

Social Epistemology and the Digital Divide

Don Fallis

School of Information Resources
University of Arizona
1515 East First Street, Tucson, AZ 85719

fallis@email.arizona.edu

Abstract

The *digital divide* refers to inequalities in access to information technology. One of the main reasons why the digital divide is an important issue is that access to information technology has a tremendous impact on people's ability to acquire knowledge. According to Alvin Goldman (1999), the project of *social epistemology* is to identify policies and practices that have good epistemic consequences. In this paper, I argue that this sort of approach to social epistemology can help us to decide on policies for dealing with the digital divide. I argue, however, that Goldman's specific proposals for evaluating policies are not adequate. I make an alternative proposal based on the work of John Rawls (1971) on distributive justice.

Keywords: Digital divide, Distributive justice, Economics of information, Social epistemology.

1 Introduction

The *digital divide* refers to inequalities in access to information technology. Some people, the so-called *information have-nots*, have significantly less access than other people, the so-called *information haves*.¹ This lack of access puts the information have-nots at a significant economic and social disadvantage (cf. Hacker and Mason 2003, 101). In fact, as access to information technology becomes a necessity of modern life, it may be that one of their basic human rights is being violated (cf. United Nations 1948, Johnson 1991, 212-214, Chabrán 2001, 138).

One of the main reasons why the digital divide is an important issue, however, is that access to information technology has a tremendous impact on people's ability

¹ As Harker and Mason (2003, 102) point out, there are actually many different digital divides (e.g., between ethnicities, between genders, between urban communities and rural communities, between rich and poor nations). In this paper, however, I will focus on the digital divide that cuts along socioeconomic lines within a single society.

to acquire *knowledge*. According to Alvin Goldman (1999), the project of *social epistemology* is to identify policies and practices that have *good epistemic consequences* (i.e., many true beliefs, many justified beliefs, few false beliefs, etc.). In this paper, I argue that this sort of approach to social epistemology can help us to decide on policies for dealing with the digital divide. I argue, however, that Goldman's specific proposals for evaluating policies are not adequate. I make an alternative proposal based on the work of John Rawls (1971) on distributive justice.

2 The Economics of the Digital Divide

In the large literature on the digital divide (see, e.g., Doctor 1992, Parker 2000, Chabrán 2001, Compaine 2001, Mueller 2001, Warschauer 2002, Wilhelm 2002, De George 2003, 254-260, Hacker and Mason 2003), there is little agreement on exactly what should be done about it. As I indicate in this section, however, most of the debate focuses on what the consequences will be of adopting various strategies for dealing with the digital divide. There is very little discussion of exactly what consequences we would like to bring about (cf. Hacker and Mason 2003).²

Many authors (e.g., Compaine 2001, Mueller 2001) contend that the operation of the free market will eliminate the digital divide. There tend to be inequalities in access whenever a new technology (e.g., automobiles, telephone, television) is introduced. However, as the technology matures and production costs decrease, access to the technology quickly spreads to most segments of society. In fact, there are economic properties of *information technology goods* that give suppliers a special incentive to expand the market for such goods. For example, the marginal costs of providing access to more consumers (e.g., the information have-nots) is fairly low (cf. Shapiro and Varian 1999, 20-22).³ Also, as more people gain access to networks such as the Internet, access to these networks becomes more valuable (cf. Shapiro and Varian 1999, 13-14, Compaine 2001, 324-325). As a result, in a free market, the dispersion of information technology

² Johnson (1991), Doctor (1992), and van den Hoven (1995) are a few of the articles that have addressed this question.

³ In this context, the *marginal cost* is the cost of providing access to one additional consumer (cf. Kingma 2000, 12). Admittedly, the marginal costs of providing access to consumers in rural areas tend to be greater than the marginal costs of providing access to consumers in urban areas. Even so, providing access to such consumers can still be economically feasible (cf. Parker 2000).

appears to be even more rapid than the dispersion of other new technologies (cf. Compaine 2001, 318-324).

However, there are many reasons to doubt that access to information technology will reach a socially optimal level (or that the digital divide will be eliminated) simply as a result of the operation of the free market.⁴ First, information technology goods often have positive externalities (cf. Kingma 2000, 69). For example, it benefits everyone when others are better informed on many subjects (e.g., traffic laws, disease prevention, the democratic process) as a result of access to information technology. However, when such externalities are not internalized by the market, the goods in question will not be produced at a socially optimal level (cf. Bates 1988, 88-89).⁵ Second, it is not always possible to keep people who have not paid for information technology goods from enjoying the benefits of such goods.⁶ As a result, these goods may not be produced at a socially optimal level because it can be difficult for suppliers to recover their production costs (cf. DeLong and Froomkin 2000, 11).⁷ Third, the speed at which new information technologies are introduced can exceed the speed at which these technologies are dispersed (cf. Wilhelm 2002, 415). As a result, the information have-nots can remain perpetually behind. Fourth, Internet access, in particular, tends to disperse more slowly than other information technologies (cf. Warschauer 2002). This is because *conduits*, such as Internet access and telephone service, require monthly fees whereas *devices*, such as computers and televisions, only require a single purchase. Such continuing fees can keep lower socioeconomic groups from acquiring and

⁴ According to economists, the *socially optimal level* has been reached when the benefits minus the costs (of production) is at a maximum (cf. Kingma 2000, 51-53). However, since benefits are measured in terms of people's willingness to pay for goods, simply characterizing the goal in this way may disenfranchise the poor. For example, the information have-nots will typically have a low willingness to pay for access to information technology simply because they do not have much money and not because they would not benefit greatly from such access (cf. Freeman 1986, 222).

