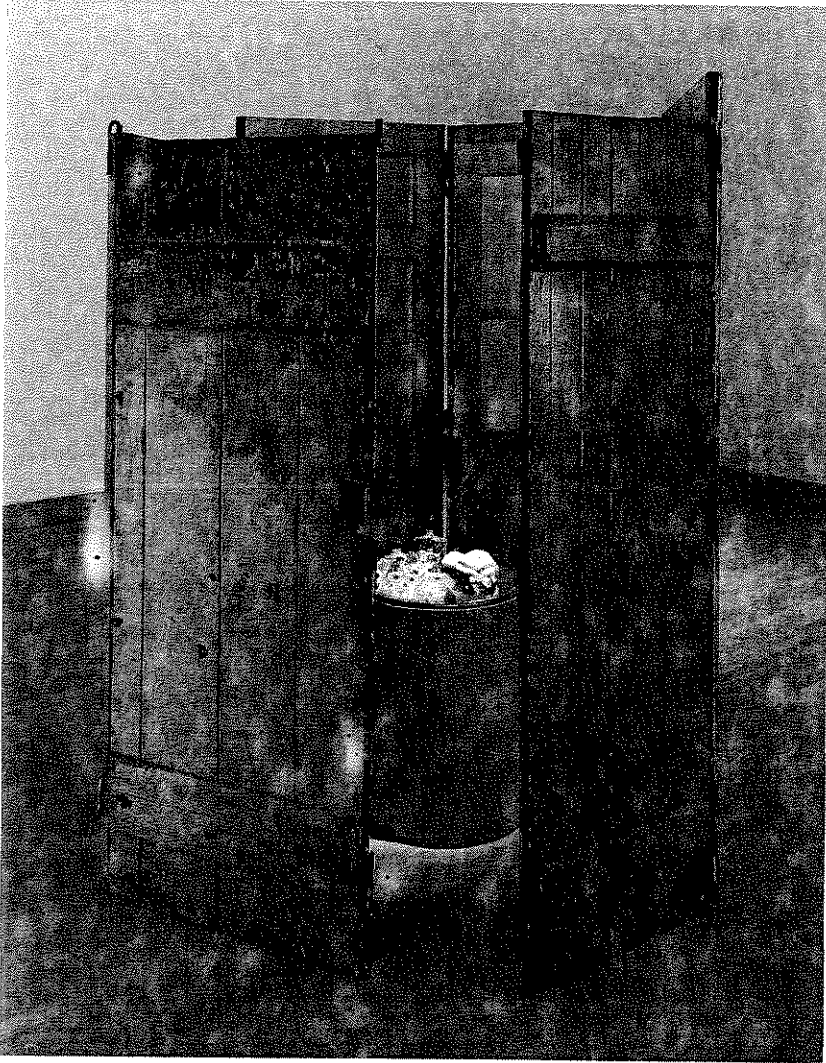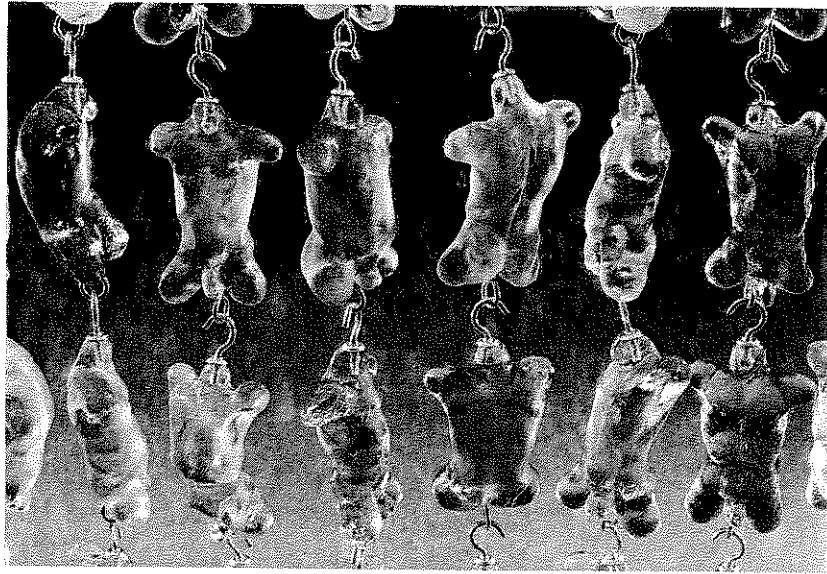
11. Louise Bourgeois, *Cell II*, 1991.

12. Nina Levy, *C*

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12. Nina Levy, *Curtain*, 1995.

13. N. K. Atlas, Paris, publisher, *Children's Magic Box with Instructions*, 1915–1920.

14. Raphael, *The Miraculous Draught of Fishes,*
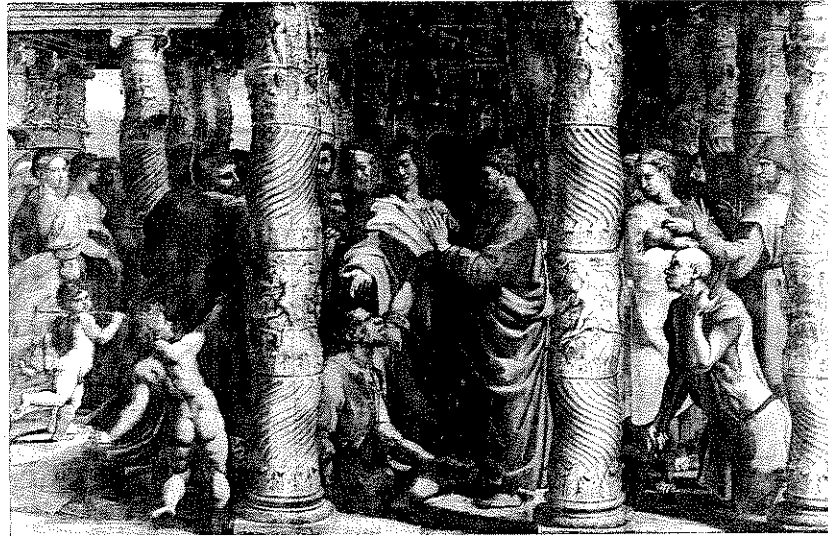1515.

15. Raphael, *Th*

art. Take the Renaissance case study of stunning parallelism: the arms of Raphael's two men bending to haul up a net in his tapestry cartoon, the *Miraculous Draught of Fishes* (fig. 14). Twin shapes merge into a single watery likeness in the thirdness of their combined, bluish reflection. A similar triangulation occurs in *The Healing of the Lame Man* where the grace of impulsive youth (St. John) and the ungainliness of wizened deformity (the cripple) are sympathetically bound together in a complex hieroglyphic, anchored in the grave rectitude of the mature St. Peter (fig. 15). Analogical procedures in the Renaissance thus held open the promise of binding human beings closer to an invisible transcendent truth.[40]

