



Information and Inhabitation: Toward an Architecture of Disclosure and Enclosure

Albert Borgmann

To cite this article: Albert Borgmann (2005) Information and Inhabitation: Toward an Architecture of Disclosure and Enclosure, Design Philosophy Papers, 3:2, 85-97

To link to this article: <http://dx.doi.org/10.2752/144871305X13966254124392>



Published online: 29 Apr 2015.



Submit your article to this journal [↗](#)



Article views: 15



View related articles [↗](#)

Information and Inhabitation

Toward an Architecture of Disclosure and Enclosure

Albert Borgmann

Albert Borgmann is a Professor of Philosophy at the University of Montana, Missoula, specialising in the philosophy of society and culture with particular emphasis on technology. He is the author of *Technology and the Character of Contemporary Life* (University of Chicago Press, 1984), *Crossing the Postmodern Divide* (University of Chicago Press, 1992) and *Holding on to Reality: the Nature of Information at the Turn of the Millennium* (University of Chicago Press, 1999).

What I am presenting here is merely a sketch. But architects appreciate sketches and know how to use them. A philosopher, moreover, should provide no more than a sketch and certainly nothing like a model. Let the architects build and the philosophers think. All a philosopher can hope to do is clear a space from confusions and complicities to help building to prosper again. The need for clarification is not controversial. Karsten Harries has deplored the aimlessness of architecture in his erudite *The Ethical Function of Architecture* of 1997, and Herbert Muschamp does so practically every week in the *New York Times*.¹

The terrifying events of September 11 have increased our affection for architecture, but they have also reminded us of its fragility, not its structural fragility so much as its moral fragility: Why do we build the way we do? Can we continue to build the way we did? How shall we build?

When faced with fundamental questions, theorists of architecture have often tried to find guidance from some original position – the aboriginal house, the first gesture

of building, or the basic human condition. Let me do so by considering a starting point and an endpoint and by sketching the lines that lead from one to the other. The endpoint is the currently distinctive enterprise of the advanced industrial countries, viz., information technology. It presents the environment in which all building will increasingly take place. The starting point is marked by two propositions from Aristotle's (383-322 B.C.E.) treatise on the soul.

Aristotle's first proposition says: "The soul is the form of the body." The second says: "The soul is somehow everything."² Together these two principles provide a fair definition of the human condition. The vital force of a human being has a material center and a potentially all-encompassing comprehension of reality. That material focal point is first of all the human body, but then also the shelter that houses body and soul. As Kent Bloomer and Charles Moore have it, "at its beginning all architecture derived from this body-centered sense of space and place."³ The cluster of habitats, the village, is one of the typical ways ancient human cultures marked their place in the world. So to mark and occupy a focal area of nearness is inhabitation. Here in Montana, at the edge of the Northern Great Plains, such villages consisted of the tipis whose inhabitants constituted a band.

Information in its core sense is the tissue that connects humans with the wider world, wider in space, time, and imagination, and as Aristotle has it, there is in principle no limit to the scope of information.⁴ For the Native Americans of these plains such information was about the habits of animals, the seasons and places of berries, the creation and order of the world, and much more. There was an occasion where the loftiest information and grandest inhabitation converged, the celebration of the sun dance that was held at an auspicious time and prominent place. It centered on the sacred lodge, and it was a recollection of cosmology and an invocation of divinity. The tipis of a tribe, gathered around the sacred lodge, exemplified a basic pattern of inhabitation – private dwellings arranged about the public sanctuary.⁵ In the ancestral human condition there was a well-ordered arrangement of information and inhabitation and of private and of public buildings.

Information that is conveyed by natural signs and comes alive in human intelligence we may call natural information. Such information is *about* reality, and yet it also shades over into information *for* the construction of reality. Thus there was evidently information among the Plains Indians for the construction of mundane and sacred lodges. It was information contained in the memory of, e.g., the Blackfeet, and thus information not only rendered the farther world perspicuous, it also informed the dwelling in the focal area of nearness.

