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The ethics of the Internet

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Introduction

Perhaps the most interesting substantive work by geographers on ethics transcends the boundaries between metaphors of space, place, and nature. (Proctor 1998: 14)

Is geography turning virtual? "From virtual GIS" (Batty 1997) to virtual classrooms, virtual fieldtrips, and virtual communities, has the discipline long associated with physical experience, with landscape and culture, succumbed to the attractions of the not-quite, the virtual? If so, what does this mean for ethics in geography? In this chapter I wish to briefly address this question in the context of the Internet.

At first it may be difficult to understand why geographers should be concerned about the ethics of the Internet. Unlike spatial technologies such as GIS or digital cartography, geographers did not invent the Internet, nor do they necessarily have a privileged relationship to it. But this is the Age of Information and one of its major means of transmission is the Internet. There is a remarkable geography of the Internet which has three complementary components. First, "where" is the Internet, and more generally, cyberspace? How did it grow? Can the flows of information be mapped to see who is connected and where? What geographic outcomes or practices might it give rise to in finance, politics, or culture? This is here called the *geography of virtuality*. Second, to what degree do these virtual spaces constitute new forms of spatial knowledge? Do they change the way we know the world and the way we think about other people and communities? If so, what are the ethical implications for geographers? This is here called the *virtuality of geography* – the fact that geographic interactions increasingly require or include a virtual component.¹

But there is also a third area of ethics which intersects with both of the above (although in ways which are not yet clear), and that is professional ethical implications. In some ways these implications – such as the part-timing of the academic labor force, pressures for "corporatizing" the university with the web, digital distance education – are harder and more immediate for us as practitioners of

geography. Ironically, they have been comparatively ignored compared to the more speculative attention on the future of human communities in cyberspace, etc. Yet they are far more likely to affect geographers, and geographers are far more likely to be able to affect outcomes in this area.

Because the question of ethics of the Internet is still emerging it is useful to provide a road map of the ethical issues involved – a descriptive ethics. Using the three aspects outlined above, this chapter will focus on trying to capture what I see as the most important descriptive ethical issues facing us, that is, to "provide(c) a rich account of the ways morality interweaves with the geographies of everyday life" (Proctor 1998: 11). It is also necessary to evaluate to what degree the ethical practices we identify are good or bad – a normative ethics.

The ethics of the Internet identified

Does the Internet as a technology have an intrinsic nature or "logic" and if so, what is it? This is perhaps the most basic ethical question because it addresses the moral value of the Internet; that is, whether it has an inherently positive or negative quality. Authors have taken different positions on this question. Critics of the technology, perhaps following the dystopian vision of William Gibson (1984) who coined the term "cyberspace," cite negative aspects such as an inherent "logic of hegemony" associated with all technology because it expresses power relations. In this view any use of technology (such as the Internet) necessarily takes place within, and thus reproduces, power relations. Technology is therefore not a neutral or innocent activity, but an ideology (see Aronowitz 1988). Furthermore, this logic of hegemony presupposes a specific positivist and rationalist framework within which the technology operates. Commodification, or the inevitable transformation of the communications media into a profit-seeking enterprise, is another criticism leveled at the Internet. Critics who adopt this position note that there is a strong trend toward commercial sites on the web (which currently account for more than 60 percent of all web sites), and emphasize moves by an increasing number of educational establishments in the United States to commodify their educational offerings (Noble 1998). A final criticism of the logic of hegemony is that the technology can be used to invade privacy, and provide surveillance measures never before possible.

On the other hand many authors identify cyberspace as enabling and emancipatory, with the heretofore unrealizable potential of building virtual communities and discourses via the web, e-mail, and live chat rooms (Rheingold 1993). These discourses are truly democratic; they necessarily widen the sphere of public communication for consensus-seeking. Some aspects of this "logic of empowerment" include access to government resources such as the Census Bureau, national and international telephone directories for finding people (e.g. missing children), the exchange of opinions and ideas between nations which subvert stereotypes, all sorts of information useful to citizens such as property searches, driving records of potential employees, and so on.

But there is a third position: that the Internet is a topology of competing

philosophies without an inherent nature. This non-essentialist claim has been taken by some authors interested in pursuing a progressive agenda in geography (e.g. Grimes and Warf 1997) and it allows recognition of the hyperbole of a Rheingold without adopting a romantic anti-technological stance. Furthermore we can detect an emerging consensus around this position in a related technological field through a reading of the debate about geographic information systems (GIS) and society. In geography, the debate on "logics of technology" has been most visible in the critique and counter-critique of the spatial analytic technology of GIS and its relations to society (see Pickles 1995, Crampton 1993, Lake 1993, NCGIA 1997). The most recent iteration of this debate (see Whittle *et al.* 1997a, 1997b, Pickles 1997) saw each side recognizing the other's positions; that GIS *can* be totalizing and positivist, *but* can also be empowering and democratizing, i.e. there is no deterministically inherent logic of GIS. I would like to apply this conclusion to the ethics of the Internet; that the technology gives rise to competing logics. This has an important implication, because it means that which logics become privileged is not so much a factor of the technology itself, but of what we as users do with it (a similar call to activism is made in the final chapter of Rheingold's 1993 book *The Virtual Community*).