This uncanny visual capacity to bring divided things into unison or span the gap between the contingent and the absolute illustrates why analogy is a key feature of discernment. As perceptual judgment, it helps us

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15. Raphael, *The Healing of the Lame Man,* 1515.

form ideas of elusive sensuous qualities and ephemeral emotions.[41] Not surprisingly, then, forging synesthetic links is crucial to child development as well as to the insights of scientific discovery. Inspired inferences knit perceptiveness to conceptualization by collecting the dispersed manifold into a whole. Not just the stuff of fairytales, the imaginative labor of making a coherent mermaid (by fitting the heads and tails of different species together) is symbolic of how knowledge formation actually works (fig. 16).[42] Since the task of relating human consciousness to an artifact-littered reality is unending, so is the analogical process.

The abiding conundrum of how to reach an agreement between disputants or to weigh competing claims or to discover appropriate affinities among diverse racial and ethnic groups or to tie innovation to repetition continues to haunt postmodern existence. Since the concept of analogy, in recent times, has either been simplified beyond recognition into tautology or become tainted (as I proposed earlier) through relentless identification with mystical pantheism, theosophical synchronicity,[43] and empathetic quackery of the Hollywood variety, I want to sketch key areas of contem-
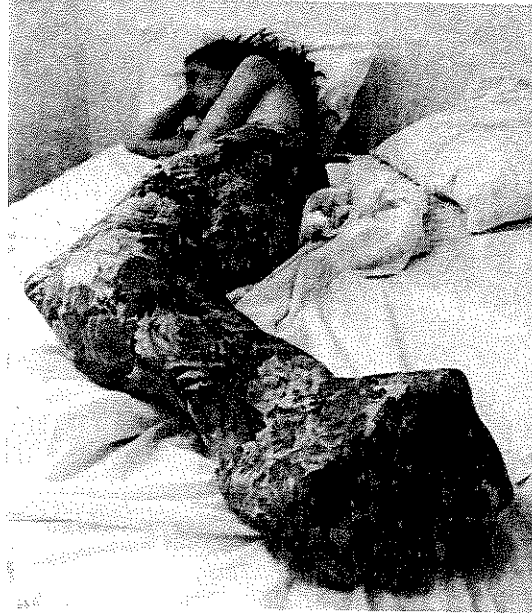
16. Nina Levy, *Girlfriend*, 1997.

porary life that cry out for a fine-grained formulation of resemblance and distinction. This panoramic survey looks across today's fissured intellectual landscape, riddled with multiple yet inconclusive perspectives.[44]

Political reflection in the United States for the last fifty years, as Alan Ryan commented, has been obsessed by questions of inequality.[45] Pertinent to the theme of similarity-in-difference is the difficulty that rationalist defenders of an egalitarian theory of social justice, including John Rawls and Ronald Dworkin, are having in deciding which of the inequities swirling so visibly around us are just or unjust. The problem is that believing in the premise of social equality does not mean everyone is actually the same. The problem for law is that, currently, the concept of similarity has dissolved into the sum of correspondences and differences, commonalities and distinctions.[46]

This trend to mathematize the law, that is, to represent legal norms either according to an exaggerated Aristotelian concept of similarity as a literal economic or geometrical equality or, more radically, by positing that

certain mathematical formulae are isomorphic with certain types of behavior,[47] does not begin to get at the subtleties of equal worth. A few voices are making explicit the depersonalizing poverty of this zero-sum procedure by denying that the legal hermeneutic moment consists of a symbolic logic in which two opposing, or incommensurable, entities are placed in quantitative relation. How do we go about representing a basic human dignity that deserves respect from lawmakers? William Miller has written eloquently that the qualitative emotion of shame, "lost in guilt's shadow, has been unjustly ignored as the underlying cause of most modern and postmodern psychic misery and malaise."[48]

Isaiah Berlin, Judith Shklar, and, more recently, Avishai Margalit countered the formal, calculative rationality of a social theory founded in game theory and econometrics with what might be called an analogical-existentialist perspective. In various ways, they challenge John Rawls's neo-Kantian model of a just society by asking if such an ideal is reconcilable with the existence of debasing institutions. Theirs is a humanizing vision that goes beyond the disembodied abstraction of asking what kind of a social contract rational persons would sign up for as fair terms of cooperation. By drawing attention to the noncerebral experiences of being better or worse off (for example, Berlin on the coercive totalitarianism lurking within Kant's moral imperative,[49] Shklar on the need to balance the virtues,[50] and Margalit on taking into account particular feelings of honor and humiliation so we can build a "decent society" that encompasses groups with competing and not merely incompatible types of life),[51] these authors point out, but do not resolve, the crisis of disparity mutilating the postindustrial state. Importantly, however, their pragmatic emphasis on the determining role of context in exemplary reasoning[52] highlights the connection between analogical legal methodology and humanistic, social, and scientific thinking.

This ethical tension between what Stephen Toulmin called "clean-slate" rationalism and a practical reasonableness[53] gains from being stated analogically. How can one go about establishing a connection between thinking about unequal social arrangements in terms of remote first-order principles and sensing them close-up, in terms of suffering inflicted by individual human beings on one another? Amy Gutmann makes a powerful case for the importance of reciprocity in modern deliberative democracies. Both a moral and a procedural activity, reciprocity is the way we justify

mutually binding laws to one another and thus a fair way of running society.[54] In an era when moral disagreements are further fanned by scarcity of resources, limited generosity, partial understanding, and incompatible values, only the analogical procedure of discussion can help us deliberate and communicate with one another.

