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THE DIGITAL DIVIDE

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Abstract

The term digital divide has a narrow sense, which focuses on the unevenness of access to the Internet or perhaps to differences between groups in computer ownership levels (occurring in both homes and schools). In this paper, however, it also refers to a disparity in awareness, expertise, and use of computers between two or more societies as well as among groups within a single society. The ensuing treatment will attempt to highlight the main issues of this phenomenon in the allotted space, by providing a wide-scope framework (and taxonomy) for discussion.

The digital divide is usually seen as a subspecies or mere consequence of the general economic or developmental divide, but there are other philosophical and sociological factors involved as well. It is, of course, an important problem because of a potential missed opportunity on the part of millions of people to obtain desirable jobs and enhance their lives by using computers and the Internet. Various explanations of this phenomenon will be assayed and analyzed, with the primary aim of examining several issues raised by this divide in a factually based, yet philosophical manner, rather than engaging in an empirical study. First, the types of disparity along with their associated causal factors will be discussed; then possible resolutions of the problem will be offered.

Keywords: Digital divide, technology transfer, computer access, computer awareness

Introduction

The predicament of certain groups not possessing the requisite computer skills and not exploiting computer technology has serious ramifications for both the haves and the have-nots. The former will have to deal with a seemingly perpetually underdeveloped and alienated segment of society. Timothy Jenkins (Katz 2001) warns that we could even be on the threshold of a “worldwide technological caste system.” The political, social, and market instabilities arising from such a situation would be enormous. Now, the have-not groups, by not realizing the potential for the use, creation, and sharing of information, are at a severe disadvantage in trying to improve their individual lives and also the well-being of their communities. Jon Katz (2001) points out what many of us already think, namely, that “new information technologies will be critical in shaping economic and employment opportunity, freedom of speech and thought, educational advancement and, increasingly, political knowledge and participation.”

A major philosophical issue arising from this disparity in digital awareness is whether the divide creates any special responsibility or duty on the part of those with superior digital capabilities. A corresponding question rarely considered is whether those on the have-not side of the divide have any concomitant responsibility or duty to develop themselves or proactively seek assistance. To give assistance to the less digitally endowed is regarded as doing well (laying the groundwork for profits) by doing good (charity). Donors usually justify their contributions of time and material resources on the grounds that if they could increase information technology use by those not presently involved, that would create both new business opportunities for the donors as well as produce more skilled employees for industry. Hassan Fatah (2000), writing in a marketing publication, expressed this concern from a merchandising perspective very clearly: “An entire sector of the economy has grown up thinking technology is for someone else. And yet marketing differently and speaking to people on their own terms could open up a large, untapped market, one estimated to be worth \$300 billion in retail purchasing power every year.”

There is even a political consideration, namely, that those engaged in technology and electronic commerce have a greater stake in peace and stability, prompting the politically concerned to say: let us get these (hopefully) temporary have-nots more involved!

Totally discounting any altruistic elements in the motivation of the donors, present and would-be beneficiaries often react negatively to efforts to get them engaged, saying in effect: they are not really doing it for us; there must be a profit in it for them (i.e., the benefactors). Moreover, the donors are often perceived as having a superior attitude, so that the recipients of digital largesse are likely to resent all external technological contributions, advice, or even encouragement to jump onto the digital bandwagon. Russia, for example, has a modest number of Internet connections and could really benefit from American assistance, especially, given its aim of recapturing its superpower status in what has become a thoroughly digital world. Yet, as Paul Saunders (2001) tells us, “the American propensity to offer guidance to Russia quickly became a sore point in the . . . relationship. Today, the U. S. is widely viewed in Russia as an arrogant power that routinely interferes in the internal affairs of other sovereign nations and ought to be taken down a peg.”

Katz (2001) feels that something more is needed than the current prevailing bipartite attitude (on the part of the haves) that no one is intentionally excluded from the digital community coupled with a blasé view that “everybody has to get there on his own.” These are some of the countercurrents stemming from the digital divide.