What are the ethical factors of these positions for geographers? I have summarized the major points in Figure 6.1. First, what are the implications of new spatial practices and outcomes – what is the geography of virtualization? Is access to the Internet universal, and if not, what are the spatial patterns of access? Within places, who has access and who does not (e.g. males versus females, employees versus management)? Why have these patterns arisen, and will access ever be equitably distributed (Kedzie 1997, Wresch 1996)? Are we producing technological elites (Kaplan 1995)? Furthermore, what are the effects of access, and *should* everybody (e.g. children) have access (Anderson *et al.* 1995, Kedzie 1996). As the Internet continues to grow we might ask whether it is forming a new set of spaces which eclipse national boundaries, and consider what this means for politics, culture and ultimately, the possibility of democracy.

Second, what new forms of spatial knowledge and thinking are produced by the Internet—how is the virtualization of geography taking place? Here again are questions with significant moral content; for example, is the Internet being used to find out about people by invading their privacy? Should this digital information gathering (especially its geographic aspects) be permitted or circumscribed and to what degree (Curry 1997)? Conversely, does the Internet allow us to know more about other cultures which may lead to reduction in stereotyping (e.g. that all Muslims are fundamentalist), perhaps to the extent of democratizing those nations which are more connected (Kedzie 1997)? What are the pros and cons of anonymity, for example in the way we treat strangers (Whittle 1997)?

A significant concern of geographers in the 1990s has been the effect of globalization. Indeed, for some it has already become an organizational theme for introductory geography texts (e.g. Knox and Marston 1998). What role does the Internet play in globalization, and how is spatial knowledge affected (Castells 1996)? Does it extend a network of relations beyond the local (e.g. virtual

<p>New practices and outcomes: a geography of virtualization</p>	<p>New knowledges: the virtualization of geography</p>
<p>Where is cyberspace? Who is connected? Spatial and societal differentiation e.g. connectivity maps e.g. by gender or age Who should have access? e.g. authorities and institutions e.g. children</p>	<p>What and how do we know? Invasion of privacy v. democratization? e.g. surveillance e.g. virtual communities Knowledge of the other Identity/anonymity Globalization of space The meaning of community?</p>
<p>Professional implications</p>	
<p>Assessment Scholarly value of Internet-based resources? Employment Full-time v. part-time Educational Effects of technology on student performance? Effects on student research methods? "Corporatization" of education?</p>	

Figure 6.1 The ethics of the Internet*

Note: * Ethical implications arise in three major areas: geographic outcomes or practices, geographic knowledges, and the geographic profession itself. The last intersects the first two in as yet undetermined ways.

communities) or does it lead to a time-space compression due to a hypermobility of capital and finance (Cairncross 1997)? These are important questions concerning the local-global relationship. Additionally, is flexible production encouraged by distributed information, for example by the ability of companies such as the Dell Corporation to configure products individually via the Internet? Conversely, is there still a geography of information which reasserts the local (Clark and O'Connor 1997, Cox 1997)? In sum, is the world coming together or pulling apart (Staple 1997)?

To be sure, these questions are not exclusively ethical ones. For some, the domain of ethics, of deciding what is right and what should be done, has already been answered in practice ("Yes, the Internet has demonstrably increased surveillance of employees") or in principle ("No, children should not have access"). Their positions are well staked out. For other people, while these issues include ethical questions, other issues predominate. While these are valid positions, I argue that the time is right for those of us concerned with ethics to partake in the building of the Internet; to debate and establish good practice; to emphasize its positive aspects and to combat the negative aspects. Part of this agenda is consciousness raising, that is, in documenting the moral dimensions of the Internet in

public (e.g. this chapter) and to our students (for an example of how these issues might be introduced in a human geography class, see Crampton and Krygiel, 1997).