Turning to another major conflict dividing public opinion, when Dr. Ian Wilmut, an Edinburgh embryologist, announced that he had created a lamb from the DNA of a ewe by means of nuclear transplantation cloning, the ensuing discussions ran the gamut from legal issues (whether clones would have the same status and rights as other people), to the medieval quandary over soul-splitting, to worries about vindicating a culture of narcissism, to the specter of eugenics (the opportunity of engineering "the perfect child").[55] What was, and still is, missing from this impoverished polemic, and from that surrounding the new asexual birth technologies in general, is a sophisticated representational taxonomy recognizing the existence of *degrees* of likeness. These range from the simulacrum and facsimile, or the exact and complete replication of another thing in all its surface detail, to the subtle gradations of mimesis, best captured in the fine-grained art historical terminology separating copy from imitation, re-creation from likeness.
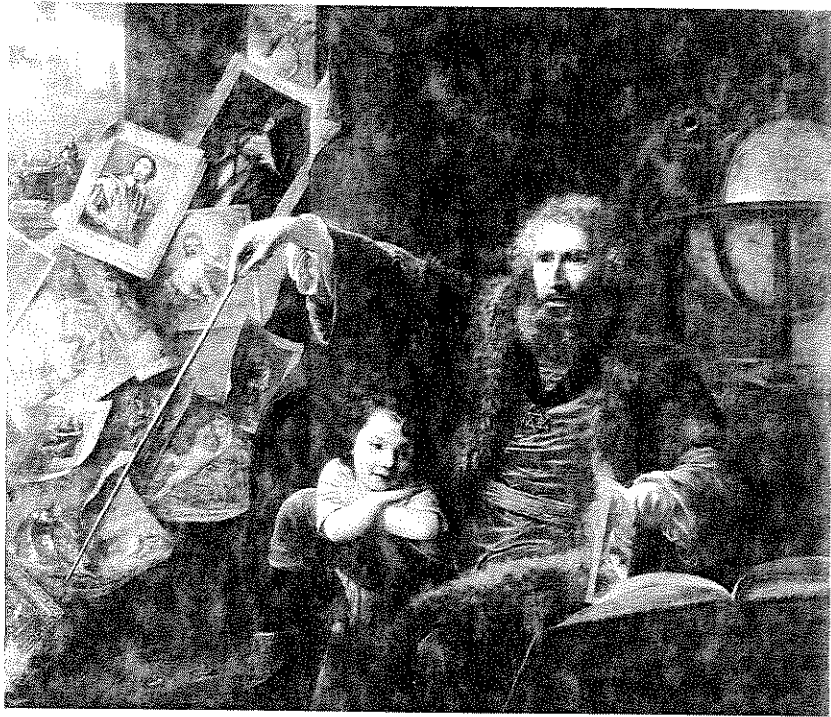
The imputation of an artwork's too-close resemblance to a prototype colors the long and vexed relationship between the ancients and the moderns. A flourishing eighteenth-century market in prints, especially, exposed the dilemma of our skill in creating likenesses of people and things that had first appeared in other media. The Irish painter Nathaniel Hone the Elder, for example, likened the uncontrollable proliferation of unique old master pictures through reproductive engravings to a kind of pernicious conjuring (fig. 17). The painting makes satirical reference to Joshua Reynolds's penchant for borrowing attitudes from famous continental artists and his wizardry in transforming dog-eared prints into English portraits.[56] Further, a recurring paradox of neoclassical statuary was its bondage to prior example. As Christopher Johns has shown in his study of Canova's marble statue of *Letitia Bonaparte* (1804–1807), the jealous French art establishment was quick to accuse the great Venetian sculptor of using a cast of the Capitoline Agrippina in his life-size portrait of the emperor's mother.[57]

Bioethicists, I think, could learn much from the venerable aesthetic practice of subtly varying a type. Just as the fallacy of genetic determinism


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17. Nathaniel Hone the Elder, *The Conjuror*, 1775.

is to suppose that genes completely make the organism,[58] so it is a mistake to believe that identical artistic types produce identical representations. We have learned from DNA sampling techniques that even monozygotic twins are not precisely the same.[59] In the extreme case of Dolly's cell cloned by Dr. Wilmut, it is important to remember that, as it divided, it developed first into a mass of "totipotent" cells having the ability to become any kind of sheep cell, not just a mammary cell like the one that was cloned.

Similarly, the subtleties of copying also help us understand how reperforming any past or previous phenomenon brings it back into a different life. Canova's sculpture not only exhibits the complexity inherent in any binary pairing but shows how change happens, voluntarily or involuntarily, when one goes through the motions of redrawing. While he had *Madame Mère* appear in the guise of a generic Roman matron, this doubling still
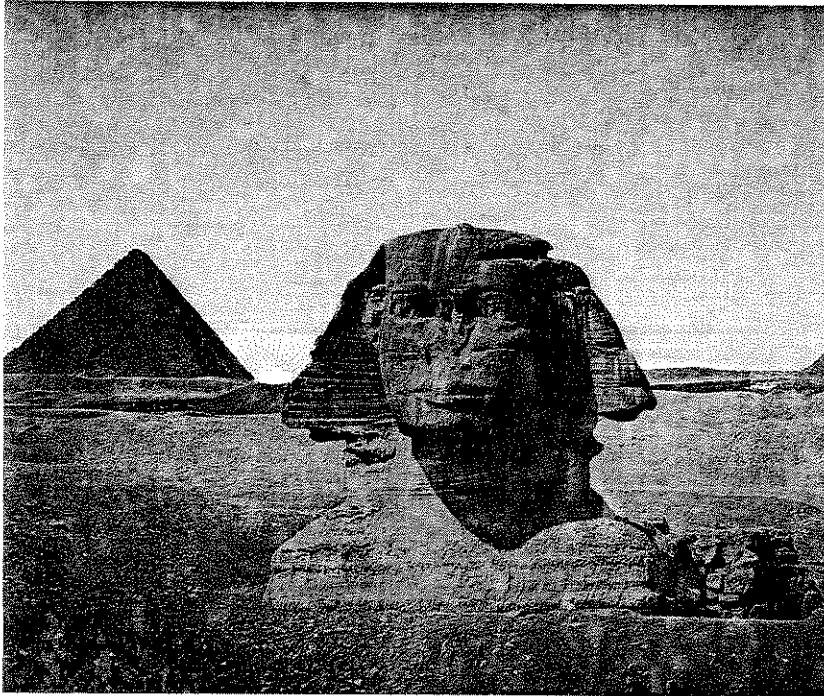
18. Anonymous, *Pyramid and Sphinx at Gizeh,*
1860–1889.

19. Jean Kerho
c. 1910.

left room for significant departures. Far from making a carbon copy of the totality of a distant original, he personalized the likeness of his subject, somatically distinguishing her from the parent source. Similarly, mid-nineteenth-century albumen photographs of the great pyramid and sphinx at Giza—intended for home viewing through a megalethoscope (fig. 18)—were reconceived as startlingly emotive silhouettes in early twentieth-century games of *ombres chinoises* (fig. 19). That is, just as cloned cells need to be coaxed into growing into a mass of specific tissues, like heart muscle cells or skin cells, any reproduced image passes through intermediary steps that necessarily alter its look, role, and function. In addition, the intervention of a later hand or apparatus rematerializes a prior figure that has become either formulaic or symbolic, proving its validity anew for a current situation.