Causes of Digital Disparity

The disparity in digital technology can be explained by many different factors. Probably, the first explanation that occurs to any one looking into the matter is that it is a result of economic disparity. Certainly, if an individual lacks the means to buy a computer (or Internet machine) and pay the monthly fees for Internet access, he or she will be on the “wrong” side of the divide. Nevertheless, there are impoverished people who somehow find ways to participate in information technology. They use the equipment of others, or what is publicly available in libraries, in schools, etc. Many others join the information age by self-discipline, acquiring the requisite education despite their being underprivileged.

Another common barrier to digital participation is a lack of self-confidence. It is typical among the elderly and females (of almost any age) that they regard technical matters as being beyond them. Attitude is another impediment. In many quarters, working with a computer is often regarded as “geeky,” even contrary to masculine ideals. Ever since Bill Gates became a public figure, he was customarily referred to in derogatory terms such as “techno-nerd.” This practice only abated when the term “nerd” actually acquired some respectability (and, perhaps as Gates’ appearance changed through normal aging while knowledge of his wealth became an object of admiration). Moreover, some segments of society put such strong emphasis on athletic and other physical performance feats that computer activity is all too often disregarded. Finally, many people have no concept of what can be gained through computer use and expertise, so they never engage themselves.

Disparities among Nations

Presently more developed countries increase their use of information technology by 23% each year, while undeveloped countries have a rate of only 18% per year [Computerworld, 9-4-2000]. The digital divide is perhaps a rerun of the analog divide “which has separated rich and poor countries since the invention of the telephone (DOT Force 2001, p.6). In fact, it appears to be worse now, if, for example, we compare Internet servers per capita in the year 2001 with telephones per capita as late as even 1980. “High-income countries account for only 15 per cent of the world’s population but more than half of the world’s telephone lines and almost 70 percent of the world’s mobile users” (DOT Force 2001, p.9). This fact is ironic, because wireless technology can more easily penetrate the hinterlands and so alleviate their being out of the IT loop. The DOT Force also reports that there are more Internet users in New York City than in the entire continent of Africa. Yet, there are countries that are surprisingly advanced, given our stereotypic thinking about them. For instance, Katmandu, Nepal sports several Internet cafes next to the temple of a goddess who serves as a national deity from her being the age of four until puberty (Gurubacharya 2001).

Disparities among Areas of the US

President Clinton (2000) in his State of the Union address in January 2000 devoted a good bit of time to addressing the need to bridge the digital divide. He followed up on this initiative by visiting several economically and technologically depressed areas. One notable exception to the area’s apparent life in the digital dark ages, a technologically promising company named Remote Data Systems Inc., has been in the business of designing and making devices for scientific and environmental regulators for seven years. Telecommunications, however, are a particular impediment to the company’s growth, but the costs for Internet access are prohibitive in the rural county that is home to Remote Data Systems. As the company president explained to the nation’s president:

“In an area where people find ordinary phone lines undependable, access to the World Wide Web can sometimes feel more like the “World Wide Wait.”

Gender Disparities

Women in many societies may have unconsciously absorbed certain self-defeating, but commonly held notions affecting their approach to digital involvement. There has been a “precipitous decline in the women’s enrollment in computer science since 1984” (Pfleeger et al. 2001). Much of this can be explained by the propensities of young boys and males to indulge in shoot-em-up games and ultimately to experimentation with other modes of computing and Internet usage. Maybe some of this can also be explained by certain religious and philosophical ideas that have permeated societal consciousness, such as the role of women and what is expected of them. For example, in ancient times Pythagoras created a table of ten opposites listed in two columns. The first column included Male, Straight, and Good; the second column included Female, Crooked and Bad (Martin 1941). Such foolishness cannot but have the outcome of diminishing the sense of self-worth of all females, as well as how they are regarded by males.

The feminist philosopher, Simone de Beauvoir, understandably objects to being considered as the “Other.” For to be the Other, she avers, is to be denied value as an agent; it is equivalent to being regarded as a mere body. As such, women have been relegated to lesser roles in the arts, literature, the media, scholarship, and now we can add technology. Women who internalize this view of themselves are not good candidates for the rigors of contributing to technology, which requires a high degree of self-esteem and confirmation of this esteem from colleagues. In fact, eschewing traditionally male activities may be a valid form of establishing female identity—though one would hope to make computing identity-neutral.