Whatever one's position on ethics in geography it is likely that few will remain unaffected by developments in the third major area of Figure 6.1: professional implications. Ethics has already played a significant role in academia (especially as "applied ethics," for example, in the treatment of research subjects), but the Internet poses new issues. Among these are questions of how to assess work done outside traditional channels of peer-reviewed publication, and whether that work will be categorized as a component of research, teaching or service. There are also ethical questions about our work as educators: is it right or desirable (not necessarily the same thing) to use educational technology such as the Internet in the classroom? How will it affect student performance? Will students ignore the library now that they have web-based search engines? We can also ask what effects distance education will have on employment of full-time professors. Will it lead to increased "part-timing" of the academic labor force? In fact, distance education may prove to be a defining focus for several competing arguments to do with the future of education. For example, it has been credited both as a means to increase student enrollment in geography (DiBiase 1996) and as a sign of increasing "corporatization" of education (Noble 1998). Further consideration of the ethical implications of distance education would appear to be justified.

These then are broadly the major ethical issues of virtual geographies. In the next section I examine some of these issues in more detail.

Selected Internet ethics in detail

That we live in a computer age no one seems to doubt. Yet, along with the paeans of praise... there is also a growing chorus of criticism and a pervasive mood of doubt about its redemptive features.

(Aronowitz 1988: 3-4)

Competing scenarios

Scenario 1: the Internet as empowerment

Claims for the empowerment of the Internet are most typically found in the hypertext community where hypertext (and its particular implementation in the World Wide Web) democratizes access to information (Bolter 1991; Bush 1945; Landow 1992, 1994). Hypertext is defined as "non-linear writing" which encourages the reader to choose pathways through the text. Hypertext and the Internet are cited for their inherent ability to interconnect people, as well as to challenge established hierarchies. The latter ability, for example, is developed by Jay David Bolter in his influential book *Writing Space* (1991) into a challenge for traditional hierarchical text in the face of non-linear and associational text.

The theoretical articulation of such democratization is best realized in

Habermas' tradition of "communicative democratic action" and "discourse ethics" (Ess 1994). Briefly, this promotes rational, consensus-seeking dialog as the cornerstone of democracy. There is some empirical evidence to support this position, although it is suggestive, rather than definitive. A recent series of studies by the Rand Corporation has found a strong link between the degree of Internet "connectivity" and democracy (Kedzie 1996, 1997) as well as beneficial links between computer networks and human development (Press 1996). Stimulated by maps of "interconnectivity" and "democracy" which looked strikingly alike (high interconnectivity = high democracy ratings), Kedzie discovered a correlation coefficient of 0.73 (significant at the 0.1 level). Indeed, interconnectivity correlated at a higher level than more traditional predictors, such as GDP or schooling (see Figure 6.2).

Kedzie also tested the directionality of this link to see whether interconnectivity leads to democracy or vice versa (for example, because democracies rely on intercommunication and therefore move to interconnect themselves). His findings indicate that interconnectivity is a strong predictor of democracy, while there was no effect of democracy on interconnectivity (that is, democracy does not necessarily lead to interconnectivity).

The Kedzie study proposed a possible third contributing factor that tends to increase both democracy and interconnectivity, namely economic development. It says "to the extent that we, as a nation, aim to influence the development of democracy worldwide, we do so through programs to enhance economic development, education, health, legal reform and so on" (Kedzie 1996: 29). The conclusion indicated is that a strong method of encouraging these programs of health, education and development lies in interconnectivity.

While these are indeed laudable goals, it must be conceded that neither "development" nor "democracy" is an unproblematic term (Bell 1994). The dualism it implies of north-south obscures important spatial differences. And as Yapa has repeatedly pointed out (Yapa 1995, 1996) the links between development, the economy and poverty are highly contested and do not necessarily reveal or encourage "the poor" to achieve power to address problems (a form of denying them agency in that it is assumed that only the "non-poor" can have agency). There is an important point here in that interconnectivity may empower local groups. Interconnectivity, development, and democracy may well be intertwined, but in complex ways (a "virtuous circle" according to Kedzie) with no single determining factor.

Scenario 2: the Internet as hegemony

Perhaps the most widely expressed fear associated with the Internet is the potential for surveillance and other means of privacy invasion. In a 1997 survey carried out by Georgia Tech's Graphics Visualization and Usability Center (GVUC) "censorship" and "invasion of privacy" were the number one and two top ranked answers to the question "What do users feel is the most important issue facing the Internet?" (GVUC 1997). And indeed, the evidence does indicate that the