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19. Jean Kerhor, *L'Empéreur: Théâtre d'Ombres,*
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    Similitude is not identity, since the prototype—whether in art or biol-
ogy—undergoes continuous development from its original conception
through subsequent incarnations as a consequence of the environments or
gestures through which it passes. Consider the copy-laden *Self-Portrait* by
the eighteenth-century Irish artist James Barry (fig. 20), which is a particu-
larly flamboyant embodiment of such kinetic knowledge, demonstrating
that to understand remarkable works one has to recreate their elements.
Thus Barry reproduced the feet of the tormented priest from the famous
Hellenistic sculptural group, the *Laocoön.* Yet these limbs were permuted
by his own subjectivity—without violating the spirit of the piece—by be-
ing depicted as more colossal than in the sculpture; similarly, the head of
the serpent was rendered more ferocious. The nexus of references criss-
crossing this complex composition also involved a picture internal to the
larger picture. Alluding to a renowned rhetorical trope, the about-to-be-
flayed Pan (who is the subject of the canvas leaning against the easel) hides
his face to express the intensity of corporeal suffering, not through
wracked features but through the Belvedere twist of the torso alone.

20. James Barry, *A Self-Portrait as Timanthes,*
c. 1803.

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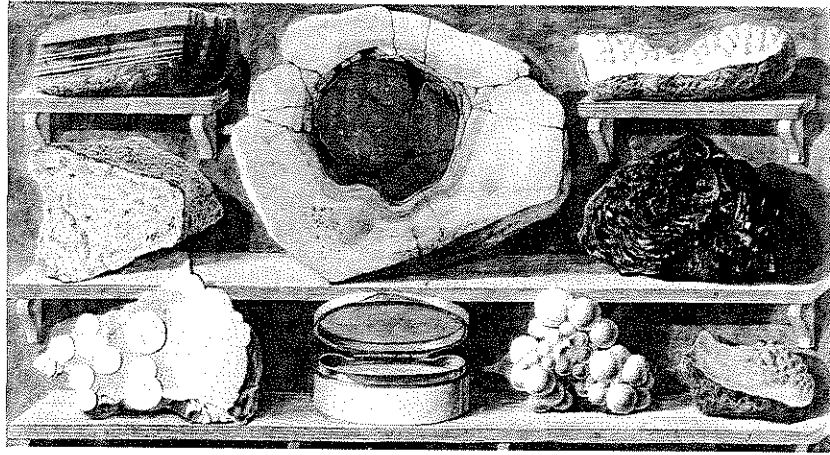
21. William Hamilton, *Specimens of "Curious Stones" Found by Author on Mount Vesuvius,* 1776.

Among the notable things accomplished by this elaborate, partial transfer of artifacts from one sphere into another was the visible emulation of earlier masters by a recent one while, at the same time, opening up an arena for personal originality.

Barry overtly imitated the celebrated practice of the Greek painter Timanthes—recorded by Pliny—who depicted extreme pain by indirection. Although appropriating the method invented by his distinguished precursor, Barry managed to be inventive by translating old marble, pigment, and text into a new and coherent configuration. Artistic performance, like mathematical performance,[60] then, required doing the equations or repeating the gestures oneself to gain insight. This process acknowledges that not everything can be gotten at one go: the more intricate the evidence, the more restagings and approximations are necessary to assimilate it.

Turning to natural history, Peter Fabris, who was Sir William Hamilton's illustrator for the monumental two-volume *Campi Phlegraei* (1776), or scientific study of Mt. Vesuvius and Naples's "flaming fields," arranged the tufa, lava, sulfur, and pumice ejected by that volcano as if these rough specimens were intricately wrought rarities (fig. 21). A century later, a luminous magic lantern slide of American manufacture offered a haunting reprise of
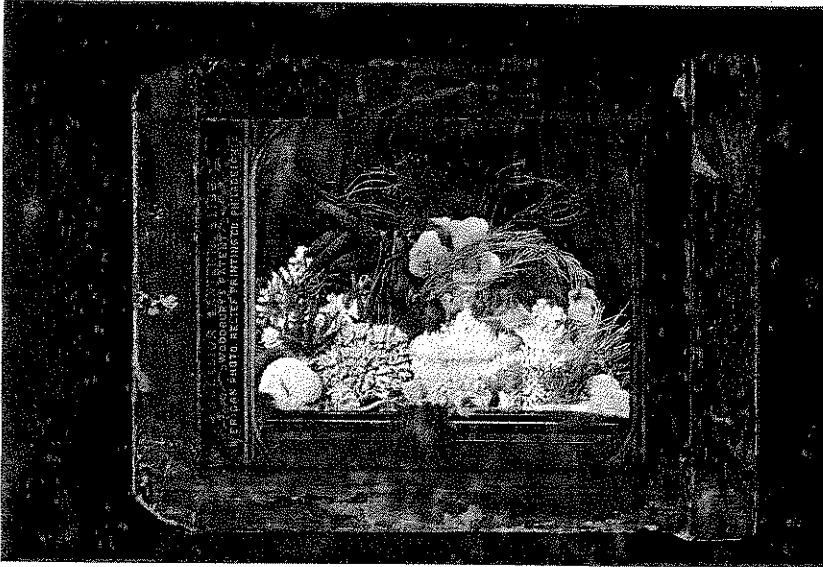
22. Anonymous, *Magic Lantern Slide Depicting Coral Display,* mid-19th century.

an assemblage of corals, madrepores, and waving fronds framed as an artful still-life composition (fig. 22). The gray transparency of the glass evoked a silvery and brittle underwater world whose mutability was now forever immutable. In contrast to such arrested moments of early photography, Fabris's brilliant, hand-colored aquatints constituted a situated science of the visible. They chronicled the simultaneously top-down and bottom-up emergence of layered deposits caused by firework eruptions extending back to the dawn of time and still continuing today (fig. 23).[61] Multiple plates coordinated the distributed activity of these sublime topographies by creating a parallel chromatic physicality and a corresponding developmental temporality, laid out in a sequence on two-dimensional planes.

Returning again to Canova: invention was the reiteration, with a difference, of a familiar excellence. Such emulation of admirable precedents lay at the heart of academic art education (fig. 24). The artist, relying on canonic models and time-honored rules, selected and combined preexisting elements into more effective compositions.[62] Barry's transformation,

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23. William Hamilton, *View of the Great Eruption of Mount Vesuvius on Sunday Night August the 8th 1779*, 1779.

