The Internet: Big Pictures and Interactors

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For affluent nations, communities, and peoples, ours is an era in which science fiction—what writer Thomas Disch (1999) calls the "dreams our stuff is made of"—has become a blueprint for cognitive, material, commercial, and social realities. This is so in the case of the Internet and its main platform, the World Wide Web. They seem about to fulfill the vision of H. G. Wells (1937/1996), who, in one of his last works, describes a ubiquitous electronic encyclopedia and medium, the "world brain" (see also Bove 1996), that stores everything ever written, recorded, or pictured. Wells also foresaw the Internet's most distinctive feature: it allows users to navigate, remix, explore, and redirect the content of communication. For that reason, although we know that audiences of previous media, from listeners to Homer to readers of *Das Kapital* to viewers of *Star Wars,* were and are not stereotypically passive receivers, the Internet age will generate a new descriptor signifying a technological and perhaps cognitive step beyond creator, producer, deliverer, listener, reader, and viewer: the *interactor.*

Although science fiction has accurately foreseen the creation of some of today's technological innovations and new social, cultural, and political conditions, the genre

has met with less success in predicting how new technologies will affect not only society and individuals but each other. This is especially true for the publicly commodified visual image that is not only part of the historical consciousness of all its viewers, but a contested terrain of political argumentation. By example, the late Isaac Asimov once noted that some science fiction writers had correctly foretold that one day we would have a worldwide visual medium something like television. At the same time, it was a science fiction commonplace that men would eventually travel on rocket ships to the moon. But no one, Asimov pointed out, had ever suggested that when men did land on the moon, half of the human species would be *watching* it happen on television. The visions of the future traveled on parallel lines; no one foresaw their convergence.

Asimov's observation, however, raises other issues about the technological revolutions in the creation and distribution of imagery: notably, he chose to make a point about his craft through a famous image, an icon of the modern age (Perlmutter 1998). The "astronaut on the lunar surface" photo and the subsequent "big blue" image of Earth became instant members of the pantheon of news and event photography. Such "big pictures" are thought to have achieved worldwide recognition across peoples, cultures, and generations, and even to have "changed the world" (e.g., Monk 1989). They include such mnemonic familiars as Robert Capa's *Dying Spanish Militiaman* (1936); Charles Moore's police dogs attacking black civil rights marchers in Birmingham, Alabama (1963); Bob Jackson's *Jack Ruby Shooting Lee Harvey Oswald* (1963); Eddie Adams's *Saigon Execution, Tet* (1968); John Paul Filo's *Girl Screaming over a Dead Body at Kent State* (1970); Huynh Cong Ut's *Naked Little Girl and Other Children Fleeing Napalm Strike* (1972); Charles Cole's picture of a man confronting a column of tanks near Tiananmen Square (1989); a still shot from a Pentagon Gulf War video of a missile's-eye view of an Iraqi building (1991); the images of the bodies of American servicemen dragged through the streets of Mogadishu (1993); "little Elián's" (2000) encounter with government agents; and, of course, most recently, the smoking towers of the World Trade Center and the sardonic visage of Osama bin Laden in videographic self-portraits.

It is also widely assumed that such icons can be powerful political tools, engaging people's attention, upsetting our emotions, changing our beliefs, and even affecting government policies and programs. This notion of visual determinism first arises in Plato's *Republic,* where the philosopher is so fearful of the effects on public opinion and political decision making of vivid visual images that he advocates banning most artists. Today, when depicting moments of human tragedy, suffering, or savagery, photojournalistic photography and video are assumed to be affective and effective bullets of opinion and behavioral change, that is, "icons of outrage." And indeed there is contemporary research evidence that news images, especially of novel, unusual, disturbing, or negative events and situations, are more memorable than other kinds of news and images (Graber 1990; Newhagen and Reeves 1992).

Yet discussion of famous images by all discourse elites, from presidents to historians, is rarely precise, and such icons have an ambiguous genesis and legacy. Why were the original images produced? Why did they achieve renown? What properties, real or imposed, do they share? Why, of all the thousands of human conflicts, have some been favored with icons to make them immortal? What exactly constitutes a "powerful impact"? How is such an impact operationalized? What rules of evidence should we provide for that impact being authenticated or measured? The Apollo moon landing shots, for example, were widely shown, continue to be so to this day, and constitute documentation of a singular moment in our technological history. Yet what are the effects and properties of that importance? What do the photos actually do aside from showing a news event? When the Apollo program wound down, there was almost no widespread public support, active corporate lobbying, or congressional consensus for continuing the manned exploration of the moon. The pictures had most certainly not changed the world in that way. We may add to Asimov's cautionary tale, then, the notions that the political influences of "big pictures" is not so easily predictable and that obviously an image can be visually and journalistically interesting, even striking, without having measurable political effects.

A more telling example from the journalistic and historical pantheon of visual culture—a true icon of outrage—was created in 1968, a year before the moon landing, when National Liberation Front (Viet Cong) and North Vietnamese forces launched surprise attacks all over South Vietnam, and in particular captured the ancient capital of Hue and parts of the U.S. embassy complex in Saigon. Whatever the military outcomes, most observers agreed that the Tet Offensive was a public relations disaster for American policy in Vietnam. A single image (taken on both still and motion picture film) emerged from the fighting to win widespread publication, commentary, and the Pulitzer Prize: that of a South Vietnamese police chief executing a Viet Cong suspect at close range (Perlmutter 1998, 1999b).

But what was said about the image is more revealing than the picture itself. Hundreds of journalists, politicians, and historians, of strongly different political sympathies, have characterized it as "the photo that lost the war." For example, William C. Westmoreland (1976), commander of U.S. forces in South Vietnam during Tet, wrote in his memoirs, "The [Saigon execution] photograph and the film shocked the world" (328). News anchor John Chancellor (1997) observed: "The [Saigon] execution was added to people's feeling that this is just horrible. This is just terrible. Why are we involved in a thing like this? People were just sickened by this, and I think this added to the feeling that the war was the wrong war at the wrong place." Robert F. Kennedy commented, "[It led] our best and oldest friends to ask, more in sorrow than in anger, what has happened to America?" (quoted in Katsiaficas 1992, 90). Cultural historian V. Godfrey Hodgson (1976) wrote that its "impact was arguably the turning point of the war, for it coincided with a dramatic shift in American public opinion, and may well have helped to cause it" (356–57). South Vietnamese Ambas-

sador to the United States Bui Diem (1987) lamented, "The immediate reaction to such scenes was a gut revulsion to the barbarity of the war which tended to supersede more rational, long-term considerations" (220).

They were all wrong—or, rather, there is no proof that they were right. There was and is no evidence of any public fury in reaction to the Saigon shooting image. Support for the war effort actually temporarily increased during Tet, and all survey evidence shows that Americans' growing disapproval of the war "as it was being fought" (i.e., not being won sooner) was related to the increasing American—not Vietnamese, ally or enemy—casualties and the dragging on of the conflict without resolution (Mueller 1971, 1973; Milstein 1974; Kernell 1978; Hammond 1988). More revealing, among the twenty million Americans who saw a film of the shooting on the *Huntley-Brinkley Report,* reaction was undetectable (Bailey and Lichty 1972). The effects of the image on "the American people," then, are a fata morgana, fading when subjected to closer view. These mundane, unromantic facts, however, have not arrested the myth; still, today, the image is reprinted with a caption or commentary asserting its "powerful" impact, with no evidence offered to support this quantitative claim save the writer's own feelings or the footnoted feelings of another writer. In short, a *first-person effect* seems to accompany icons of outrage, whereby discourse elites impose on the public their own reactions (or assumptions of the proper reactions) to mediated stimuli (Perlmutter 1998). Clearly, it is more useful to consider icons of outrage as tools of rhetoric than as independent, unguided missiles.