A new era in the relation of information and inhabitation dawned when the information for the construction of buildings detached itself in part from human memory and took the form of writing and drawing. I will call information conveyed by conventional and intentional signs cultural. Such information can be *about* reality as it is in the sketch book of the medieval master builder Villard de Honnecourt.⁶ Its distinctive function, however, is to allow *for* careful and sophisticated designs and so to potentiate building, in particular the construction of imposing and elaborate sanctuaries. Thus the design for the pediment of the Pantheon has been found to be chiseled into the pavement of a Roman building yard around 100 C.E.⁷ The plan for the monastery of St. Gall, drawn between 820 and 830, shows what Karsten Harries has called the two focal points of the history of building – the house and the temple, in this instance a stately Romanesque church and the living quarters of the monks.⁸

With the beginning of the modern era we enter into the enduring and troubling crisis of architecture. There has of course been a lot of magnificent architecture since 1800 when modern technology began to change the face of the earth. But there has been a permanent crisis, too. It has been most evident in public architecture and most destructive in the development of dwellings. The role that information has played in these developments divides as well between public and private architecture. In the former it has infected the practice of architecture more than its products. In the private case, information has primarily insinuated itself into the products of architecture – houses and apartments.

The crisis of architecture began when modern science led to the demise of culturally significant cosmologies, and so the public buildings could represent neither a cosmos nor divinity anymore. Churches continued to be built, but their architecture was increasingly backward looking, or it was aimlessly contemporary.

Divinity unavailing, theorists of architecture looked to utility as a guide for building. Structures that had a definite function in modern society and the economy were admired for their austere and intrinsic beauty, structures such as bridges, silos, and factories. But such reorientation was as much an aggravation as a cure of the crisis of architecture. This is often signaled by the specter of engineers taking the task of building away from the architects.

Utility has remained a defining characteristic of public buildings and structures. In fact the most imposing constructions of the twentieth century have had the character of utilities – dams, airports, interstate highways, high rise office buildings. But toward the middle of the last century an additional feature emerged, the posture of domination. A typical skyscraper in the International Style dominates its spatial surroundings through its sheer mass,

its rigorous shape, and its gleaming surface. It dominates its surrounding atmosphere as well through lighting, heating, and air conditioning. But it no longer discloses its surrounding world since it dominates Houston as indifferently as it dominates Manhattan or Minneapolis.

In the second half of the twentieth century, a third feature joined utility and in part replaced the domination of public architecture, viz., amenity. In shopping malls and theme parks a little world was captured and constructed for pleasure and entertainment. It replaced the placelessness of overweening indifference that we see in a high rise through the simulation of scenes and attractions that are geographically inconsistent with one another but jointly present a picture of enchanting availability – a northern wilderness lodge right next to palm trees, the surf of a southern sea next to a skating rink from up north. In this way the disclosure of the actually surrounding world was not simply omitted as it is by skyscrapers, but actively and artfully concealed.

All this has come about through the rise of a kind of information we can call technological, and the ascendancy of technological information has come to imperil if not eviscerate the craft of design, or so it seems to the lay observer. The information that goes into building first detached itself from the embodiment in practices when writing and drawing became common skills. Freehand drawing yielded to straight edge and compass and other mechanical aids. Calculating skills passed first into the slide rule and then into pocket calculators.

When computer-aided design came on the scene, information could become so massive and complex that a human being was no longer able to command it directly but came to depend on a computer that was able to store and process the information and make it available to human comprehension. Technological information had arrived.

The rule of technological information has reached one temporary end point in the software that is coordinated with prefabricated steel buildings. Here a fully specified design is a matter of minutes. Not surprisingly, the products of such “design” disclose nothing about their “builder” nor about the world they are located in. The embodied skills of the architect and the orienting power of a public building seem to stand and fall together.

Turning now to home and house, we can see that as recently as the middle of the last century the single-family house exhibited strong orientation. In fact Kent Bloomer and Charles Moore published a paean to the typical house when what they praised was already fatally undermined.⁹ They pointed to the public and formal front of the house with a respectful lawn and a stately entrance as distinguished from the enclosed and informal backyard. The rooms inside followed the distinction. On the public side you found the official living and dining rooms, toward

the back the kitchen and the sleeping quarters. At the center of the house was the “hearth (like a heart),” they said and later added:

A favorite painting might go over a mantel on which especially prized objects are placed, and the family’s best rug and fanciest furniture are generally nearby.¹⁰

The paradigmatic form of the house in the first half of the 20th century was, against the best efforts of architects, the bungalow. Its open structure was to invite its rural setting in. Inside the use of local timber and stone in turn disclosed the country outside.¹¹ Similarly the ranch house in the second half of the century was to recall the wide open spaces of the West. But the ranch house took a decided turn toward the spectatorial and the opaque, replacing the bungalow’s porch with the picture window and natural materials with machine-made and prefabricated elements.¹²

In any case, the primary function of house and home was enclosure, sheltering the life and integrity of the family; and in the best case, enclosure also told us what it was an enclosure from. Enclosure ideally is disclosure too. Of course the bungalow, though often truthful in materials and artisanship, faked the disclosure of fields and woods since it was typically located in a suburb, and the ranch house, no matter its picture window, disclosed neither an actual prairie nor the timbers and rocks of the West.