24. Nathaniel Hone the Elder, *Horace Hone Sketching,* c. 1775.

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25. H. J. F. Berg, *Man Reclining,* 1848.

within limits, of the details of venerable objects also drew on the beholder's analogizing power, his or her capacity to discern synecdochic connections between fragments from the past and the disjunctive appearances of the present. Similarly, Fabris's natural history prints converted seriality into co-presence, permitting the viewer to compare interactive portions of the real world with their ongoing pictorial embodiment.

The goal of radical originality espoused by the romantics, on the contrary, claimed for artistic innovation the right to produce entirely unknown objects and to evoke rare emotions. Hence the attraction of opium and pasha-inspired opulence for northern Europeans (fig. 25) and the lure of Byronic journeys to hot, barbaric lands (fig. 26). Postmodernism, in turn, flaunts the cold appearance of the lack of originality, especially in photographic montage and bricolage. Cindy Sherman's ironic self-portraits, dressed as Caravaggio's *Bacchus* or Raphael's *Fornarina*, blatantly restage celebrated artistic prototypes. Nonetheless, by the raw superimposition of "old masters" onto her female body, she overwhelms us with the impression that they literally "do not fit" and that gender constitutes *the* difference.[63] Borrowing a strategy basic to nineteenth-century physiognomic
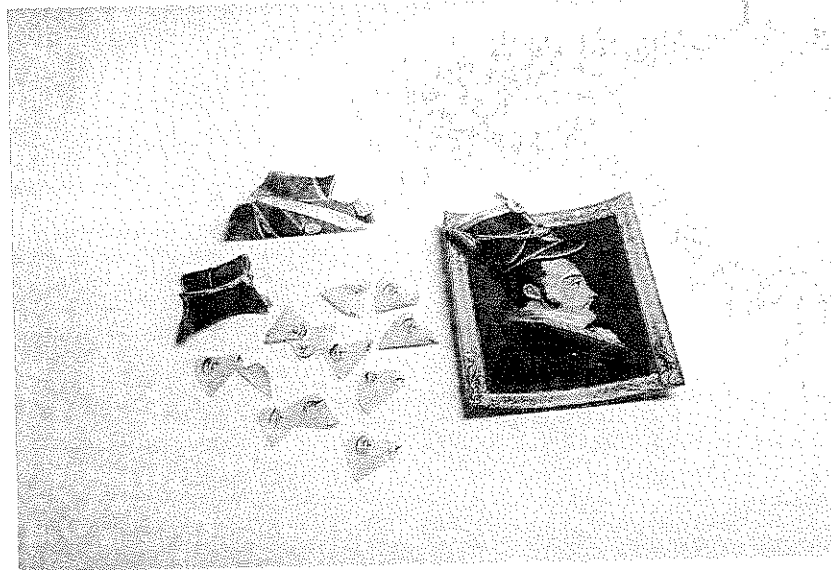
26. Eugène Delacroix, *A Turk Surrenders to a Greek Horseman,* 1856.

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27. Anonymous, *Cards with Physiognomy Cutouts,*
early 19th century.

games—the application of different noses or eyes to a standard template (fig. 27)—she turns the removable mask (figs. 28, 29) into a technological prosthesis behind whose engulfing artificiality lies no "true" face.

The freakish flawlessness of recent photography with digital doctoring, however, has raised greater anxieties than Cindy Sherman's or Sherrie Levine's deliberate mimicry. Worries about where reality lies are analogous to those troubling citizens concerned about the seamlessness of cloning. Artists (typically associated with the fashion industry) like David LaChapelle, Nick Knight, Inez van Lamsweerde, Jean-Baptiste Mondino, and Jean-Paul Goude pervasively and imperceptibly morph, retouch, or even totally create arresting images that do not preexist their computerization. When Mia Sorvino posed for *Allure* magazine, she thought she was appearing as Marlene Dietrich. After the shoot, LaChapelle digitally altered her features, adding the thick eyebrows and cruel lips of Joan Crawford and superimposing an axe-wielding child model playing Cristina Crawford next to her.[64] Clearly, the sanctity of the negative has vanished.

Alle haben Masken vor dem Gesicht

28. H. F. Müller, *Everyone Wears Masks* (face covered), 1790–1820.

29. H. F. Müll
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Alle haben Masken vor dem Gesicht

29. H. F. Müller, *Everyone Wears Masks* (face uncovered), 1790–1820.

After the initial furor over Dolly's genetic "xeroxing" subsided, scientists, too, rushed to say that "a duplicate body does not mean a duplicate person. The clone's brain would be far different from that of the donor, as it must start from scratch and build its own world of experiences."[65] This Lockean thesis about learning from the senses gains in force when put in terms of visual analogy. Something cannot be an image except in relation to an original. Plato, in the *Sophist*, declared that "to be an image" is to have a unique look, to possess a defining mark that both connects and disconnects this repetition to a family of cases.[66] While Dolly's body is an undisguised re-creation—like Sherman's notorious attachments worn as if they were masks—her brain is not a redundancy but an approximate image, that is, an imitation. Something significant is left over and cannot be totally incorporated back into the system that generated her. This is patently not the case with digital enhancement, where efficient manipulation ensures that there is no tell-tale remainder in the resulting simulation. Because of the role played by the external environment in learning, Dolly, on the contrary, is simultaneously like and unlike her chronologically prior, but not ontologically superior, "maternal" source.

The dilemma of identical appearances confronts us wherever we look. International disagreements about maintaining "genetic purity" or creating animal hybrids are surfacing among managers of zoos and wildlife parks. The previous interbreeding of the eastern and southern black rhinoceros or the Bengal and Indochinese tiger or the Bornean and Sumatran orangutan is forcing biologists to reconsider the fundamental question of how they categorize living things and their transformations. Are formal changes absolute or graduated? Do you artificially lump subspecies and species together, thus "contaminating" them, or do you split them into an endless series based on barely perceptible differences?[67] These disputes highlight both the absence of a method for judging how distinct a subspecies must be to be considered separate and the danger of abstracting any living being from its environmental context.

Contemporary researchers inventing hybrids might find D'Arcy Thompson's "principle of similitude," articulated in his 1917 book *On Growth and Form*, illuminating. Emphasizing the functional aspect of form rather than heredity, he argued that an organism should be regarded as a material and mechanical configuration. Morphology, therefore, is not only a study of stable material things, but of their mutable and comparative

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aspects. "Dynamic similarity" maps the forces in action across an entire system such that some vary as one power and some as another. Their relational values fluctuate with shifts in scale.[68] He remarked how slower and calmer motions in animals can be correlated with larger size. Proportionality, the establishment of a geometrical ratio between speed and magnitude, constitutes the cornerstone of his physicomathematical theory of shape.