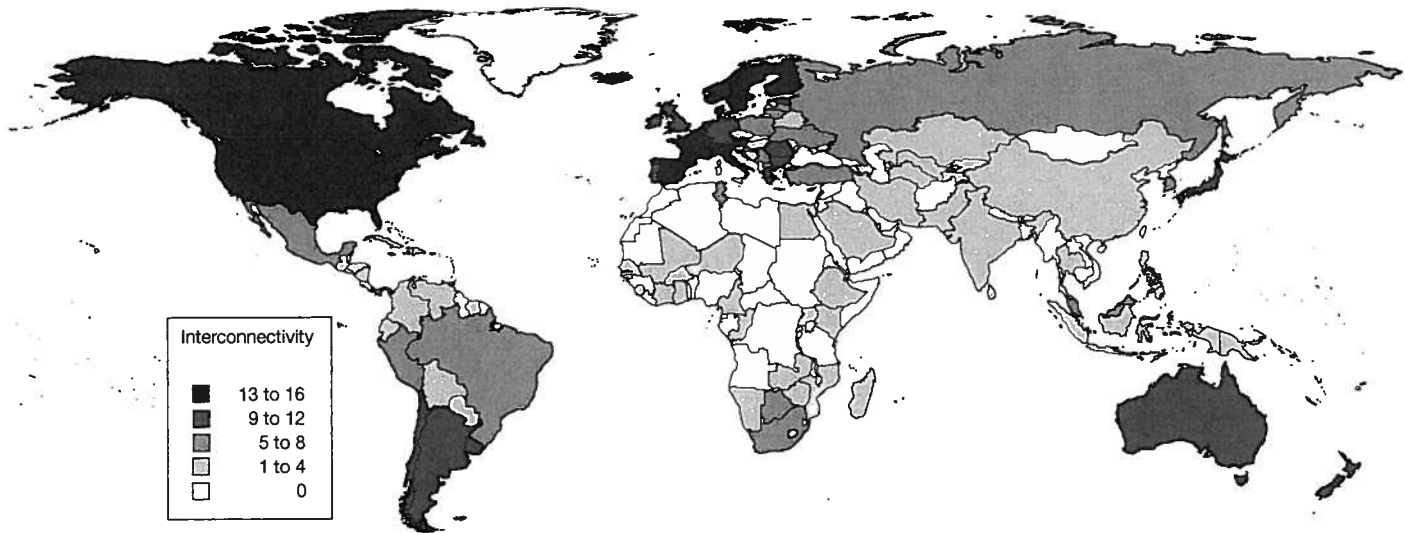
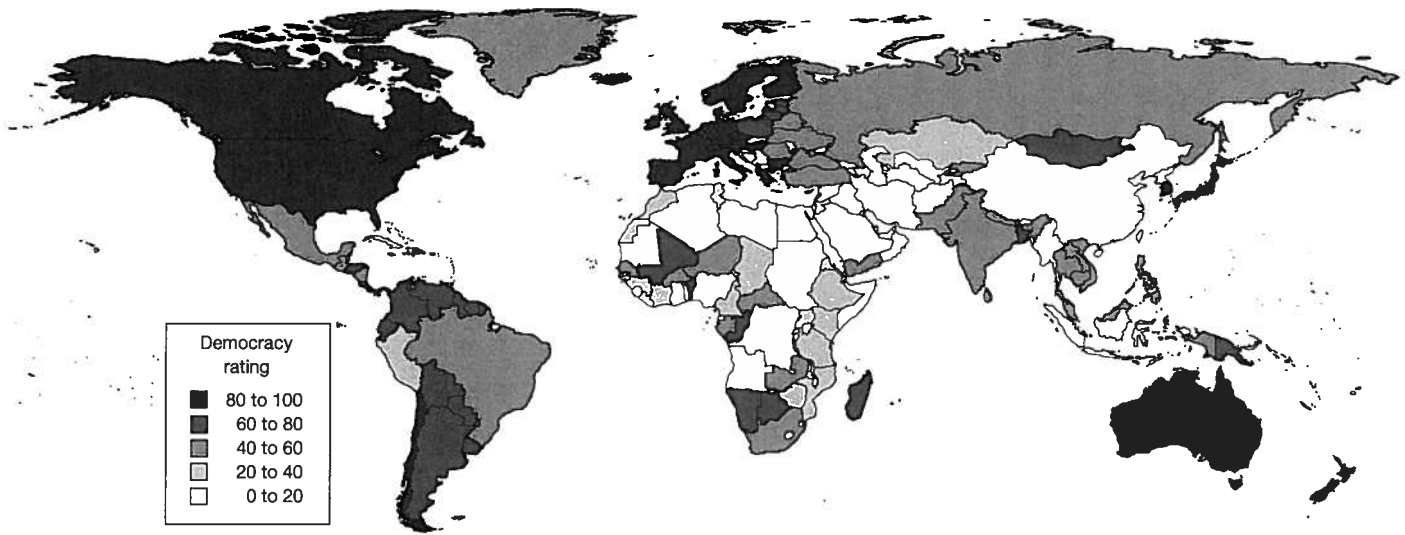


Figure 6.2 Global democracy ratings (top) and global Internet connectivity (bottom)

Source: Redrafted from Kedzie 1997.