Race Disparities

The business of race is of course a sticky one, a veritable minefield. For example, Donald E. Muir (2000), a sociologist, believes that anyone who even brings up the subject and sees no harm in “race biology” is merely a “kind racist,” but a racist nonetheless. In discussing race, he says, the race biologists make “mean racists” respectable. The present paper undertakes to steer clear of the traps in this contentious minefield by concentrating on geographic or class arenas where certain races predominate; thus, no pronouncements will be made concerning innate abilities to do computing or the like, only numbers.

According to Katz (2001), the divide in Internet use between whites and blacks increased to 20.7 percentage points in 2000 (32.4 per cent of white households vs. 11.7 per cent of black); the widening of the divide only increased 13.5 percentage points in 1997. The gap between white and Hispanic computer use in 1998 jumped to 19.5 percentage points from the previous gap of 12.5 percentage points.

Economic Disparities

Approximately 42 per cent of all U.S. households now have a PC, says a government report dated July 9, 1999 (www.usatoday.com). This may seem good news; however, these computers reside in about 80 per cent of homes with a family income of \$75,000 or more a year, yet in less than 16 per cent of homes where annual family income is below \$20,000 per year.

Cultural Disparities

The issue of differing cultures plays two roles: intranational and international. Within countries, the lack of cultural outreach and familiar content serve as real barriers. That is more the pity, since the Internet has the potential for displaying and disseminating the unique cultural contributions of the various segments of any society. Yet as Kade Twist (2000) reports, “despite the tremendous surge in ethnic portals, there is a lack of Internet content generated by ethnic communities themselves or organized around their unique cultural interests and practices.” In the U.S., many of the foreign and reside outside of the digital society.

Horacio Gavilan (Hemlock and Mann 2001) tells us that “ads for Hispanics need to have a different message [to be effective]” Aida Levitan (Hemlock and Mann 2001) adds that Hispanic culture tends to place more emphasis, for example, on being part of an extended family or a community, instead of the nuclear family or rugged individualism.” Certainly, these are factors to be heeded when preparing web advertisements, but not just for that purpose!

Internationally, of course, one encounters various preoccupations and values not especially conducive to computer use, e.g. spiritual emphases; but there are other obstacles as well. Russia is seen as a tremendous disappointment to the U.S. government; it was thought that the country was well on its way to being a friendly productive contributor to the international economy. Its reformation occurred when the pundits were abuzz about the theory of globalization. Thomas Friedman (1999) added the theory of “globulation.” By this term, he meant that as a result of integrating a country into the global economic and technological system, reforms would be introduced from the outside—and this could never happen because of internal actions. The globalization hypothesis, on the other hand, posits that democratization and a free market economy are inevitable with the massive flow of information across national borders, and all this brings about new political and economic institutions hospitable to a global “electronic herd” of investors. The economic herd is that group which reacts quickly to news received through modern telecommunications. Saunders (2001) believes that despite a modicum of globalization, more extensive reforms in Russia failed because the population was hostile to American values, particularly consumerism, which would have driven the expansion of the Internet and e-commerce—hence the digital divide between Russia and the West.

Linguistic Obstacles

The main linguistic barrier to entrée into the Internet world and much of computer technology is that they require use of English and a fairly sophisticated level of English at that. Most sites are in English, and until recently most domain names. Of course, there is a nationalistic component to this impediment, but most of it is not self-imposed.

It is not merely a transborder problem, but an internal problem as well. Today, an estimated 87 percent of documents on the Internet are in English. Yet, for at least 32 million Americans, English is not their primary language. They are often left out of the benefits the Internet offers (Twist 2000).

Even the attempt to render the Internet more international by allowing domain names consisting of non-English characters presents a technical problem affecting the stability of the Internet. VeriSign Global Registry Services began accepting Chinese, Japanese and Korean characters in domain names, but without the sanction of the computer engineers who set the standards for the Internet. Quite possibly, routers governing the flow of signals through the Internet would crash on account of the new characters, unless they are updated. Of course, the users would have to modify their keyboard settings—all in the name of bridging the digital divide (Chavez 2000).