Thompson's vision of the universe was deeply, and at the time unfashionably, analogical: embracing an infinity of great and small, near and far, many and few items, all demanding to be placed in commerce with one another. The effect of dimension (or, one might add, the issue of experimentally induced border-crossings versus maintaining genetically pristine stock) depends not on the species itself but on its changing relation to the shifting milieu.

Similarly, the distinguished twentieth-century Aristotelian René Thom concluded his study on "the physics of the senses" by asserting that modern science is wrong in renouncing the importance of ontology in the production of biological meaning and reducing all criteria of truth to limited, local solutions.[69] As Thompson urged, only by comparing and contrasting the forms assumed by matter under all guises and conditions (including forms that are only theoretically or mathematically imaginable) is it possible to arrive at correspondences in function between organs or parts of different structures. Only then may we witness how every natural phenomenon is really a composite, the summation of countless subordinate actions.[70]

Modern biology, contrary to the situation in Thompson's day, is armed with a computer able to sort out the affinities of different creatures based on a statistical comparison of their objective measurements. This electronic capacity to correlate vast quantities of data has led to the discovery of exciting homologies. Unlike analogy (in biology, a correspondence in function between organs or different parts of different organisms), homology is the discovery of a fundamental similarity in structure—regardless of function—due to descent from a common ancestor. In cladistics, exhibiting homology has led to the surprising revelation of the unnaturalness of certain old categories such as that of reptiles—which puts lizards and crocodiles in proximity. But it has also revealed the naturalness of placing crocodiles closer to birds than to their erstwhile companions. Cows and

worms, in this homologous system, share unexpected features indicating that the great forms of life that supposedly burst into existence during the Cambrian explosion five hundred and fifty million years ago actually were born long before then.

The crucial problem of determining the proper relationship between underlying laws and explicit results also fuels the acrimonious charges hurled by "Darwinian fundamentalists" against "nonadaptive pluralists."[71] Stephen Jay Gould has taken Daniel Dennett, in particular, to task for denying any importance to chance and contingency in the history of life. A proponent of punctuated equilibrium, Gould claims that the ultra-Darwinian insistence on natural selection as the sole valid mechanism for evolution does not do justice to the fact that organisms are complex and highly integrated. This coherence suggests, to him, that they must throw off "spandrels" or structural byproducts that may become useful at a later point in evolutionary development.[72]

His evocative analogy derives from architecture and refers to the supplemental triangular space remaining between the exterior curve of an arch and the enclosing right angle, as seen most famously in Michelangelo's Sistine Chapel ceiling. Helena Cronin refers to "likeness in diversity," the power of many small changes to pull organisms into line and shape them over vast stretches of time by a selective force that is both opportunistic and conservative.[73] To borrow an analogy from hypermedia, evolution—like human cognition—has a nonlinear structure permitting the organism to navigate along random and multiple pathways and to choose options by making associative links.

Reconciling and integrating the random, nonadaptive aspects of evolutionary change with its determinate, universal side must also infuse thinking about consciousness and how the brain works.[74] Here, disturbingly, the physiognomic fallacy has returned. Localizing mental operations into discrete organs has mesmerized evolutionary psychology. Steven Pinker has expanded his "toolbox" model of the mind into the argument that natural selection shaped a general intelligence in humans, and that specific mental skills also evolved rather than resulting from the application of intelligence.[75] He thus attempts to synthesize the computational view of the mind as software that turns information into manipulable symbols with the view that mental abilities, akin to organisms, arose through natural selection.

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The concept of modularity—like Lavater's rigid identification of psychic states with specific facial features (fig. 30)[76] or Gall's and Spurzheim's cranial grids—is once again being used to minutely anatomize behavior. There is a long and dubious history of trying to coordinate absolutely internal or mentalized phenomena with externalized anatomy.[77] Now, noninvasive imaging devices have gone far beyond measuring the phrenological terrain of the skull. Neural geography has sunk deep within the cortex, arousing hopes of correlating isolated perceptual and cognitive functions with equally separate regions of the brain. The danger looms that adaptive significance will be postulated for individual memes or units without consideration of context—in line with a hard-wired Darwinian approach. Yet variation needs to be "blind" in order to be productive, not just reproductive. The imagination itself is analogous to biological evolution in that it requires the unpredictable generation of a rich diversity of alternatives and conjectures.

The pressing need for constructing appropriate affinities (evident, as I outlined, in legal studies, biotechnology, population genetics, and evolutionary theory) also lies at the heart of communication. In light of the widespread public wariness about the humanities, Gerald Graff remarked that the competitive relation between academic and nonacademic forms of popular culture has made it difficult to see their points of commonality. The gulf, however, stretches not between teaching Madonna or Henry James. The real opposition yawns between media culture and the culture of academic argumentation.[78] This unequal competition for the attention of our students is exacerbated by the increasing impossibility of organizing modular departments and "interdisciplinary" curricula around a consensus on what should be taught and why. As fine as it is, Graff's suggestion to "teach the conflicts"[79] is not enough. Without a coordinating method for arriving at principled agreement, isolated monologues, disconnected disciplines, and unresolved conflicts will continue to make universities both incoherent to ourselves and unintelligible to our disaffected constituency.