Internet can be and has been used to exploit, subdue, surveil, and market people and their information. As one author of a guide to finding personal information on the Internet described it:

Within a few hours – with only a name and address – I can find out what you do for a living, the names and ages of your spouse and children, what kind of car you drive, the value of your home and how much you pay in taxes on it. I can make a good guess at your income. I can uncover that forgotten drug bust in college. In fact, if you are well known or your name is sufficiently unusual, I can do all this without even knowing your address.

(Lane 1997: C3)

Lane's point is twofold: that this capability exists, and that we should take advantage of it for positive reasons such as checking on potential employees, finding lost children or tracking debtors (e.g. "dead-beat dads?"). Lane may or may not be right that this capability exists, but it is by no means a closed question whether this is good or bad – it is certainly an ethical one (in fact, Lane's own article was accompanied by one deploring and opposing the privacy breaches of these technologies, see Culnan 1997).

In order to answer this question it is necessary to get an idea of what it really is possible to discover on the Internet. In other words, before an ethical position can be developed, we need to know what is and is not possible. A fuller account can be found in Crampton *et al.* (forthcoming), but some highlights are mentioned here.

The first point to be made is that much of this information was previously available but was either difficult to obtain, or did not integrate well with other datasets. It has always been possible to obtain salary information for state supported schools, but it is a different matter when a student obtains the information in digital form and posts it on the web in a searchable database (top 10 salaries, five-year salary history, etc., see www.robink.com). Nevertheless, given sufficient effort a lot of this information could have been found in the past by those few (private investigators, etc.) willing to try.

Finding people has become a significant Internet capability. A typical resource can offer the email address, phone number, address, instant map, as well as neighbors' addresses and phone numbers, or the addresses and phone numbers of any street in the USA. As an example, Figure 6.3 shows the names and addresses of residents of N Avenue, Washington, DC (telephone numbers have been excluded although they remain available on the web). Obviously an ordinary white pages phone directory will have the same information, but with far less access, and crucially, not geographically. Perhaps more problematic are the free web-based "reverse-directory" services which take a number and give the person's name and address (even if unlisted).

A final example concerns the degree to which Internet sites are routinely collecting data about visitors without disclosing what they are doing or informing visitors what will be done with the information. The data is often collected by web

The screenshot shows the 'AnyWho Directories' website interface. At the top, there's a search bar and a 'Search' button. Below the search bar, there are several navigation tabs: 'People', 'Business', 'Reverse Lookup', 'Toll-Free', and 'Web Sites'. The 'People' tab is selected, and the 'Query Result' section displays a list of search results. The first result is for 'ABSE NATHAN' at '1725 N Avenue NW, Washington, DC 20090'. Below this, there are several other results, including 'ADAMS DALE' and 'ADAMS GEORGE'. Each result includes a 'Map' button, a 'Wish List' button, and a 'More Info...' button. At the bottom of the page, there is a 'Mapping by Maps On Us™' logo.

Figure 6.3 A search result of a Washington, DC street reveals telephone listing, address, and geographic neighbors

Source: <http://www.anywho.com>.

software known as "cookies," and although there are technical methods for turning off cookies or restricting their use most users do not know about, or take advantage of, these methods. And certain services may be denied if cookies are not allowed to work (e.g. online ordering of goods and services). According to a report by a private industry watchdog, OMB Watch, these methods have been most worryingly deployed in federal websites (OMB Watch 1997). The survey looked at 70 federal agency websites and found that 31 of them collected data on names, ages and work history from the public. But only 11 of the sites described their activities, and four of these "probably violated provisions of the Privacy Act of 1974" (O'Harrow 1997: E1).

Often in these cases of data collection without the knowledge or consent of the person (surveillance cameras on high streets, ATM cameras, use of social security numbers on identification cards in the USA) although people are unaware of the

high level of the surveillance, or feel they have no choice (they have not been able to participate in the decision-making process) they would in fact object if they knew. What is needed is a much clearer (more informed) debate about the authoritarian use of technology and the vested interests of the financial sector (e.g. the huge business of credit and lifestyle profiles, see Curry 1997, Goss 1995), particularly if it takes place in the context of the pros and cons of the technology, rather than traducing to either extreme of Luddism or technicism.

The ethics of access

Geographically

Although today the vast majority of countries have access to the Internet it has still reached only a tiny proportion of the world's population. It is notoriously difficult to estimate the number of people connected to the Internet, but assuming in 1998 it was somewhere around 100 million, that is only about 1.5 percent of the world's population. Of course, it is likely to be the "right" 1.5 percent; those elites in each country who earn more, are better educated, and who live in urban areas. Although these numbers are not likely to be stable because the Internet is increasing so rapidly (some estimates predict that by the turn of the century there may well be half a billion people on the Internet, and three quarters of a billion by 2001; MIDS 1997), that is still less than 10 percent of global population.