The future of the phenomenon of visual determinism, however, is uncertain. The World Wide Web has not yet itself produced an icon, or an icon of outrage (or even one that was then also passed on by other media), although many interesting, arresting images have been posted on the Web and have found greater or additional audiences through Internet transmission.[1] To understand visual news on the Web, we must understand how some of the qualities of news icons are transported into the medium. Accordingly, in this chapter I explore some basic questions concerning the news icon in the age of the Internet and interactive communication:

- Is the very dispersed and fractured nature of the Internet antithetical to producing a sole "big picture" recognizable by the "whole world"?
- Is the Internet simply a new distribution channel for fundamentally unchanged corporate-controlled and commercial-driven processes?
- Will the nature of news icons—their archival longevity, popularity, utility as tools of political discourse, and, most important, profitability and "effects" on policy makers and citizens—change when they are created for and distributed through new media?
- Will the concept of "picture" or film or video "clip" become obsolete? Will we need to think less in terms of images and icons and more in terms of portals or gateways to 5S (five-sense-stimulating) "multimedia arrays"?

- Do and will new technologies enrich the context of images in the news stream, making them more open to contention, debate, and pluralistic dialogue?

These questions and issues all fall within the genre of science fiction—speculation about the future based on current knowledge and practices. But more important is their ethical component. News, whether it is imprinted into our consciousness through an archaic early-evening network broadcast received on a black-and-white television or downloaded onto PDAs (portable digital assistants), is the stuff our reality is made of. Why and in what way news is gathered and packaged are the major determinants of how democracy works; conversely, any new technologies or standards of news production, distribution, and reception are affected by how people want to use them. Finally, what will be the normative expectations about the "proper" relationships among the news industries (if they exist at all), individuals and groups, image artisans, and the pictures themselves? Will the "world brain" allow all its participants to gestate an empowered class of "interactors"? To understand these issues, it is necessary to examine some of the qualities ascribed to photojournalistic icons and to consider science and sociological fictions of how the Internet may transform them.

Instantaneousness

To begin, modern news icons become famous soon after the events they purport to show. The rewards of prominence, frequency, and celebrity (and thus profit) are quickly rendered once images enter the news stream.[2] This has only recently been the case; it was not until the end of the twentieth century that advances in the new visual technology of photography allowed home audiences to view the actual, moving events rather than see them only in retrospect. Even news film of the "living-room battles" of Vietnam took about twenty-four hours to be processed from the battle front to the TV screen (Larson 1992; Mosettig and Griggs 1980). We reached the seemingly ultimate extension of a compression of transmission during the 1991 Coalition-Iraq War, when home-front audiences saw video "live from ground zero" (Arlen 1969; Arnett 1994; Wiemer 1992; Perlmutter 1999b). As the size of cameras and satellite dishes diminishes, a single reporter (or soldier) with a laptop, a cellular modem, and a digital camera can send live views of war or any other news in front of his or her camera lens—as did on-site reporters from Afghanistan—to a wired or unwired planetwide audience from any location under any conditions.

But the Internet affords a redefinition of the meaning of *instantaneous* toward that which is instantly impermanent, or fleeting—various archiving projects aside. In part of my work on a continuing survey, I have been tracking the changes on the *New York Times* Web site's home—or entrance—page (www.nyt.com). I have classified the changes into two types: change of lead story and change of photographs. The

latter of these usually occurs in conjunction with the former: the lead story changes about five times a day and the lead photograph about four times a day. Thus the Internet is less a place for the posting of printed material than it is a continually flowing wire service plugged into the home. "We have no publication date," comments Bernard Gwertzman (1999), editor of the *Times* Web site. "I can't tell you that this was Monday's edition, because we might have twelve different updates where we revise the main page and the stories that appeared on that day's paper."

Notably, when there are "big stories" that receive saturation coverage in other media, the turnover of images and articles devoted to those stories on the *Times* Web site decelerates. The analogy to CNN's persistent focus on big stories is obvious, with the main difference being that the Web site never loses its ability to offer choices other than the big story of the moment. An example is the twenty-four-hour period in July 1999 after John F. Kennedy Jr.'s plane was reported missing. Most television news networks devoted almost total coverage to the search, and to endless discussions and commentaries about the plane's passengers, the Kennedy family, and so on. CBS News's Dan Rather, for one, was on the air almost continuously for twelve hours.

An obvious ethical critique of this coverage, of course, is that it included absolutely no news beyond the fact that Kennedy's plane was missing. For twelve hours, all anyone could learn from watching news programming was that nothing new had happened or had been learned. A seeker of other news programming on television had no escape from this herd concentration; more channels did not provide more choices of news content. The *New York Times* Web site mirrored this front-page focus and in one sense was "slower" than television news. (The *Times* has only recently set up a "convergence" desk that seeks to facilitate the transfer of news that the paper's reporters are working on or have just filed.) At the time of the Kennedy story, the *Times* Web site was updated fifteen times within a day. New pictures—mostly of beaches, the Kennedy compound in Hyannis Port, and government spokespersons—appeared; no one icon emerged.

What the Web site did allow, with clicks and links, was diversion from the smothering uniformity of the television news coverage. As of this writing, for example, the *New York Times* Web site offers sections analogous to those of a newspaper, where one can look at updates on the war on terrorism, closing stock prices, hockey scores, and television program listings. In addition, since January 1, 2000, the Web site has offered links to more than three hundred other sites. The *Washington Post* Web site currently includes links to more than 250 other sites; the *Los Angeles Times* Web site, two hundred; CNN, more than four hundred. This is a crucial distinction: television news operates as if the whole world is watching when any one particular event gains the spotlight of the mainstream institutional cameras (Perlmutter 1999a). Newspapers, because of their sectionalization and their greater data space (all the words spoken in a broadcast of the *CBS Evening News* could fit into a page and a half of the *New York Times*), at least offer options. In this sense, the Web is much more like a

newspaper and, from an ethical perspective, allows, if not the contextualization of the big story, at least freedom from it. The big story certainly appears on a news Web site's entrance page, but hyperlinks can take us to other news and information. On television news programs and news stations, the only alternatives to the big story of the day usually take the form of preprogrammed fare unrelated to any current news story (e.g., the Golf Classics channel). The Web, then, presents us with a mixture of the instant icon—the big picture of the front page—and the option to divert our focus to what editors consider subsidiary or peripheral words and images about the events of the day.[3]

Finally, it is interesting to speculate about what will happen when all news on the Internet is updated frequently. The history of visual journalism suggests that what we mean by *frequently* will itself change, as shifts in content become more and more rapid. The interactor's contact with news will thus be even more fleeting, because the morning paper—an integrated text, available for later review—will no longer exist. Research has shown that people's ability to remember information they encounter in news is exceedingly tenuous, although they may retain some information in the form of general rather than specific "common knowledge" (Price and Zaller 1993; Wicks 1995). However, compared with viewers of televison news, higher retention rates have been found among those who read news stories on the Web and in print, perhaps as a result of greater purposive focusing on the computer screen and paper page (DeFleur et al. 1992). Even more interesting is the apparent existence of a translation phenomenon, in which people forget whether the sources of their memories about news were words or images—they may transpose the two (Grimes 1990).

If the Internet allows shared experiences—by people conversing about subjects viewed on Web sites in real time through instant messaging software, or post hoc via e-mail, or in old-fashioned personal conversation—this may profoundly affect the way people structure their memories of events and the relative importance they ascribe to those events (Pasupathi, Stallworth, and Murdoch 1998). Icons may endure because people continue to focus on what is big and new at the Web site entrance page, and the corporately enforced standards of news value conspire to agree on what ought to be big and new. Whatever ethic of the instant the Internet cultivates, then, may be decided not by empowered interactors, but traditional powerful corporate producers and distributors.