Take a case from the "orientalist" wars. The incompatibilities thwarting intercultural dialogue can be exemplified, at one level, as the Asian struggle to pursue a cosmopolitan dream of integration with the West while maintaining national, and even racial, independence from such a self-alienating synthesis. The problem is not new. Presenting Japan to a European audience in the late nineteenth century, for example, became an
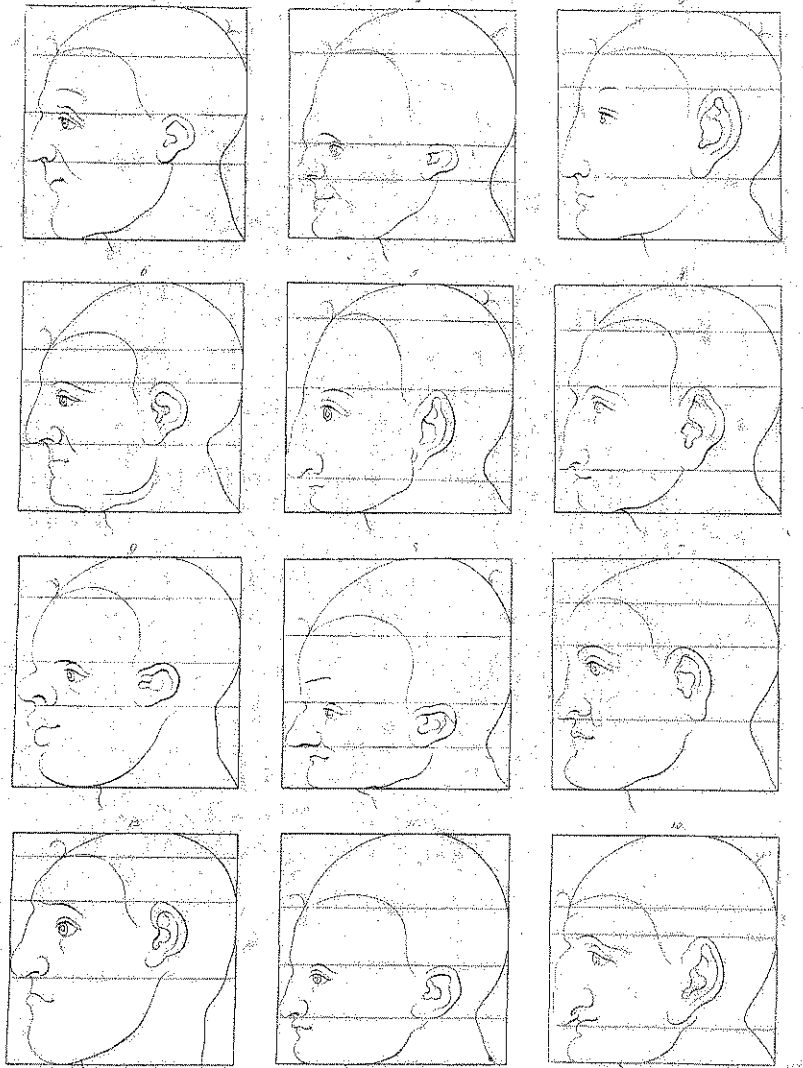
30. Johann Caspar Lavater, *Gridded Faces Revealing Disproportions*, 1791.

act of cultural betrayal and dispossession since, as Shigemi Inaga has argued, Japanese artists abroad could only make their mark by playing up their essential "Japaneity," i.e., by conforming to someone else's representation of themselves.[80] The quandary, then as well as now, he claims, is that this denies their desire to be seen as international when traveling far from home. Inaga concludes that the assumption of a pose for another has the traumatic consequence of putting the Japanese in a role not of variable individuals, but of representatives of a static tradition.

Does such fatalism and disjointedness determine how the scenario must be played out? As it stands, it does, and not only for this specific instance but for cross-cultural contacts of all sorts. "Minority histories," as Dipesh Chakrabarty has written, tend to be oppositional chiefly in the early stage of their careers. As soon as they become incorporated into mainstream accounts, they end up being instances of "good history." Yet this still leaves open the case of "subaltern pasts," i.e., all those past oral traditions that can never completely enter the contemporary historian's space, not because of any wish to marginalize them, but because they represent incongruent moments.[81] By definition, the ethnographic archive is always out of synchronization with the Western researcher exploring it. But couldn't this be said of any historical inquiry?

Without a sophisticated theory of analogy, there is only the negative dialectics of difference, ending in the unbreachable impasse of pretended assimilation or the self-enclosed insistence on absolute identity with no possibility for meaningful communication. Analogizing has the virtue of making distant peoples, other periods, and even diverse contemporary contexts part of our world. Only by making the past or the remote or the foreign proximate can we hope to make it intelligible to us. I want to counter Inaga's dichotomous logic, then, by considering how Pacific Rim computer users have evolved a different set of emoticons from their Atlantic cousins. These are the strange combinations of punctuation, accent marks, and letters used in electronic mail to indicate happiness, sadness, and other feelings. Japanese double-byte (unlike our single-byte) smileys are intricate in design, oblique in their expression, and right side up instead of sideways.[82]

Accustomed to looking at compound pictograms, the Japanese have developed an elaborate hieroglyphics of face marks that allusively conjoin words to complex, and even vague, emotions such as: breaking out in a

cold sweat (^^), excuse me (^O^;>), or a wide "banzai" cheer \(^O^)/. This rich graphic range greatly exceeds the schematism of Bill Gates's Internet combinatory. Far from positing an East-West isomorphism, the Noh mask emoticons simultaneously allude to Japan's court theater while retaining a structural resemblance to the Euro-American version to facilitate global communication. Slipping an individualized physiognomy over a generic type is a practice central to Western caricature. Remember Daumier's habit of superimposing the bulbous and jowly Louis-Philippe onto a cheeky pear, leading to the mutual transformation of king and fruit.

Douglas Cardinal, architect of the new National Museum of the American Indian on the Mall in Washington, D.C., offers yet another impasse-dissolving alternative to the discourse of cultural binaries by viewing space as a dynamic continuum inflected by sculpted objects. A descendant of the Blackfoot and Métis, Cardinal develops organic analogies to the sinuous, curvilinear spirals of seashells and mounded sand dunes in his futurist designs so that they resonate with the earth. As the NMAI project coalesces, the architect's work tables are ringed by photographs of cryptic petroglyphs from the Southwest, carved sandstone canyons, the indigenous abstraction of Anasazi cliff dwellings, and rugged Alpine escarpments.[83] These "natural masterpieces"[84] serve as potent reminders of how to conjoin ancient landscape with modern city, looming rock outcrop with concrete monument. Like the late work of Le Corbusier, notably the chapel of Notre-Dame du Haut at Ronchamp (1950–1955), Cardinal's curvilinear forms function "acoustically"[85] as a visual echo of the surrounding vista. He shows how matter and energy interconnect, how the spiritual energy emanating from the unbuilt environment can animate and irradiate an otherwise inert habitat.

Finally, making connections and creating coherence are nowhere more at stake than in the on-line treasure hunt that has users desperately searching for meaning through the "data smog."[86] Trawling through the confusing and largely unstandardized array now available on screen has the frustrated seeker clamoring for what can only be called an analogical tool. An ideal browser would provide access to global sources and aid in the responsible incorporation of structured with unstructured information. The World Wide Web continues to revolutionize the ways in which anonymous people and downloaded files get cobbled together. It constitutes a new cosmic force field in which all phenomena become artificial variables

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in a vast cyberwave of continuously emitting energy. Researchers disembodiedly share far-flung apparatus, libraries and museums electronically display their delocalized collections, opening them to interactive use, colleges provide access to courses taught at a distance, and just about everyone pools their deracinated findings without assigning origin or credit. Yet our higher educational system has yet to integrate the imagistic universe of multimedia with printed books. Nor has it made it a top priority to investigate the complications arising when historically validated organizational schemes mutate or are eliminated.[87] Along with the joys, the frustrations of navigating the Internet point out that to make useful information available we need an equally big, rich, and complex method for creating, judging, and discriminating among tightly integrated hybrid linkages.