The mortal malady of the house, however, infected enclosure rather than disclosure. When Bloomer and Moore published their book in 1977, the center of a home’s inner space, “the heart and hearth of it,” had already been replaced by the television set, and the privileged chamber of the center, the living room, had begun to shrink and was to disappear entirely in many cases to make room for the informal comforts and the television set of the family room.¹³

Television has disrupted the information economy of the home. Information, i.e., news from without, has always been part of the household through conversation and story telling and then through the newspaper and the radio. Evidently the appropriation of information loses vigor as we proceed from talking via reading to listening. Conversation engages the inhabitants in the focal nearness of the house. In reading we fall silent and become temporarily solitary though we still have to draw on our immediate experience to bring the austerity of print to life, and we are able to pause, to read a passage to spouse or partner, and to invite comment or conversation. The news on the radio is still rather spare in presentation compared with television, but less so than print and, important, implacable in its pace and progress. A newscast we want to listen to carefully dictates silence to everyone present.

But nothing can compare with the disruptive force of television. It breaches the enclosure of home and through the hole in the wall inserts a pipeline of information that pours so much news, entertainment, and advertising into a home that appropriation of information is greatly diminished and makes way to distraction.

Information technology has added outlets (as well as funnels) of information through computer screens, and these are proliferating – a computer in the den, another in one's pocket or purse, a third through the television set, a small one on the kitchen counter, one for each of the children in their rooms, etc. Culturally considered, the home is no longer an enclosure but a multiple opening to cyberspace.

As Mark Weiser sees the expansion of information technology, the account I have just given is from the middle phase of computing, the era of personal computers, widely distributed in a ratio roughly of one computer to one person. It was preceded by the main frame era where one computer was matched with many persons. The PC era will be followed by "ubiquitous computing" – many computers will serve one person.¹⁴ This phase, say Weiser and John Seely Brown, will be "characterized by deeply embedding computation in the world."¹⁵

A favorite instance of this development is the single-family house that, once it has computation deeply embedded in it, becomes a "smart" or "intelligent" house. You have seen it sketched and greeted with glad cries in the media. But let me remind you of some of its virtues. "Over the next twenty years," says Weiser,

computers will inhabit the most trivial things: clothes labels (to track washing), coffee cups (to alert cleaning staff to moldy cups), light switches (to save energy if no one is in the room), and pencils (to digitize everything we draw)...

...the kind of tune the computer plays to wake me up will tell me something about my first few appointments of the day: A quickurgent [sic] tune: 9 am important meeting. Quiet, reflective music: nothing until noon...

...my see-through display and picture window will show me the traces of the neighborhood as faintly glowing trails: purple for cats, red for dogs, green for people, other colors as I request.¹⁶

Here are some examples that Weiser and Brown produced together:

Clocks that find out the correct time after a power failure, microwave ovens that download new recipes, kids toys that are ever refreshed with new software and vocabularies,

paint that cleans off dust and notifies of intruders, walls that selectively dampen sounds, are just a few possibilities.¹⁷

A few additional classics:

A system that “lets you see who is at the door and talk with them via a video cell phone even when you are not at home,” in your bedroom “an electronic health checker that will monitor the user’s health and can also be programmed to send data to health professionals,” a “voice memo panel on the refrigerator.”¹⁸ A house that “after it scans your retina on the porch, unlocks the door for you. Once inside the lights come up, the blinds open and your favorite aria filters through the speakers.”¹⁹ And then there is the classic among classics – the refrigerator that keeps track of the quantity and quality of your milk and notifies the milk man as needed.

Bill Gates’s house, not surprisingly, is smart already. When you are his guest, you will be given an electronic pin for identification, and these will be your rewards:

When it’s dark outside, the pin will cause a moving zone of light to accompany you through the house. Unoccupied rooms will be unlit. As you walk down a hallway, you might not notice the lights ahead of you gradually coming up to full brightness and the lights behind you fading. Music will move with you, too. It will seem to be everywhere, although, in fact, other people in the house will be hearing entirely different music or nothing at all. A movie or the news will be able to follow you around the house, too. If you get a phone call, only the handset nearest you will ring...