Prominence

Icons have high quantitative representation in news publications and newscasts, as well as in books on history, photojournalism, and visual cultural analysis. By one count, for example, the picture of the "man standing against the tanks" near Tiananmen Square during protests against the Chinese government in 1989 has appeared more than twelve thousand times in different print media publications. In contrast, the vast bulk of each day's news images (which themselves constitute a minute number

when compared with the number of pictures taken by visual journalists that are not selected for publication, broadcast, or wire service deployment) make brief or limited appearances and are rapidly retired. In addition, icons have another property imposed on them that is coincident with repetition: "big pictures" are typically front-page, lead-of-the-news items that eventually show up on the covers of historical or political works. This environmental context buttresses and reaffirms the icons' status as "important." People are more likely to pay attention to and recall items that are more prominently displayed in the news stream; discourse elites (politicians and commentators) are more likely to pick up on such images as being worthy of notice and rhetorical employment.

The Internet augments these iterations. Simply put, there are now more places for icons to appear: some four thousand newspapers, magazines, and electronic news organizations publish on-line editions as of this writing. To a large extent, what appears in a newspaper's or newsmagazine's on-line edition is a replication of what appears in its main print or electronic edition. The icon, on mainstream sites such as those belonging to *Time, Newsweek,* the *New York Times,* and so on, is, unsurprisingly, the most likely image to be repeated. There are also commensurate opportunities for prominence on the Web page that can be defined, as suggested earlier, as being featured on the home or entrance page to a news site. The dueling images in the Elián Gonzalez story of April 24–26, 2000, for example—one of black-clad government agents raiding the relatives' house to snatch the boy, and one of Elián playing with his father—appeared without variation across major broadcast, cable, print, and Web news sites. The Web did allow us to see the initial postraid scene in pictures.

This increase in "screens" on which to display news images (and not just icons) is but a taste of things to come. The expansion of the Internet and the increasing miniaturization of video screens will soon place visual images in contexts in which they do not now normally appear. Types of images that heretofore have been relegated to precise locations within the visual environment—such as billboards, movie screens, and television sets—will be embedded within all parts of home and life. A logical extension currently being marketed in Korea is the TV phone, which is able to exhibit visual images beamed in through either television receptors or wireless connections to the Internet. The embedding of Internet-friendly screens into household appliances, such as the surface of a refrigerator, or into kitchen countertops is projected as part of a master plan of a house seamlessly woven into the Web. Experiments are being conducted with disposable displays as well: the morning news may one day be broadcast on the sides of milk cartons. Video screens will necessarily become flatter, lighter, larger, and mountable on walls; they may even *be* the walls, as suggested in Ray Bradbury's *Fahrenheit 451.* In the house of the future, the news icon of the moment may stare back at the occupants from a hundred places, or perhaps, more frighteningly, it may *be* the house. New technologies will only enhance the omnipresence of the icons, whatever processes determine which images achieve icon status. This panoptic view of news, in which we are surrounded by images, will become the ethic of what

is news—although, again, it will be easy to confuse quantity and ubiquity with depth and context.

Celebrity

The public plays almost no expressive or even approving role in selecting "big pictures" of photojournalism (the exception being some contests to name "photo of the year"). Editors do not poll the public before displaying images of the day's news and selecting those worthy of more extensive coverage and comment. The Pulitzer Prize, too, is voted upon by journalistic elites. Photographers and journalists (through prize committees), editors (through selection), and political and editorial elites (through notation and commentary) impose greatness and thus fame on images. Historians and textbook companies, by reemploying or "quoting" such images for discussion or simply illustration, reaffirm that they are "great." Obviously, after repeatedly viewing and absorbing such observations, members of the public are likely to agree with this verdict, even if they may be less than susceptible to the pictures' affecting their beliefs or actions. Elites, thus, largely set the agenda of greatness and establish the criteria for which images are judged great.

Moreover, it is clear that celebrity involves a class distinction as well. Students of visual culture tend to have such images imprinted in their memories through repeated exposure and personal interest. The pantheon of images captured by photojournalists, including the "great" images that have won the Pulitzer, are the canon that they—the "iconeratti"—have absorbed. It is not clear how famous such images are among the general public, or, to be more exact, whether the celebrity of the images goes beyond superficial familiarity. Paul Messaris (1994) conducted experiments in which students were shown "famous" images and were asked to define their provenance and circumstances; he found that recognition among the test subjects rarely exceeded 50 percent.[4] I have noted comparable findings in similar experiments (Perlmutter 1998). And research on collective memory suggests that recollections of news events "tend to be a function of having experienced an event during adolescence or early adulthood" (Schuman, Belli, and Bischoping 1997, 56).[5] In my students' case, I found that they recognized and correctly identified in place and circumstance, if not exactly in time, images from the video of the *Challenger* space shuttle exploding, the Gulf War, and the O. J. Simpson white Bronco car chase—all events they had "experienced" through mass media. They almost totally failed to recognize icons of the Vietnam War, World War II, the civil rights movement, and the Depression and previous eras and events. Today's students will, no doubt, carry the images of September 11, 2001, into their old age. The icons of one generation or audience are the enigmas, or at best the shadows, of another generation or audience.[6]

It is also unclear to what extent the Internet increases the celebrity of an image or acts to make any particular image celebrated in a way that is different from the conventional process enacted through newspapers, magazines, television, and historical or retrospective works. A case in point is the Web site operated by the most significant

arbiter of which images are important, the Pulitzer Prize committee and organization (www.pulitzer.org). As of this writing, the site is a model of the least that can be done with images on the Web. Essentially, the photos are pasted like those on a high school bulletin board, with minimal captioning and contextual information. For instance, the 1998 Pulitzer winner for spot news photography was "Awarded to the Associated Press Photo Staff for its portfolio of images following the embassy bombings in Kenya and Tanzania that illustrates both the horror and the humanity triggered by the event." We are told the criteria for the awarding of this prize. The image appears as a 480-by-647-pixel JPEG file. Links are available to the general works for which the Associated Press staff was awarded the prize for their photo coverage of the bombing of the embassies, but there are no links to news stories about the events. The "History" link shows not a history of the bombing or the images or the context in which photographers and events came into contact, but the history of the Pulitzer. The "Resources" section simply lists procedures for entry submission and contact information for the Pulitzer committee, the Columbia Graduate School of Journalism, the Columbia Center for New Media, and the Columbia Journalism Review. Essentially, this is a minimalist slide show; it offers nothing that could not be available in print form in a Sunday magazine or an extended photo-essay. In sum, this site provides only two advantages over the presentation of these images in print form; as one photo editor described it to me in citing the advantages of his newspaper's Web site over the paper itself: "more pictures" and "all of them in color." This hardly constitutes a cognitive or cybernetic breakthrough for photojournalism.

Additionally, given that the icon is a political construct as much as a document of any event, the latent message of the Pulitzer site is celebrity itself. By not telling us anything about the images save that these are the famous ones—"look upon them, ye photographers"—the site implicitly asserts that the selection process by which an image becomes an award-winning icon is natural and not the result of marketing or corporate production forces. It is clear that the icon—or rather the status as icon of an image—is the message. What is important to the power holders within the photojournalistic community is that the system of producing "big pictures" not be challenged by questions of context, method, viewpoint, or ambiguity.

Furthermore, the pictures are treated like headlines—the hyperlinks are directly to the article and a dead end or to the picture itself. These are what might be called *shallow* hyperlinks, typical of poster-board journalism on the Web. They are, in fact, not real links, because they link only to themselves. Hyperlinks to numerous other sources, articles, images, publications—these can have higher degrees and numbers of links. A photo-essay, for example, may have *rich* links that lead to all sorts of further information, greater and wider contexts, and historical antecedents to the story. Rich links help the reader understand context; shallow links point only to the images or the article itself. It is a great wonder of photojournalism that most icons on the Web are still treated in this shallow fashion.

In considering this property of image icons—their imposed "fame"—we can ask a question the answer to which will determine the evolution or stasis of all other present-day properties of icons of outrage: Can the Internet develop independent of the ethic of corporate control? The answer to this query—if we have only current events from which to judge—is absolutely negative. If most sources of visual news and information are provided by advertiser-supported, corporate-controlled sources, then the inevitable result is not plurality and diversity of focus or context but homogenization. That there are four thousand or more news organizations with Web sites does not mean that there are four thousand visual versions of the news to choose among.