A map of global Internet access as of mid-1997 is presented in Figure 6.4. Notice that the more developed "core" countries are well saturated with access, while the less developed "periphery" and "semi-periphery" countries have less access.

Using a simple "Internet Quotient" (IQ) we can measure the degree to which a country (or community) is connected:

$$IQ = TH / TP \text{ where}$$

$$IQ = \text{Internet Quotient}$$

$$TH = \text{Percentage of Total Internet Hosts}$$

$$TP = \text{Percentage of Total Population}$$

On this measure, any number greater than 1.0 represents a greater proportion of connectivity to share of world population. According to Knox and Marston (1998) the United States has an IQ of 13.2 with 63.7 percent of the world's total Internet hosts and only 4.82 percent of the world's population. However, India, with its huge population and few Internet connections, has a meager 0.0004 rating.

There are geographically uneven distributions at the regional and local level too. Although Figure 6.4 appears to show Africa well connected (43 countries connected by November 1997), this is quite misleading; in fact access is often limited to the capital city and major urban areas, with little or no access rurally.

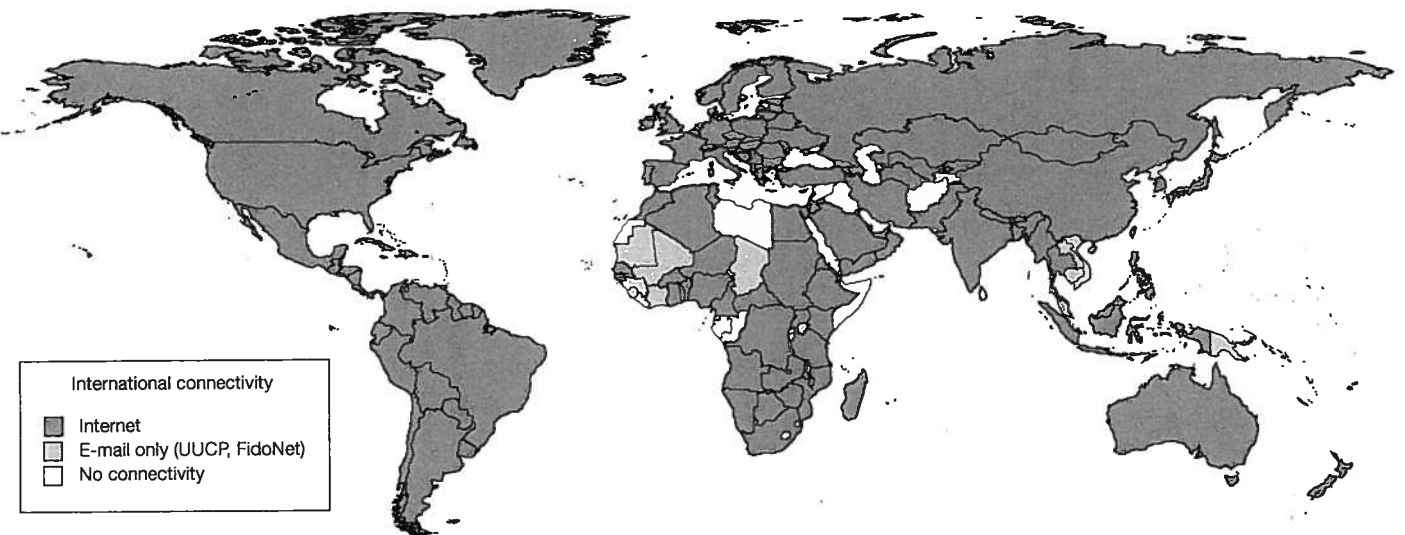


Figure 6.4 International Internet connectivity, June 1997

Source: Redrafted from Internet Society. Copyright © 1997 Larry Landweber and the Internet Society.

This is very significant because about 70–80 percent of Africa's population lives outside the major cities (Jensen 1997a). Among the biggest obstacles to Internet growth across Africa are poor telecommunications facilities, low levels of computerization, scarcity of computers, cost, bandwidth, and lack of regional access points (Jensen 1997b). In Ghana, for example, which is one of the region's better connected countries, there are only 100,000 phone lines for a population of 15 million, and the key issue remains that of access by the rural community (Quaynor 1997).