If you’re planning to visit Hong Kong soon, you might ask the screen in your room to show you pictures of the city. It will seem to you as if the photographs are displayed everywhere, although actually the images will materialize on the walls of the rooms just before you walk in and vanish after you leave.²⁰

I find the aimlessness, banality, and unreality of these scenarios overwhelming. At the same time I must stress that some of these technologies make sense once a sensible function has been specified, e.g., that of helping elderly or disabled people to gain a measure of independence and security or an energy saving function.²¹ But when ubiquitous computing is presented as a new kind of environment that sponsors a new style of life, the tediousness and triviality of concrete examples is dispiriting.

One way of dealing with the embarrassments is to summarize them with a grand gesture. This is what William Mitchell, Dean of MIT’s School of Architecture and Planning does. Mitchell thinks

that information technology will dissolve and reconstitute the very architecture of bricks and mortar:

Increasingly the architectures of physical space and cyberspace – of the specifically situated body and its fluid electronic extensions – are superimposed, inter-twined, and hybridized in complex ways.²²

Another way out is to recognize what ails the proponents of ubiquitous computing – a loss of nerve – and to let cynicism step in where enthusiasm has failed. Here is my modest proposal. Replace the windows of a house or apartment with large high-definition electronic screens, and inconspicuously embedded in the screens let there be heaters, cooling systems, blowers, and speakers. Let the screens be programmed so that they display any view you like, and emit any sounds you desire and any weather you please. Say you live in Detroit. You could then request to be awoken by the sight, the sounds, and the balmy trade winds of Hawaii. In fact you could have the course of the entire day's twenty-four hours follow a Hawaiian pattern. And there is more. With appropriate web cameras in place and an eight hour lag, you could spend your entire domestic life in Munich's Schwabing district, with the very weather, the people in the streets, the rumble of BMW's that actually took place in Schwabing eight hours ago. And let me add that wherever you may see problems of feasibility in my proposal, I see grist for the eager mills of information technology.

There is just one problem with so living in Schwabing – when you leave your house or apartment, you step from disarming Schwabing into unrelenting Detroit. But that step, ironically, is a moral obligation rather than a physical necessity, and since it is something we should rather than must do, we can refuse to do it. You do so by taking the elevator down to the garage, getting into your air-conditioned car, and suffused with classical music you glide to your downtown office garage to take the elevator to your office high above the grime and grimness of Detroit. You can now drive from Detroit to Yellowstone Park while narrowing your vision of the continent to the clues a soft GPS-guided voice gives you as you drive along while the children in the back seat of the van watch cartoons on the built-in television set.

These reflections and imaginations imply an answer to Mark Weiser and to William Mitchell. Ubiquitous computing, when taken to extremes, does not, pace Weiser, usher in a new era but reveals the moral thrust of what has been happening and growing for a while – we have been retreating into cyberspace and withdrawing from reality and one another. The terror of September 11, among other and terrible things, has thrown us back into reality and made us aware of one another again. But the presence of reality and of persons will once more recede as normalcy

returns.²³ Normalcy, pace Mitchell, is not a fruitful and interesting superimposition, intertwining, and hybridizing of physical space and cyberspace. It is cyberspace overlying physical space and reducing it to a utility and resource. The human condition that corresponds to this normalcy is the person reduced to a dimensionless source of free-floating desires. This is the endpoint of the development that began with the Aristotelian person, an embodied and sheltered human being whose crucial faculty was not desire but reason, what Aristotle called the *logikon*, literally the faculty of gathering the world in a coherent vision. But there is really a twofold calamity here – the diminishment of humanity and the eclipse of reality.

Architecture has a crucial part in response to this predicament. My sketch of this part may seem unduly solemn and serious. So let me stress here that this is only one thing architecture should do and that we should welcome in addition architecture that is entirely exploratory, experimental, or playful. In any case, the background against which the constructive place of architecture needs to be drawn is information technology, technological information, or cyberspace. We must be clear about this extraordinary fact. Perhaps for the first time in the history of culture, the distinctive cultural accomplishment of an era, viz., information technology, cannot be located at the center but must serve as a backdrop for what matters in our lives today.