An unresearched question is how a rapid updating of news Web sites can affect this process. On the one hand, news organizations can now monitor by the minute what colleagues are covering. A regional paper, for example, can continually track the big stories on the MSNBC, CNN, and *New York Times* Web sites, whereas the nightly-news or morning-paper model of homogenization has different news production facilities. Perhaps the simplest proof that the methods of icon production are not being changed is that no icon has yet emerged from an obscure Web site, then been passed along to the people and finally achieved general renown; major news organizations and other usual suspects, whatever their media, still thrust greatness upon images in the traditional manner, with the conventional results. The false ethic, perpetuated by photojournalists and some photohistorians, that the "people" play a prominent role in the making of icons continues unchallenged; a newer ethic that either admits the corporate control of icons or allows greater pluralism about their creation and reception has yet to emerge.

Fame of Subjects and Importance of Events

Major news events often produce icons, not necessarily because of their aesthetic worth or striking composition, but because discourse elites assert that particular images define, sum up, or document important events. An example is the image of Itzhak Rabin shaking hands with Yassir Arafat at a White House ceremony to mark the signing of a peace treaty, which CBS News anchor Dan Rather, an indisputable member of the discourse elite corps, could confidently label "the picture of the decade so far" (Shales 1993; Guy 1993). Some images become icons simply because they portray people who are famous—typically in some moment of popular or propagandistic publicity or candor—such as Churchill making a "V for victory" hand gesture, Princess Diana shaking hands with AIDS patients, or Che Guevara striking a "visionary" pose. At the same time, many icons depict subjects who, before their encounters with visual journalists, were unknown: the Viet Cong suspect, the man against the tanks at Tiananmen, the Oklahoma City baby and fireman, the little girl (and vulture) of the Sudan, the migrant mother, "little Elián," and so on.

Rarely does such fame bring rewards. During the Tiananmen events, President

George Bush proclaimed, "I was so moved today by the bravery of that individual that stood alone in front of the tanks rolling down, rolling down the main avenue there. And I'll tell you, it was very moving. And all I can say to him, wherever he might be or to people around the world is we are and we must stand with him" (quoted in NBC News 1989). *Time* magazine crowned that anonymous man "person of the year" and even considered him for person of the century. Nevertheless, today his fate (and indeed his identity) is still unknown; he may be in hiding, shackled in a dungeon, or buried in a ditch.

One of the intriguing challenges to this property of icons is the changing nature of celebrity in the past century. On the one hand, it is clear that modern mass media, especially those involved in so-called news and information programming, are obsessed with defining, observing, and judging celebrities (Gamson 1992; Bonner et al. 1999). This in itself is not an innovation in human culture; the "mass" media of Assyria, Rome, and dynastic China were equally concerned with the personalities, doings, and utterances of kings, high priests, and magnates. What has changed are the qualifications for celebrity and the characteristics of celebrities in the less strictly controlled class and power hierarchies of the mass-mediated age. Archaeologists have long noted, in measuring political and social power, a roughly direct relationship between the space accorded to the living or working quarters of any individual and his or her rank in society; the palaces of kings have always covered much more real estate and required more masonry than the huts of peasants. In the mediated age, a similar rule holds for celluloid, videotape, and still images. Presidents and movie stars have thousands of pictures taken of them and draw the attention of herds of photographers, even when they are engaged in seemingly mundane activities. Most of us, in contrast, get only one shot at fifteen minutes on *Jerry Springer.*

But in another sense, the cultural space inhabited by celebrities and the qualifications for celebrity have become an admixture of conflicting social trends. Although it is not true that everyone in the twentieth century was famous for fifteen minutes, an immense number of people achieved notoriety and mediated cultural space far beyond what in previous ages might have seemed to merit the songs of troubadours, the erecting of statues, or the stares of the public in the marketplace. There is a Twilight Zone sort of egalitarianism within certain genres of celebrity mediation. For example, on VH1's *Behind the Music* series, the Vanilla Ice episode is the same length as the John Lennon portrait; on A&E's *Biography* series, Mamie Van Doren and Winston Churchill are accorded texts of equal tone and production values.

What happens when the Internet becomes our main mediation of a person's visualized celebrity and status? As of this writing, there are several thousand "cams" (cameras) registered through various "cam.com" Web sites. These sites vary in how well they are executed and maintained, and the cam subjects range widely. Reykjavik Weather Cam offers "views of ice in Iceland" (www.hugbun.is/~pjetur/pic/]), while on aspiringactress.com two enterprising young women in Hollywood promise that "mem-

bers have full unlimited accesses to all lifeCams, including Lisa's BedroomCAM, Karen's BedroomCAM, BathroomCAM, LivingroomCAM, and OverheadCam." Some cam sites charge fees to subscribers; others are free. In terms of surface area, their cultural space is equal to, if not generally greater than, say, the manifestations of the president of the United States on the *Washington Post* Web site. The personal cam sites can be said to be analogous to personal publicity newsletters, with audiences ranging from many thousands (as in the case of the popular JenniCam) to few (as in family Web sites) to one (as in Web sites that are found only by accidental or random clicking and seem designed for no audience except the sender).[7]

Only in the rarest of instances can any such self-portraits, even those on sites such as JenniCam or some of the very successful and highly profitable "amateur" porn cam sites, be associated with icons. Notably, cam dwellers have not, as of this writing, done anything—committed suicide on-screen, overthrown a government—that by any mainstream definition is especially newsworthy. Anyone, as well, could potentially become comfortable with and even enthusiastic about public displays of his or her private actions given sufficient stimulus and persistent and unintrusive exposure (Perlmutter 2000). More likely, people will become unwilling celebrities, icons against their will and intention (Wischmann 1987). The pervasiveness of surveillance as a tool for commercial and legal control is the sure constant of the future; we will all be "cammed" without our consent, if not in images, then in consumer profiles (Johnson 1994; Elmer 1997; Lyon 1998).

But the self-generated celebrity of mediated subjects cannot be dispensed with as a footnote or an irrelevant grotto of the World Wide Web. It is unclear to what extent interactors will judge present-day notions of celebrity to apply to subjects in Web sites and events to come. CGI (computer-guided or -generated imagery) technology, which is rapidly becoming familiar through movies such as *Star Wars: Episode I—The Phantom Menace* and others (George Lucas has actually stated that he looks forward to the day when he can make a film without actors, using only CGI figures) allows the creation of unreal celebrities. In other words, a person who never existed can be created and placed within visual contexts that are indistinguishable from images taken in the time and space of a president or a movie star and claimed to have corporeal reality. Even more intriguing, perhaps, is the idea that dead celebrities can be resurrected and inserted into digital texts with nearly seamless integrity. Recent television commercials in which Fred Astaire and John Wayne appear to be hawking products are but the preliminary sketches of a fantasy reality to come where the working life is not arrested by death; indeed, death may be, in the language of Hollywood, a "smart career move." Is the high concept here that the public will think that dead spokesmen can't lie?

The Internet's ethic of self-representation, then, if the Internet truly becomes the medium through which all mediations of time, space, event, and person travel between interactors, may very well fracture our present-day notions of what constitutes

fame and how visual images can represent the events that determine that fame. Meyerowitz (1985) wrote, before the advent of the Internet, of television's contortion of the "situational geography of everyday life," where the media make us "audiences to performances that happen in other places and give us access to audiences who are not physically present" (7). Television has allowed us all to be "there" at the same time, for example, at the moon landing and other globally watched events. Television, as well, permits a certain sharing of that space, at least visually and in sound, that can be then reprocessed the next day among people "at the watercooler." But in a 5S Internet world, where a computer can generate three-dimensional images as well as sound and even smell, taste, and, most intriguingly, touch (through sophisticated tactile gloves or other more indirect nerve-stimulation inputs), we can share an experience to the point where not only can we join with others in watching something happen, we can be the subject of that happening. Today's children, playing first-person video games, are obviously primed and practiced to accept a future reality world in which they need no longer be content to view celebrities doing celebrated things. Instead, we, by every measure that our brains can make, will be the celebrities ourselves; that is, we can be in the Saigon execution picture—the South Vietnamese colonel firing the gun or the "Viet Cong officer" receiving the bullet—or perhaps we can shake the hand of another nation's premier and then take out our Montblanc pen to sign the arms accord.