Even within the United States, which has the bulk of the global Internet connectivity, access varies widely. Places which are well connected tend to be centers of high-tech industry, such as Santa Clara County, California (Silicon Valley), San Mateo County, California and Fairfax, Virginia, or associated with universities, such as Travis County, Texas (University of Texas at Austin) (Figure 6.5). Other places are not so well connected. A recent report (ETS 1997), reveals that high school access to computers varies widely; from about 1 computer for every six students in Florida to one for every 16 in Louisiana. Significantly, the access to computers was lowest in schools with high minority enrollments. In schools with over 90 percent minority enrollment, access was one computer for every 17.4 students, whereas where there was 0 percent minority enrollment, access was 9.7 students per computer. Poverty, too, plays a factor, with the poorest schools obtaining an access of only one computer per 35 students (Sanchez 1997).

Differential societal access

Geographic differences are only one factor in access to the Internet which will interest ethically minded geographers. There are also differential societal degrees of access. These include differences across gender, age, race, income, education,

- 1 San Mateo County, California
- 2 Santa Clara County, California
- 3 Fairfax County, Virginia
- 4 Washtenaw County, Michigan
- 5 St Louis City, Missouri
- 6 Middlesex County, Massachusetts
- 7 Travis County, Texas
- 8 San Francisco County, California
- 9 Hennepin County, Minnesota
- 10 Fulton County, Georgia

Figure 6.5 Top ten Internet connected counties, USA, 1997

Source: MIDS, Inc.

and increasingly by policy. Gendered differentials are actually decreasing, with about 30 percent of online users identifying themselves as female (GVUC 1997). Other polls, such as one conducted by *Business Week* in April 1997, put the number at over 40 percent (*Business Week* 1997). The same poll found that nearly half of US Internet users were over 40 years old (45 percent) and 37 percent aged 25–40. Minorities are significantly under-represented: 85 percent of Internet users are white. Seventy-three percent of users have high school education or higher (41 percent have college degrees), while 42 percent earn more than \$50,000 annually. Many students get online in college (a few technologically advantaged high schools offer student email accounts and webspace as well). In the United States this access is often free, which gets students “hooked” on the Internet, perhaps to the detriment of their studies.

These differentials raise important issues of social justice. Obviously access to the Internet is spatially uneven, a basic condition of resource access which is reflected in studies throughout this book. Addressing these spatial differentials is a difficult problem. In some cases, local organizations and governments have instituted policies which act to restrict access. This is based on the assumption that unfettered access to the web by all people is not desirable, either for users or for providers if it exposes them to legal action. For example, in several counties near Washington, DC, the local library systems have experimented with restricting access to children (Benning 1997). As we saw above, there are perceived dangers of privacy invasion, and of obscene or pornographic material which communities may wish to filter or block. A federal law banning “indecent” or “patently offensive” material was struck down by the Supreme Court as unconstitutional in June 1997, but obscene material remains as illegal on the Internet as it does in the real world (Schwartz and Biskupic 1997). An interesting ethical question raised by these issues is that the Internet fundamentally alters the notion of “community.” Can material offend a “community” if it originates thousands of miles away? Can prosecutors file suit in the most conservative communities against material which is not stored there, but available there via the web? In practice, the answer so far seems to be “yes.” After the Supreme Court decision, new legislation may be introduced which requires websites to use filters to prevent access to “material harmful to minors.” Whether this legislation passes and is constitutional is perhaps less important than the general question of how to make an Internet which is safe, but protects free speech.

Issues of professional ethics

As shown in Figure 6.1 we can identify three areas of professional ethics: assessment, employment and educational. All three areas are as yet lacking in answers and in many cases, discussion, but are very critical questions. First, given the culture of assessment in academia it is unclear how to assess work done with, or on, the Internet, such as websites. In the case of peer-reviewed publications there is an accepted (if not perfect) method for evaluation. But how would you evaluate a website which contained original “content” but had not passed through a

peer-evaluation procedure? How would an article in an online geography journal be evaluated even if there was a peer-review procedure? And most problematically, how are websites which require extensive research, but are primarily used in the classroom, to be evaluated? Although the situation changes rapidly, until another generation of geographers become departmental chairs or sit on promotion and tenure committees, it is frankly still advisable to maintain a traditional publishing record. Another recommendation is to amass a series of "peer-website evaluations" in the same manner that peer-teaching evaluations are performed.

A corollary of this question is under what sector of scholarship (teaching, research and service) to classify the work. Although it might be argued that an academic website qualifies as teaching, research and outreach (if the website is available as a service to the global web community), in practice chairs and promotion and tenure committees are still likely to classify the work as teaching. Cases have also arisen where work can be cited negatively if it is used across different educational levels (e.g. high school as well as college). The implication here is that if a work is *too* accessible it does not have sufficient academic rigor. This is obviously a crucial ethical issue for geographers concerned with community outreach or the Geographic Alliances.