How then should architecture serve that center? I suggest the goal should be an architecture of disclosure and enclosure and that the craft needed to reach the goal is an architecture that is a metric, material, and moral art. Both public and private architecture need to disclose their world and enclose a space of celebration and inhabitation. To be brief, however, I will discuss disclosure in the case of public architecture and enclosure in the instance of house and home.

In fact disclosure is the more public and hence the more proper function of public buildings. What they need to disclose is the context of their time and place. Herbert Muschamp has heaped scorn on the idea. “So-called contextualism,” he has said, “– the idea that new buildings should fit in with their surroundings rather than add to them – has led our architects into the deadest of dead ends.”²⁴

But all big buildings disclose and fit their context. The only question is whether they do so symptomatically or constructively. Frank Gehry’s Bilbao Museum, as far as I can tell from pictures, is a contemporary symptom of computing power and cultural aimlessness. It is a sculpture rather than a building, a duck, as Venturi would call it. I have nothing against it as long as it is not made the standard of public architecture and crowds out the constructive task of architecture – disclosing what at a particular place and time is conducive to the public celebration of the good life.

The backdrop for this enterprise is the spatial structure of cyberspace. We can call it, in an informal sense, topological. Cyberspace is structured, but it has no metric, i.e., the notion of distance does not apply to information you call up on a computer. All web pages, e.g., are equally near and far. Cyberspace serves and has given rise to significant scientific and technical enterprises. But as a cultural medium it is valued for the supernatural sense of lightness and mobility it engenders in video games, MUDs, and web surfing.

The ubiquitous command of cyberspace is possible only in a world without distance. The actual world is, strictly speaking, metric. Distances matter. In geometry there are no intermediate spaces between the metric and topological ones. But informally and with regard to the experience of contemporary culture, we can say that in the actual world distances are losing their rigidity and extension. Every year improvements in automotive technology shrink and soften the distances we travel, cushioning us from the rigors of the road and dispelling boredom through more varied and refined entertainment and communication.

The human subject that matches the levity of cyberspace is the unencumbered self that can take up any role it pleases and can defect from any position without penalty. The cyber self can enjoy companionship in list serves, MUDs, bulletin boards, chat rooms, newsgroups, etc., but it is essentially solitary since any human relation is conditional. It lasts only so long as it is interesting and painless.

Thus the architecture of disclosure needs to reveal not only the surrounding space, but metric space itself, the measured and extended space that invites appropriation through grateful comprehension as well as through walking, gathering, and sitting. Metric architecture must aim at what David Billington has called a structure.²⁵ How all this can be accomplished is left to the architect's art. The result – Muschamp is surely right about this – must be a reflection but also more than a reflection of its surroundings. It must make its mark in a memorable way and aspire, at least in the more ambitious cases, to a landmark in space and a monument in time.

The enclosure of a home has always had to keep the fury of the elements and the nosiness of strangers at bay. But now it also has to ward off the ravages of technological information.²⁶ It is both a certain quality and the general quantity of technological information that perforate the enclosure of the house. The distinctive quality of technological information is virtuality whose chief features are preternatural brilliance, limitless variety, and indulgent availability. These features are most fully present in video games and in lesser degrees in MUDs, sitcoms, and even in television news and e-mail. The opaque brilliance of virtuality contrasts with the depth of texture that we can see and feel in

wood, stone, tiles, cloth, and other materials that make up a house. The variety of virtual offerings competes with the durability of a house, and the manipulations that the availability of technological information provokes militate against the solidity of a building. The human subject that corresponds to this immaterial world is the disembodied and ubiquitous self that resides everywhere and nowhere.

E-mail, weather reports, the Dow Jones average, the standing of the Red Sox all constitute sober and useful information about persons and events. But when they are available everywhere in the house and conduce to frequent if not constant checking and searching, they distract people from their homes no less than does virtual reality. In addition there are information outlets that do more than tempt or seduce and vigorously pursue and importune us in our homes – beepers, pagers, and cell phones.

An obvious and necessary remedy for this unrelenting surfeit of information is to turn off, quarantine, disconnect, or remove the various information appliances. But a house has to be more than an expansive cubicle purged of its electronic accoutrements. It needs to be a shelter that has an abiding presence. Hence architecture must be a material art, able to construct enclosures that are textured, durable, and solid. It seems to me that the recent turn to materials such as slate, granite, pine wood, tiles, porcelain, copper, etc., is not just a sign of virtuous consumption as David Brooks has it, but a recovery of an enclosure that obliges and rewards our bodily being.²⁷ Just as disclosure can restore us to community, enclosure should recover our embodiment.