Obligations

Earlier it was noted that those on the wrong side of the digital divide often assume a moral stance to the effect that the motives of their benefactors, those wishing to help bridge the divide, are suspect; hence the have-nots could feel justified in ignoring these efforts in their behalf. After all, one could say, they are helping us only to help themselves in the long run. An English philosopher whose ideas are especially apt for this discussion is the famous ethicist, W. D. Ross. He deals not only with duty and with gratitude but treats them as mutually correlative. He argues (1930), that in discharging our duty, it is the performance of the act that is of primary importance; our specific motives do not matter. Even more so, this emphasis on performance by the haves should be viewed positively (by any who judge the benefaction), since there is no clear indication that the digitally endowed have any obligation to the unendowed in the first place.

Now, is there any reason to think that there is a moral imperative, a duty on the part of the computer-haves towards the computer-have-nots? Many would deny that there is. Again, turning to Ross (1930), we note that the duties relevant to our topic are based on what he calls the inherent goodness of pleasure, as felt both by others and by ourselves. He posits that two separate duties arise, as opposite sides of the same coin, it would seem, namely, the duties of beneficence, which concerns others, and the duties of self-improvement, which concerns ourselves. The upshot is that a Rossian analysis points not only to a duty on the part of the digitally endowed to aid the unendowed, but a corresponding duty on the part of the unendowed to help themselves in this area. A derivative duty for the have-nots is gratitude, according to Rossian theory, because it stems from the benefactor going to a good bit of trouble and expending resources to bridge the digital gap. That would go a long way toward encouraging the haves to provide assistance and not be discouraged by a thankless task.

Solutions

Society or private organizations, profit and non-profit, could do much to alleviate the disparities we find. Schools, too, could join the cause by providing internships, enrolling computer avoiders in projects where the benefits are obvious but not hard to achieve, and using other subjects as a shoehorn to show that computer literacy is useful. All interested organizations could strive to

- involve hitherto uninterested persons in research with computers,
- provide a supportive environment,
- show that computer activity need not be boring,
- show the fun of problem solving,
- use games as an entrée to the digital world, especially for the very young,
- establish a network of centers where the members of the digitally disenfranchised can work with other group members to “research, design, and prototype new technologies” (Pfleeger et al. 2001).

To correct the sense of diminished self that many women feel, particularly as it pertains to the digital divide, feminist philosophers and others have several options, including (1) a general reevaluation of established views of the self, (2) reassertion of women’s selfhood, and (3) redefinition of the self to incorporate women’s experience and potential. Joanne McGrath Cohoon concluded a study of why women discontinue a computer science concentration by asserting that “inherent female characteristics” cannot fully explain it. She suggests as remedies: same-sex peer support, appropriate faculty behaviors, and establishing a nurturing institutional and community environment (2001).

In February 2000, the American administration proposed \$2 billion in tax incentives and \$380 million in funding over the next ten years for programs aimed at alleviating access concerns. Some of those programs will provide low-cost telephone and Internet access to rural and impoverished areas. High-tech businesses have already pledged millions of dollars in products, services and training in response to President Clinton’s call. This is, of course, a good beginning; but just throwing money after a problem has rarely been effective.

Any solution to the access problem must be followed by instilling knowledge of what to do with the digital “contraptions,” otherwise they remain mere black boxes to their owners and intended users. The technology must be shown to be both useful and relevant to peoples’ lives and concerns.

There is a psychological dimension to the solution: people’s judgments about their abilities in computers, termed Self-efficacy (Bandura 1978), needs to be bolstered. According to self-efficacy theory, if society can learn how to increase its members’ self-efficacy to accomplish work tasks, this should lead to improved performance.

Finally, we have a duty (however self-serving it might appear and however unappreciated our efforts might be) to accommodate different linguistic, cultural and gender expectations. For example, we would expect to involve Hispanics more successfully by utilizing community centers, churches and the like, starting with public computers and other people around.

Conclusion

Time is running out. If the digital divide becomes too wide, it may forever be impossible to construct a bridge long enough. “Yet, recent surveys show the techno-gap between haves and have-nots widening, not shrinking” (Katz 2001).

We must consider not only how to solve this problem, but to what degree and for whose benefit should the changes be made. What are the real advantages? Living a digital life is not an unalloyed blessing. Ralph Nader (2000), for one, says that “for both children and adults, ... [it] means spending more time in virtual reality than concrete reality, day after day. The results are social and personal estrangements we have hardly begun to understand.” Still the benefits will probably exceed the cost with proper guidance provided to the users of digital technology.

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