The global village is growing increasingly factionalized. Witness the explosion of biometrics or recognition technology.[88] Face identification, hand geometry, and iris scanning indicate that all is not well in cyberland. These batches of digital devices that recognize people through various physical characteristics—faces, hands, fingers, eyes, voices—are an anxious response to the computer's voracious and amoral capacity to gather all kinds of data, including the most personal. Not only does this automated power to accumulate images of bits and pieces of our bodies raise legitimate privacy concerns, but it leaves unanswered the question of just who is going synthesize this endless miscellany of emanations. Unlike the transmission of light or sound waves in a controlled ambient, the computer and its three-dimensional extensions like the ImmersaDesk and CAVE—as the latest versions of the universe in a box (fig. 31)—have erased the hope that this rear-projected imagery will be equally received by all (fig. 32).

How, then, do we craft a coordinated mosaic from this heterogeneous broadcast of splintering fragments? What search engine will help us perceive reliable resemblances? Smart equipment and commercial software are machines accessing and filtering data, not the contents of learning or the stuff of cultures. Software agents, in automatically tailoring information to highly specific individual interests, paradoxically valorize known material rather than encouraging open-ended meandering into unknown territory. The rise of a distributed approach to knowledge—spurred by computer operating systems that create databases registering users' likes or dislikes and even go on to "breed" algorithms whose survival is independent of human selection[89]—still requires a guiding intelligence to avoid lapsing
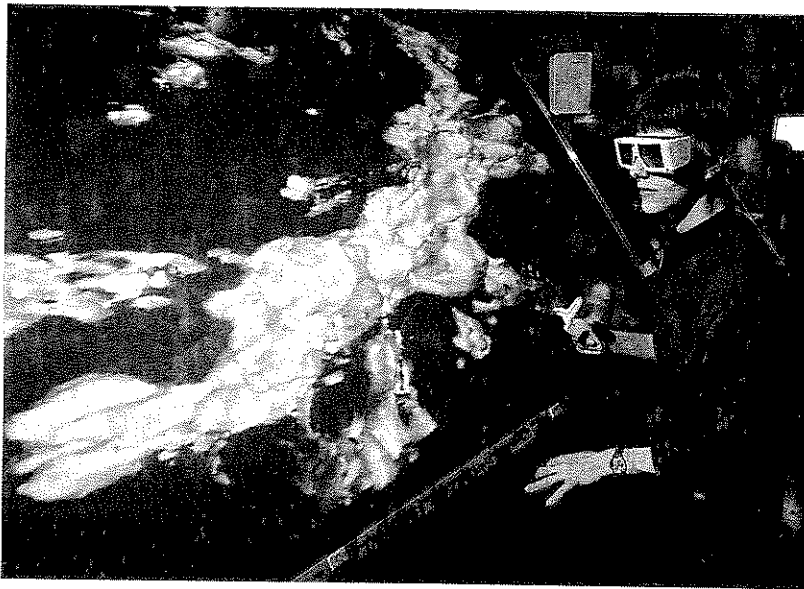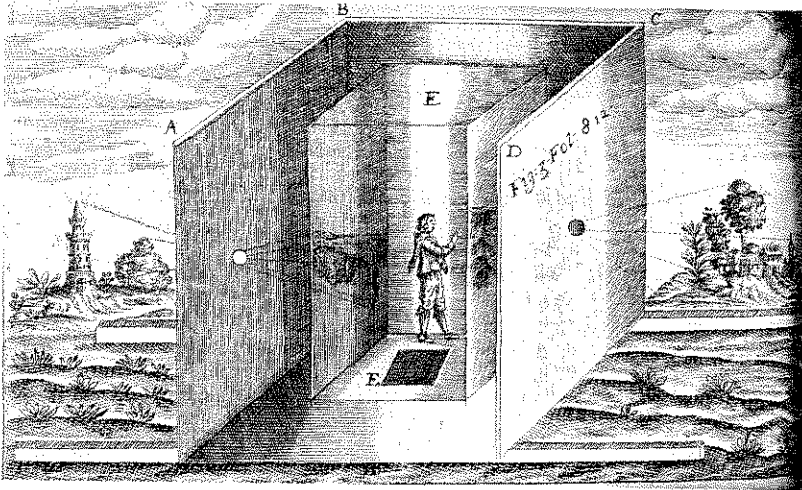
31. Athanasius Kircher, *Room-Sized Camera Obscura*, 1671.

32. *Virtual Reality ImmersaDesk*, 1997.

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into solipsism. The mechanistic expansion of subjectivity invokes the twin specter of fragmentation and replication of interests.

The emergent panglobal idiom of multimedia conjures up memories of creative complementarity articulated in the late seventeenth-and early eighteenth-century doctrine of *ut pictura poesis*. This comparatist initiative enabled painting and poetry to coexist in a mutually supportive role by virtue of their expressive and technical correspondences.[90] Drawing and writing were conceived as equivalent components of one and the same ideogrammatic process. But, during the high Enlightenment, Lessing's adamant rejection of formal interart parallels in the *Laocoön* (1766) exerted powerful pressures to define picture-making as an art independent of architecture, sculpture, and literature. This paradigm-shifting book also established a hierarchy that set temporal genres like drama and poetry above spatialized media. Consequently, Lessing overturned a line of argument—stretching from Roger de Piles to Locke, Addison, and especially Berkeley—extolling the communicative potential of painting's iconic signs and predicting the advent of a universal "mother tongue" of synergistic appearances.

Today, irradiated pixels have once again transformed music, image, and text into a consolidated pattern. But morphing is not a harmonious interaction, nor is sensory distraction the same as a complexly synthesized vision. Electronic commerce—enabling new kinds of interactivity among networked companies and their dispersed suppliers and customers[91]—requires more than a novel set of managerial skills or the eradication of an old corporate hierarchy solidly structured around function-defined departments. It demands a hybrid knowledge composed of interwoven disciplinary content, a sophisticated awareness of the wide spectrum of existing and possible relationships among parts and wholes, and the ability to discriminate among competing choices. At the close of the twentieth century, it should give us pause that we still lack a flexible method for orchestrating the jumble of discrete emissions and darting blips that swim across countless monitors. They remain a hermetic system of graphic symbols for which we have lost the analogical key.