A second area of concern lies in the changing structure of the academic profession. As many faculties are aware, the employment trends (at least in the USA) have been towards part-time and adjunct faculty. Would extensive use of the Internet and web-based teaching exacerbate this situation? For example, if one professor can teach the same class at three different universities simultaneously, as a colleague of mine is doing using the web, does that equate to a reduction of two teaching assignments? Or, on the contrary, does the web enable *more* teaching by using scarce teaching expertise (my colleague is an Africanist regional geographer, a fairly specialized interest)? There may never be enough interest for certain specialized classes to be offered unless this kind of distance education is possible.

A third and final question concerns the effect on the student educational experience. Again, this is a multifaceted question with little specific debate. The most mature discussion concerns using educational technology in general, where the consensus seems to be clear that simple instances (e.g. drill and practice) are advantageous, with more complex instances depending on how well they are integrated into the curriculum (Krygier *et al.* 1997). However, other questions abound, such as how student research methods are being affected by the web (a shift from the traditional library or a supplement to it?), how students evaluate material found on the web, student attitudes to educational technology (presumably related to computer exposure and experience at high school, but also perhaps to the quality and support of the technology), and how challenging (how good) the web-based materials are. The outcomes are as yet unclear, but clearly have important implications for how we as geographers wish to see the discipline progress.

Conclusion: toward a participatory ethics of the Internet

What might an ethics of the Internet look like? At this point, it is too early to tell except in broad terms. It is also perhaps too early to develop a code or set of guidelines for adoption in the face of these issues. Rather, this chapter foregrounds the pervasive issues for geographers in this area as summarized in Figure 6.1. Three main domains were identified: effects on geographic practices and outcomes (the geographies of virtuality); effects on geographic knowledge (virtualization of geography); and applied professional ethics. They range from the fundamental (does the Internet have an inherent logic?) to the particular (should children be allowed access in public libraries?). Many of the issues are likely to be unfamiliar to geographers but I suggest that we can take advantage of debates in related areas such as the ethics of GIS to adopt a position which encourages a *participatory* ethics of the Internet.

The goal of a participatory ethics is to address issues through an inclusionary rather than exclusionary process. The debate in GIS was successful to the degree that it included viewpoints from GIS practitioners as well as those critical of GIS practices; but more importantly to the degree with which it erased divisions and increased cooperation between previously competing interests. Naturally, unity of opinion will never be achieved except through some artificial mechanism, legal code or precedent, and interests will presumably always be competing, but they can at least "speak" to each other. At present, there is poor understanding of the geographic ethics of the Internet. For example, most academic institutions have hardly begun to come to terms with the implications on the profession of distance education, differential access to the Internet, peer assessment of academic material on the web, and so on. While many of these issues are still emergent and below the horizon even for ethicists (e.g. professional guidelines on ethics drafted and submitted in 1998 by the Association of American Geographers did not directly address the Internet's role in ethical issues) it remains a fact that decisions about promotion and tenure, hiring, and faculty involvement with the web are made every day. There is a real danger that these decisions and precedents (e.g. a major university declining tenure on grounds of excessive web publishing compared to print publishing) will occur without representation from the stakeholders.

But there is a further sense of participatory ethics to which I wish to appeal. One often hears that the web has little or no quality material, that good material is too hard to find, or that the web is not relevant to scholarship. These are valid viewpoints but too often they are used to cover a lack of familiarity with or dislike of the web and its contents. A more productive approach is to manufacture the content of the web so that it is relevant and of high quality. An analogy can be drawn with the way the Internet (i.e. content providers, Internet providers and companies) adopted self-regulation rather than face government-imposed regulations.

Participation need not entail authoring web pages oneself, although that is an option either individually or with assistance from initiatives such as the Virtual

Geography Department, but may also mean raising the sort of issues discussed here within one's community. Indeed, there are numerous entry points for geographers: spatial differentiation of access providers, implications on "communities," spatial data marketers, impacts on privacy, GIS companies, deans, high school and college classrooms, universities, the Internet Society, the World Wide Web Consortium, commercial educational entities, local, state and federal government. Widely varying as they are, these areas offer our best chance to build an Internet which is sensitive to geographic ethics, is directly and meaningfully relevant to people's lives, and built through participation of stakeholders. Anything less would be unethical.

Note

1 A note on terminology: "cyberspace" and "the virtual" here refer to the conceptual world of networked interactions which are not face to face but physically separated, and which emphasize digital information flows (synchronous or asynchronous). They are also often characterized by servers which can multicast to many recipients, and users or clients who can choose to receive or not receive from multiple sites (i.e. filtering). "The Internet" and the "World Wide Web" are more specific instances of the virtual. For a longer discussion, see Whittle (1997), especially Chapter 1.

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