The Web world offers a complete redefinition of person and personal space, of we and they, of self and other, of emic and etic (e.g., Mitra 1997). It raises ethical considerations of what constitutes empathy in a perpetually connected world. In *I and Thou,* Martin Buber (1974) argues that the most essential human characteristic is the paradox of not only being self-aware—but occasionally being aware of the fact that other people are self-aware—that is, that other people may have states of opinion, feeling, and sensation that are sometimes similar to and sometimes different from our own. The integration of interactor into the news icon and all other news images on the Internet will potentially allow us to feel the states of others, including their pain and suffering, as never before: interactive, Internet empathy. The question, then, will be whether we will translate this technical (and thus vicarious) empathy into cognitive and behavioral empathy and act with greater understanding and sensitivity toward our fellow suffering creatures throughout the world. In making ourselves famous, will we become better humans, or, as the video game example tends to suggest, will the experience of merging with others become merely a tool of play and gratification, a visceral excitement that leaves us, for all of its sensory exhilaration, drained and desensitized to the plights of those with whom we are temporarily conjoined?

Profit

The copy for an ad for the Wingman tactile joystick, designed to be used with the first-person shoot-'em-up video game, reads: "Psychologists say it's good to feel something when you kill." Whatever new ethic of empathy emerges in the "i" or "d" or "e"

future, we can be certain that profit, not humanitarianism, even if that notion too is redefined, will be the major influence. Undoubtedly, news images are sources of profit for their owners—the institutions more than the individuals, especially for frequently and prominently displayed "big pictures." Profits continue after the news becomes history. Permission to use an Associated Press photograph in a book, for example, typically requires payment of a fee of two to three hundred dollars. CNN charges up to six hundred dollars for the use of one of its news clips. The profitability of the cash-cow icon is enhanced by another property of the Internet: simply put, there are many more places available for the posting of images. Declines in the numbers of magazines and newspapers published have been more than compensated for by increases in the numbers of news Web sites. And the photos that appear on-line are also for sale. The *New York Times* site notifies the reader, "Find out how to obtain reprints of *New York Times* photos by downloading the following information." We are close to a time when we will see a picture of tragedy coupled with a banner instructing us how to "buy this picture."

The Internet, however, challenges the traditional profit-making structures of photojournalism and the cash-cow aspects of the news icon in several ways. The most obvious danger to the integrity of the photographer's work is that the digitally posted image is now directly copyable. Even in the case of Web slide-show photoessays, which purposely disable "save as" and "print" commands for most Web navigation software, a simple click of the right-hand mouse button allows the viewer to save an image into a JPEG or GIF file. The person copying the image at home then owns a duplicate of the original. In a sense, this is a fulfillment of Walter Benjamin's thesis about art in the age of mechanical reproduction: when an artwork is infinitely copyable, it loses any sense of uniqueness; at the same time, the original in the museum takes on a sense of secular sacredness.

Photographers, photo agencies, and news organizations understand that this technical revolution has the potential to undermine, if not legal copyrights over images, then the supposed nine-tenths of the law that favors actual possession. People have always been able to clip copies of news images from newspapers or magazines, and today they can videotape or digitally record the evening news, but the copying of pictures from news Web sites allows the interactor, barring legal action or notice, to redeploy the image instantly for his or her own use. For this reason, as one photo editor told me, "There are a lot of photographers out there who don't like their pictures to be on-line." Indeed, a news photographer I spoke with says that she discourages her photo agency from selling her pictures for use on Web sites because "they become everyone's property." The analogy to tacking up art not in a guarded museum but in the public square, where anyone can walk off with it, seems strained, but considering the value of the images, such fears are understandable.

Balancing this concern is the transience of Web postings, as discussed earlier. Photo agencies and photographers sell their images to news organizations for printed use and for Web posting, but for the latter an expiration date of the rights is built

into the contract. In the case of the *New York Times* Web site, one of the editors told me that the site had received a legal notice from the Associated Press indicating that rights for several photos on the site had expired (Gwertzman 1999). The Associated Press, like many other news and photo agencies, actually employs people whose job it is to check on the status of the agency's contracted images. It would be prohibitively expensive even for large organizations to keep posted images for which they must continue paying rights fees. The exceptions are images created within the news organization; for example, the *New York Times* owns the rights to photos taken by *Times* staff photographers in perpetuity.[8]

The result is that, although the technology of the Web allows the archiving of vast amounts of visual data—in the future, storage devices will increase in capacity, but, as is the case with software programs, digital imaging files will also probably grow in size and complexity—the economic and ideological model of corporate news discourages extensive archiving. In a sense, then, the profit potential of icons on the Web is extended beyond the dimensions of space—that is, the horizontal (more places to put the image) and the vertical (more postings of the same image)—but constricted in the dimension of time. The icon loses its permanence because it will eventually be deleted in all other news platforms except that of the original copyright holder, only to reappear, as it does now, in retrospective stories, follow-ups, and historical works. In other words, the future of the icon may, in terms of a production cycle, be very similar to what exists now, because the profits associated with its reproduction impose certain guidelines that channel its appearance. Continuing, too, may be the doublespeak associated with the profitability of news icons: journalists are loath to admit that they are selling or marketing products. The icon, however, despite being surrounded by discourse that appreciates its aesthetic, emotive, and political qualities, is at its core a thing of cash value.

Metonymy

Decisive moments are said to be decisive because they "capture" not only an instant but an era, an event, a people. "The photo said it all," proclaimed *USA Today* about the Rabin-Arafat handshake (Guy 1993). "Said it all" suggests that the most significant and useful function of icons (for news industries and discourse elites employing the image for rhetorical persuasion) is that of metonym. This function may be implicit, for, as Barthes (1977/1988) has commented, "metonymic logic is that of the unconscious" (140–41). Often, however, it is overt (e.g., "This is the situation in Beijing today . . ."). The assertion of metonymy is the unacknowledged, most important professional contribution of photojournalists, who are instructed in their training to capture a moment: their institutional clients and employers seek images that not only provide aesthetic or entertainment value but fulfill the "plug and play" function of the photograph on the news page or news video. The role of the photograph is to illustrate the story and entertain and interest the viewer; it serves as a background for what is be-

ing said or written and is rarely, except in the case of icons (and this is the way they become icons), a topic of independent interest or, even rarer still, of critical analysis.

News images, then, are treated as windows onto the world. The decisive metonym is the big lie of photojournalism—that a window, however faithfully rendered, of some small portion of reality explains all of that reality. Publics can doubt images or, more typically, ignore them, but the idea of alternative images as showing multipolar and multivocal realities is almost unknown within the canon of photojournalism. No photojournalist is trained to shoot "both sides of the story," and so the news photograph's literary equivalent is the anecdote, a tiny tale about one place at one time (Perlmutter 1992). Anecdotes can be used to enliven conversation and as examples for argumentation, but whether an anecdote can truly sum up a general condition, and should be left standing for the contemporary news-viewing public and the historical audience as the decisive moment, is always subject to debate (or should be).