So far architecture is the craft of forming space, and this is chiefly what it has been and should be. But you cannot heave great forms without great contents. You can have interesting sculptures such as Frank Gehry produces them. But you cannot have great buildings. Yet neither can we make architects responsible for the content of buildings. What architects can do is to raise with their clients the issue that makes architecture a moral art in a broad sense – the design of a house determines the course and the center of the daily round of life and thus the quality of the life that a house will harbor. Architects will be supported in this endeavor if they seek a conversation with the historians, theorists, and moralists who have been observing and worrying about the character of daily life in our society. A similar moral concern has to animate the design of public buildings. Then we may hope for the return of buildings that enclose and disclose the good life.

Notes

1. Karsten Harries, *The Ethical Function of Architecture* Cambridge: MIT Press, 1997. Herbert Muschamp, “Measuring Buildings Without a Yardstick,” *New York Times* 22 July 2001, section 2, p. 30.

2. Aristotle, *On the Soul*, 412a and 431b.
3. Kent C. Bloomer and Charles W. Moore, *Body, Memory, and Architecture* New Haven: Yale University Press, 1977, p. 5.
4. See my *Holding On to Reality: The Nature of Information at the Turn of the Millennium* Chicago: University of Chicago Press, 1999.
5. James Welch, *Fools Crow* New York: Viking Penguin, 1986, pp. 108–17.
6. *The Sketchbook of Villard de Honnecourt*, ed. Theodore Bowie (Westport, CT: Greenwood, 1982).
7. Lothar Haselberger, “Deciphering a Roman Blueprint,” *Scientific American* June 1995, pp. 84–89.
8. Lorna Price, *The Plan of St. Gall in Brief* Berkeley: University of California Press, 1982. Harries, *The Ethical Function*, p. 286.
9. Bloomer and Moore, *Body*, pp. 1–5.
10. *Ibid.*, pp. 1 and 3.
11. John Mack Faragher, “Bungalow and Ranch House,” *Western Historical Quarterly*, 32 (2001), pp. 150, 153–55.
12. Faragher, “Bungalow,” pp. 164, 168, 171–72.
13. Julie V. Iovine, “The Last Gasp of the American Living Room,” *The New York Times on the Web*, available on 29 January 1999 at <<http://www.nytimes.com/library/style/012899design-notebook.html>>.
14. Mark Weiser, “Open House,” available 15 March 1966 at <<http://www.itp.tsoa.nyu.edu/review/>>.
15. Weiser and John Seely Brown, “The Coming Age of Calm Technology,” available on 17 August 2001 at <www.ubiq.com/hypertext/weiser/acmfuture2endnote.htm>.
16. Weiser, “Open House.”
17. Weiser and Brown, “The Coming.”
18. Martyn Williams, “Move Into the Smart House of the Future,” available on 17 August 2001 at <<http://www.pcworld.com/resource/printable/article/0,aid,40381,00.asp>>.
19. “Microsoft Tests PC-less Smart House,” AP story available on 17 August 2001 at <<http://www.usatoday.com/life/cyber/tech/review/crg976.htm>>.
20. Bill Gates, *The Road Ahead* New York: Viking, 1995, pp. 218–19 and 221.
21. Ad van Berlo, “A ‘Smart’ Model House as Research and Demonstration Tool for Telematics Development,” available on 17 August 2001 at <www.dinf.org/tide98/101/berlo_ad2.html>.
22. William J. Mitchell, *City of Bits* Cambridge: MIT Press, 1995, p. 44.
23. Rick Lyman with Bill Carter, “In Little Time, Pop culture is Almost Back to Normal,” *New York Times on the Web*, available on 4 October 2001 at <www.nytimes.com>; Michiko Kakutani,

- “The Age of Irony Isn’t Over After All,” *New York Times on the Web*, available 9 October 2001 at <www.nytimes.com>.
24. Muschamp, “Measuring.”
 25. David Billington, *The Tower and the Bridge* New York: Basic Books, 1983.
 26. Langdon Winner, “Whatever Happened to the Electronic Cottage?” *NetFuture* 121 (27 July 2001), available at <www.netfuture.org>. Stephen L. Talbott, “Why I Have Disconnected from Email,” *ibid.*
 27. David Brooks, *Bobos in Paradise* New York: Simon and Schuster, 2000, pp. 92–93.