A great, unheralded winnowing process, however, is threatening our ability to critique photojournalism's so-called decisive moments and monuments. Sol Worth (1981) made a distinction between the *cademe* (the image, most likely a negative created within the camera) and the *edeme* (the photograph as it appears in the publication). Visual history, and the study of visual culture, subsumes many areas of research and critical activities, but at least some of these involve the exploration of cademic reality—that is, what other pictures were taken contemporaneously by the same creators or others of the same scenes, ideas, people, and objects. It is always of interest, when one is studying visual production, to examine the photographs that elaborate the contexts of those that are lifted to the status of icon.

A simple example is the famous photograph of a dying Spanish militiaman taken by Robert Capa. Since the first published appearance of the image, there has been some controversy as to whether it depicts a natural moment, "caught" by the cameraman, or a staged enterprise. Capa's original roll of negatives has in fact been preserved, and recent inquiry suggests that the pictures taken before and after the famous image give no hint of subterfuge or intent to deceive. Photos taken with modern digital cameras are not subject to such investigation. Although digital photography is improving in quality of resolution, the maximum storage capacity of the cameras, the storage policies of ownership organizations, and the attitude toward the *concept of archiving* that digital imagery inculcates in its producers are essential issues. Whereas previously photographers might shoot many rolls of images and return the exposed film to their news organizations, which would develop the film and then select and edit the images they wished to use, all of the images would be preserved; that is, all of the negatives would be kept in the news organizations' archives. The economic model driving digital photography encourages deletion of this unused "background" material. Images that the photographer does not want to submit to his or her editor, or images not chosen for publication, can be deleted completely; no trace of their existence will remain in the archive or historical record.

The incentives to shoot less, erase more, and keep few are largely related to profit forces. I am currently conducting a survey of photojournalists who work for major newspapers and magazines. My preliminary results confirm anecdotally reported testimony from interviews with these photojournalists: those who use digital cameras shoot fewer stills. One reason for this is that the memory cartridges of even very advanced digital cameras, such as the high-end Nikon Ds, can store only a limited number of images. The higher the resolution of the images, the fewer can be stored to any one cartridge. The difference between shooting film and digital imagery is marked. As one news photographer put it to me: "I never used to think about running out of film. That was always the cheapest thing for me. You always shot much more than you could use. Now I'm always worried about running out of space on the tape [or disc]. I shoot less; I keep less." Another echoed: "Film is cheap; [computer] memory is not." Moreover: "Film was easy to catalog—you just file it on the shelf." Storing, cataloging, and databasing the same number of computer images as held in a sheet of negatives is labor-intensive—and thus expensive. In addition, compared with the unused film images destroyed under the old system, newspapers and magazines delete digital images that are taken but not printed at a much higher rate. Whatever the cause, then, image makers and corporate owners hold that digital images, unless they are profitable, are rightly expendable—their ephemeral nature is a new norm of visual ethics in the digital age.

There are stark consequences that may violate ethical notions of those concerned for the public interest in such an industrial proscription against preservation. That what appears in publication is almost all that remains of the visual record is a major violation of the social contract between image-producing organizations and scholars, the public, and future generations. If entertainment and news organizations have any social justification for their production, it includes the preservation of this cademic context. It may be the case that scholars of the future, looking back, will have nothing but icons to consider in understanding the visual production of our age. This winnowing, it is important to underscore, occurs before images are posted on the Internet; the archiving capabilities of Web sites cannot save images that have never been preserved. And most on-line newspaper archives do not allow users to access the photos that accompanied articles as they originally appeared in either paper or electronic editions.

Cademic context is also crucial for contemporary political argumentation. One of the promised benefits of the Internet originally touted by proponents of the medium is its multivocal nature. Indeed, to media egalitarians, the Internet must appear to be the last, best hope in the fight against the conglomerization and homogenization of news. Most American cities today are served by a single newspaper, and the content of major newsmagazines and broadcast and cable news programs is so topically, stylistically, and ideologically similar as to make them all seem mere variations on the same audiovisual theme. The Internet offers the opportunity for alternative voices

and visions to have equal public space to that of multibillion-dollar corporations. Copyright, and its aggressive legal preservation, to some extent undermines the ability for opposing visions to use edemes from mainstream news. But the erasure of cademes themselves means that critics of mainstream news must either create their own images or rely on simple lexical-verbal assertions about the questionable accuracy and fairness of those presented on corporately approved Web sites.

The situation is exacerbated by the Internet's premier distinctive feature as a medium. When a Web news site such as that operated by the *New York Times* is updated, images disappear. Many are stored in digital archives, although we may speculate about whether these archives are reliable because, first, they are largely inaccessible to the interested interactor or the critical theorist or historian, except by purchase, and second, there is no guarantee that picture file formats will not change; older images may one day be as unviewable as data on IBM punch cards or WordStar files on five-and-a-quarter-inch floppies are now. More important, unless one has printed the entire Web page as an integrated unit, it no longer exists at all. As the *Times*'s Bernard Gwertzman (1999) explained to me, "We save the individual pictures and stories but not the page." Unless that page has been systematically copied, downloaded, or printed, it may be lost forever as a text for analysis, clarification, inspection, comparison, or simply a refreshing of memory. That updating is also one of the great benefits of the Internet—a capability that most proponents of the medium cite as a positive tool for enhancing individuals' interaction with news—is a contradiction. The problem would be solved, however, if newspapers and magazines that operate Web sites took seriously the threat to visual history that their current practices represent and began archiving updated pages as well as individual items.

But such threats are not the last word on the metonym of new media images. Futuristic fiction fails when it does not take into account the interactions among commerce, society, culture, and technology. Many mainstream Web sites provide innovative, interesting, reasonably contextual arrays of images and words that would be almost impossible to re-create in printed or televised form. The *New York Times* Web site is just such an innovator in its transformation of the slide show into the multimedia array. As of this writing, one of the most interesting of these is a series of extended documents that subsumes and surrounds a photo-essay by Vanessa Vick, an independent photographer who spent several years in Rwanda documenting the aftermath of the ethnic genocide that occurred in 1994. Titled "Children of Rwanda's Genocide," it is divided into three thematic essays: "Families without Parents," "Surviving on the Streets," and "Orphans and Detainees." The text is extensive, with detailed word essays and longer captioning; more important, the presentation fully exploits the World Wide Web's linkage technology. It includes a RealPlayer audio clip that describes the issues, people, history, and context of the events. One can also hyperlink to nongovernmental aid organizations "providing assistance to the children of Rwanda."

Within each of the subessays, the captioning is much more extensive and includes links to almost every article the *New York Times* has published on the Rwanda story since 1994, when almost half a million people were killed and hundreds of thousands of children were left without any adult family members. The presentation even includes a map of Rwanda and a time line. It would be difficult for an individual to travel through this essay and not emerge better informed, if not moved. That almost all the information presented has been written, edited, and approved by employees of a mainstream news source, the *New York Times,* is of course the major obstacle to calling such an essay an example of the radical possibilities of democratic debate and multivocality and multipolarity theoretically possible on the Web. But "Children of Rwanda's Genocide" is an imaginative work despite its corporate gestation.

Conclusions

Students of visual culture have long complained that historians and others have relegated photographs to a purely illustrative role in their conceptualization and description of history (Perlmutter 1994; Schwartz 1991). On the other hand, digital media's fractured core structure has set up challenges to many existing notions of the integrity of visual forms, from media art to photojournalism (Broeckmann 1997). Within another generation, we may need to think differently about the still photograph and video than we do today. Rather than flat images to which the briefest commentary and context are added by terse captions or references within the body text of articles or narrations, pictures may become multimedia arrays that affect complex contexts of multiple realities and variable interpretations. One day, all images may contain within them embedded links that lead to further stories, images, and sounds. Visual objects within images may become links in themselves. Click on the face of a man standing by the side of a road watching earthquake victims being retrieved from the rubble and hear his interview in full; click on the rubble and read a story about builders accused of using beach sand in the concrete; another link provides background information on the journalists, their commentary about the image, why they were assigned to this story, their impressions about the shooting experience; and so on.

The World Wide Web has often been deemed less an organized system of information than a data shipwreck, but perhaps H. G. Wells's metaphor of a world brain is the most appropriate. The neural networks of the human mind are often maddeningly haphazard when it comes to what information is stored and seemingly deleted: we may not recall our first date with our spouse, but an episode of *Gilligan's Island* could be synaptically etched forever. Yet the Internet's unique ability to create linkages to multiple documents beside the image itself—including other images—allows us to glimpse the possibility of a future where there is some degree of liberation from the stranglehold of narrow conglomerate media, from contextless content. The Internet could possibly empower a viewer or receiver to become a wholly new entity

within the traditional models of mass communication transmission, the interactor, someone who contributes to the creation of meaning through exploration.[9] The power of audiences has long been recognized, but the Web allows audiences to explore and react, to interact, in ways that were either infeasible or not easily achieved in the past.[10]

It would be easy to get caught up in the thrill of such a prospect and fail to consider the immensely powerful forces of corporate profit and control that oppose such liberation. More extreme ideas about the Web held by the digerati—people who believe that, unlike most previous scientific revolutions, digital technology and the Internet will produce only positive benefits for democratic society—are difficult to sustain (Sudweeks and Ess 1998; Shaner 1998). This present essay is a rather selective survey, but there is no evidence that the Internet and digitization have yet changed the way the people who control the news think about images in the news; the ethical standard of pluralism, multivocality, and multipolarity is being propagated only indirectly. Mainstream news sources of existing print, broadcast, and cablecast organizations are attempting to maintain, and may well succeed in maintaining, their traditional (and profitable) gatekeeping role (Singer 1997)—that is, to program for an active audience of any kind (Eastman 1998).

Interactivity itself may be a chimera. Certainly, there has been no consensus on how we should define the term or the process (Durlak 1987; Frenette and Caron 1995; Ha and James 1998; Mayer 1998; see especially Massey and Levy 1999). The mechanics of the Web may allow us to be "interactors" rather than viewers or readers or receivers, but the content may be created and "pushed" at us in ways similar in style and results to those of traditional forms of media. We must not underestimate the ability of the powers that be to adapt their systems of propaganda, control, commodification, and commercial exploitation to and through any new technology. Governments, commercial power holders, and indeed all authorities will attempt various "containment strategies," ranging from the passive to the coercive (Taubman 1998). Simply clicking on hyperlinks is as little an experience of liberation as that of a mouse facing the corridors of a laboratory maze. Looking back at the early years of the Internet, future critical analysts may define interactivity as simply a clever marketing ploy.

Whatever the result, there is some possibility of a new ethic of more contextual photojournalism and more complex understanding of icons of current affairs. Independent scholars and photographers can, through this new medium, make an attempt to create voices, words, and pictures of subversion, protest, challenge, heterodoxy. In fact, the Web and many accessible tools of Web page creation make such guerrilla documents very simple. A multimedia portal, with links to stories, added context, audio, other pictures, and perhaps even the kinds of images least present on the news print page—images with viewpoints that are either directly or implicitly captioned as ideologically or politically different from those of the authoritative "published"

image—is achievable. Such a portal will allow the news picture to become more detailed, complex, and contextual more cheaply than news pages, and will offer possibilities of escape from the minimalist trap in which most news pictures find themselves. The real challenge is to make icons of such multimedia arrays—that is, to attract an audience aside from students of visual culture and affect general beliefs and policies. Simply putting something up on the Web and drawing an audience of parents, pals, and cognoscenti is not mass communication.

Above all, the ethic of those of us who care about news images and icons in the Internet age should be to suggest that, although we may always be thinking of new technologies to look at images, we should also be looking for new ways to think about images and the effects they do and do not have on world history and our daily lives.

Notes

1. An example is the photo of the missile streak associated with the 1996 crash of TWA Flight 800, which was widely distributed among conspiracy buffs on the Web.

2. An example is the Clinton-Lewinsky scandal.

3. This complexity suggests a challenge to the mainstream socializing effect of the news agenda and the icon itself: Will people be able to consent to one news agenda? That is, if stories change often, and people have interests that lead them through many parts of the maze of sites, will they, in interpersonal contacts, agree on what constituted the "big story" and "big picture" of the previous day? Or will everyone have his or her own news? "Push" technology and personalized news choices increase this complexity.

4. As a thirty-year-old master's student, I participated in one such study and scored very poorly.

5. This issue is especially important to any investigation of how well people recall mediated news of events (see Stauffer, Frost, and Rybolt 1983).

6. There is mixed evidence concerning whether texts (words or images) viewed on-line are less or more strongly imprinted on memory than those encountered and engaged through other media. In one study, subjects recalled less vividly and for a shorter time advertising that was integrated into a Web page compared with identical ads viewed on a print page (Sundar et al. 1998). It may be a matter of the aesthetics of what is being viewed: on the Web, animation of images seems to increase recall rates, at least for banner ads (Li and Bukovac 1999).

7. Web self-publicists can become local celebrities in the legal sense (see Bunker and Tobin 1998).

8. Even those images are replaced frequently, however, because they lose their news value over time.

9. Or an interactor might contribute through countercommentary. Programs now exist that allow people to place virtual Post-its on public Web sites; others owning the special program can read their notes, and the Web site operators cannot erase them.

10. Certainly, the interactivity that is possible through hypertext links and choices of texts in new Web sites reflects at least a shift of technical control from sender to receiver (Li 1998). Furthermore, the Web allows formerly marginalized groups to create considerable virtual, if not physically extensive, communities of shared interest and expression (Kibby 1999). News organizations may even find it to their benefit to cede Internet information consumers

at least partial autonomy in determining the types, extent, and directions of their interactions with news, what Khoo and Gopal (1996) call "prosumerism" (29; see also Dennis 1996).

References

Arlen, Michael J. 1969. *Living-room war.* New York: Viking.

Arnett, Peter. 1994. Live from *the battlefield.* New York: Simon & Schuster.

Bailey, George A., and Lawrence W. Lichty. 1972. Rough justice on a Saigon street: A gatekeeper study of NBC's Tet execution film. *Journalism Quarterly* 49:221–29.

Barthes, R. 1988. *Image-music-text.* Translated by Steven Heath. New York: Noonday. (Original work published 1977)

Bonner, Frances, Rebecca Farley, David Marshall, and Graham Turner. 1999. Celebrity and the media. *Australian Journal of Communication* 26, no. 1:55–70.

Bove, V. Michael, Jr. 1996. Beyond images. *Convergence* 2, no. 2:30–46.

Broeckmann, Andreas. 1997. Towards an aesthetics of heterogenesis. *Convergence* 3, no. 2:48–58.

Buber, Martin. 1974. *I and thou.* New York: Macmillan.

Bui Diem (with David Chanoff). 1987. *In the jaws of history.* Boston: Houghton Mifflin.

Bunker, Matthew D., and Charles D. Tobin. 1998. Pervasive public figure status and local or topical fame in light of evolving media audiences. *Journalism & Mass Communication Quarterly* 75, no. 1:112–26.

Chancellor, John. 1997. Remarks made in *Newsreels to Nightly News,* episode 4, Vietnam: The Camera at War. History Channel.

DeFleur, Melvin L., Lucinda Davenport, Mary Cronin, and Margaret DeFleur. 1992. Audience recall of news stories presented by newspaper, computer, television and radio. *Journalism Quarterly* 69, no. 4:1010–22.

Dennis, Everette E. 1996. Values and value-added for the new electronic journalism: Public debate and the democratic dialogue. *Media Asia* 23, no. 2:107–10.

Disch, Thomas M. 1999. *The dreams our stuff is made of: How science fiction conquered the world.* New York: Simon & Schuster.

Durlak, Jerome T. 1987. A typology for interactive media. Pp. 743–57 in *Communication yearbook* 10, edited by Margaret L. McLaughlin. Newbury Park, Calif.: Sage.

Eastman, Susan Tyler. 1998. Programming theory under stress: The active industry and the active audience. Pp. 323–77 in *Communication yearbook* 21, edited by Michael E. Roloff. Thousand Oaks, Calif.: Sage.

Elmer, Greg. 1997. Spaces of surveillance: Indexicality and solicitation on the Internet. *Critical Studies in Mass Communication* 14, no. 2:182–91.

Frenette, Micheline, and Andre H. Caron. 1995. Children and interactive television: Research and design issues. *Convergence* 1, no. 1:33–60.

Gamson, Joshua. 1992. The assembly line of greatness: Celebrity in twentieth century America. *Critical Studies in Mass Communication* 9, no. 1:1–24.

Graber, Doris A. 1990. Seeing is remembering: How visuals contribute to learning from television news. *Journal of Communication* 40, no. 3:134–55.

Grimes, Tom. 1990. Encoding TV news messages into memory. *Journalism & Mass Communication Quarterly* 67, no. 4:757–66.

Guy, P. 1993. Handshake photo worth 1,000 words. *USA Today,* September 15, 8B.

Gwertzman, Bernard. 1999. Telephone interview by author. December 10.

Ha, Louisa, and Lincoln E. James. 1998. Interactivity reexamined: A baseline analysis of early business Web sites. *Journal of Broadcasting & Electronic Media* 42, no. 4:457–74.

Hammond, William M. 1988. *Public affairs: The military and the media,* 1962–1968. Washington, D.C.: U.S. Army, Center of Military History.

Hodgson, V. Godfrey. 1976. *America in our time.* Garden City, N.Y.: Doubleday.

Johnson, J. T. 1994. The private I, you, they. *Journal of Mass Media Ethics* 9. no. 4:223–28.

Katsiaficas, George, ed. 1992. *Vietnam documents: American and Vietnamese views of the war.* Armonk, N.Y.: M. E. Sharpe.

Kernell, S. 1978. Explaining presidential popularity. *American Political Science Review* 72:506–22.

Khoo, Derrik, and Ramesh Gopal. 1996. Implications of the Internet on print and electronic media. *Journal of Development Communication* 7, no. 1:21–33.

Kibby, Marjorie D. 1999. The didj and the Web: Networks of articulation and appropriation. *Convergence* 5, no. 1:59–75.

Larson, James F. 1992. *Television's window on the world: International affairs coverage on the U.S. networks.* Norwood, N.J.: Ablex.

Li, Hairong, and Janice L. Bukovac. 1999. Cognitive impact of banner ad characteristics: An experimental study. *Journalism & Mass Communication Quarterly* 76, no. 2:341–53.

Li, Xigen. 1998. Web page design and graphic use of three U.S. newspapers. *Journalism & Mass Communication Quarterly* 75, no. 2:353–65.

Lyon, David. 1998. The World Wide Web of surveillance: The Internet and off-world powerflows. *Information Communication and Society* 1, no. 1:91–105.

Massey, Brian L., and Mark R. Levy. 1999. Interactivity, online journalism, and English-language Web newspapers in Asia. *Journalism & Mass Communication Quarterly* 76, no. 1:138–51.

Mayer, Paul A. 1998. Computer-mediated interactivity: A social semiotic perspective. *Convergence* 4, no. 3:40–48.

Messaris, P. 1994. *Visual literacy: Image, mind, and reality.* Boulder, Colo.: Westview.

Meyerowitz, J. 1985. *No sense of place.* New York: Oxford University Press.

Milstein, J. S. 1974. *Dynamics of the Vietnam War: A quantitative analysis and predictive computer simulation.* Columbus: Ohio State University Press.

Mitra, Ananda. 1997. Diasporic Web sites: Ingroup and outgroup discourse. *Critical Studies in Mass Communication* 14, no. 2:158–81.

Monk, Lorraine. 1989. *Photographs that changed the world: Photographs as witness, photographs as evidence.* New York: Doubleday.

Mosettig, Michael, and Henry Griggs Jr. 1980. TV at the front. *Foreign Policy* 38:67–79.

Mueller, John E. 1971. Trends in popular support for the wars in Korea and Vietnam. *American Political Science Review* 65:358–75.

———. 1973. War, presidents, and public opinion. New York: John Wiley.

NBC News. 1989. *China in crisis.* Special report, aired June 5.

Newhagen, John E., and Byron Reeves. 1992. The evening's bad news: Effects of compelling negative television news images on memory. *Journal of Communication* 42, no. 2:25–41.

Pasupathi, Monisha, Lisa M. Stallworth, and Kyle Murdoch. 1998. How what we tell becomes what we know: Listener effects on speakers' long-term memory for events. *Discourse Processes* 26, no. 1:1–25.

Perlmutter, David D. 1992. The vision of war in high school social science textbooks. *Communication* 13:143–60.

———. 1994. Visual historical methods: Problems, prospects, applications. *Historical Methods* 27, no. 4:167–84.

———. 1998. *Photojournalism and foreign policy: Framing icons of outrage in international crises.* Westport, Conn.: Greenwood.

———. 1999a. Journalistic norms and forms of crossnational imagery: How American newsmagazines photographed Tiananmen. Pp. 123–42 in *International news monitoring,* edited by Kaarle Nordenstreng and Michael Griffin. Boston: Hampton.

———. 1999b. *Visions of war: Picturing warfare from the Stone Age to the cyberage.* New York: St. Martin's.

———. 2000. *Policing the media: Street cops and public perceptions of law enforcement.* Thousand Oaks, Calif.: Sage.

Price, Vincent, and John Zaller. 1993. Who gets the news? Alternative measures of news reception and their implications for research. *Public Opinion Quarterly* 57, no. 2:133–64.

Schuman, Howard, Robert F. Belli, and Katherine Bischoping. 1997. The generational basis of historical knowledge. Pp. 47–77 in *Collective memory of political events: Social psychological perspectives,* edited by James W. Pennebaker, Dario Paez, and Bernard Rimé. Mahwah, N.J.: Lawrence Erlbaum.

Schwartz, Dona. 1991. Photojournalism and the historians. *American Journalism* 8, no. 1:62–66.

Shales, Tom. 1993. Peace in their time. *Washington Post,* September 14, B1.

Shaner, Scott. 1998. Relational flow and the World Wide Web: Conceptualizing the future of Web content. *Electronic Journal of Communication* 8, no. 2.

Singer, Jane B. 1997. Still guarding the gate? The newspaper journalist's role in an on-line world. *Convergence* 3, no. 1:72–89.

Stauffer, J., R. Frost, and W. Rybolt. 1983. The attention factor in recalling network television news. *Journal of Communication* 33, no. 1:29–37.

Sudweeks, Fay, and Charles Ess. 1998. Culturally mediated computing: Editorial preface. *Electronic Journal of Communication* 8, nos. 3–4.

Sundar, S. Shyam, Sunatra Narayan, Rafael Obregon, and Charu Uppal. 1998. Does Web advertising work? Memory for print vs. online media. *Journalism & Mass Communication Quarterly* 75, no. 4:822–35.

Taubman, Geoffry. 1998. A not-so World Wide Web: The Internet, China, and the challenges to nondemocratic rule. *Political Communication* 15, no. 2:255–72.

Wells, H. G. 1996. *The world brain.* London: Adamantine. (Original work published 1937)

Westmoreland, William C. 1976. *A soldier reports.* Garden City, N.Y.: Doubleday.

Wicks, Robert H. 1995. Remembering the news: Effects of medium and message discrepancy on news recall over time. *Journalism & Mass Communication Quarterly* 72, no. 3:666–81.

Wiemer, R. 1992. *Live from ground zero.* New York: Doubleday.

Wischmann, Lesley. 1987. Dying on the front page: Kent State and the Pulitzer. *Journal of Mass Media Ethics* 2 (spring/summer):67–74.

Worth, Sol. 1981. *Studying visual communication.* Edited by Larry Gross. Philadelphia: University of Pennsylvania Press.