⁵ Externalities are *internalized* by the market when suppliers (or consumers) are motivated to factor such benefits (or costs) into their decisions. For example, the government might offer subsidies to suppliers of information technology goods (cf. Kingma 2000, 69-70).

⁶ At first glance, such free access to information technology goods might seem to benefit information have-nots. However, if suppliers cannot recover their costs, they will go out of business and there will be no access to information technology goods at all.

⁷ Simply keeping people who have not paid from enjoying these benefits would not be a complete solution to this problem. For one thing, techniques that keep such people from enjoying these benefits (e.g., copy protection schemes) tend to reduce the benefits enjoyed by those who have paid (cf. Shapiro and Varian 1999, 102). Also, since the cost of providing many people with access to an information technology good is not much greater than the cost of providing just a few people with access, economic efficiency requires that everyone who would benefit from such access have access (cf. DeLong and Froomkin 2000, 14).

maintaining access.⁸ Finally, the recent economic downturn has significantly slowed down (at least in the short term) the dispersion of information technology (cf. Wilhelm 2002, 415).

For these sorts of reasons, many authors (e.g., Chabrán 2001, 135-137, De George 2003, 257) contend that eliminating the digital divide will require some intervention into the operation of the free market.⁹ Such interventions typically involve using public funds or philanthropic donations to provide more people with access to information technology (cf. Kingma 2000, 62). For example, the United States government, through the Library Services and Technology Act and the E-rate Program (cf. McClure et al. 2002, 14-18), supports the provision of access to information technology in public and school libraries. Also, private organizations, such as the Bill and Melinda Gates Foundation (cf. McClure et al. 2002, 28-30), help libraries in low-income communities to provide access to information technology.

However, there are reasons to worry about the ultimate effectiveness of such interventions. First, it is difficult to accurately estimate the demand for publicly funded goods (cf. Kingma 2000, 60). Second, it is difficult to marshal support for publicly funding goods when there is a lot of diversity in a community (cf. Alesina et al. 1999).¹⁰ For both of these reasons, such goods are rarely produced at a socially optimal level. Finally, Mueller (2001, 182) argues that "redistribution policies are only relevant at the margin." In other words, the operation of the free market always has to do most of the work. In fact, such policies may even "destroy wealth by re-allocating it in ways that are manifestly inefficient" (Mueller 2001, 184).

These various authors clearly disagree about what the consequences of various digital divide policies will be. However, in order to decide on an appropriate digital divide policy, we also need to know what consequences we would like to bring about. In other words, we need to know exactly what our goal is (cf. Kirkwood 1997, 11). For example, is the goal to reduce inequalities in access to information technology or is the goal simply to provide the information have-nots with more access?

3 Knowledge and the Digital Divide

The question of exactly what our goal is is a problem of distributive justice. In particular, we need to know how access to information technology should be distributed among the members of society. Even so, we should not focus solely on the distribution of *access* to information technology. First, merely having access to information

⁸ The uncertain costs associated with usage-based pricing schemes can also keep lower socioeconomic groups from getting access. However, this can be ameliorated to some degree by flat pricing schemes (cf. Camp and Tsang 2000).

⁹ De George (2003, 257) thinks that "there is also room for imaginative free-enterprise initiatives that rely for their income not on user fees but on advertising."

¹⁰ This is likely to be a problem in the context of the digital divide, since the digital divide tends to cut along ethnic as well as socioeconomic lines (cf. Chabrán 2001, 134).

technology is not necessarily valuable at all (cf. Chabrán 2001, 138, Warschauer 2002, Hacker and Mason 2003, 103-104). For example, unless content that is relevant to one's interests is available and one has certain online skills (e.g., the ability to find, read, and evaluate such content), there is little advantage to having access to the Internet.¹¹

Second, even when access to information technology is valuable, it is not *intrinsically* valuable. It is only valuable as a means to other things that we care about. For example, such access allows people to take advantage of economic opportunities (cf. Hacker and Mason 2003, 101) and to participate effectively in the public sphere (cf. Couldry 2003). And, more generally, access to information technology opens up wider possibilities for action (cf. Moss 2002).

But while there are many benefits to access to information technology, I would suggest that *knowledge* is the main thing that is at stake in the context of the digital divide. Much of what we know about the world comes through our access to information technology, such as television and the Internet (cf. Fallis 2002, 1). In addition, access to information technology has many of the benefits that it does precisely because it allows people to acquire knowledge (cf. Hamburg 1972, 111, Goldman 1999, 73-74, Lievrouw and Farb 2003, 504).¹² For example, knowledge allows one to take advantage of economic opportunities (e.g., knowing what jobs are available). Also, knowledge allows one to participate effectively in the public sphere (e.g., knowing about the candidates for public office). As a result, when evaluating digital divide policies, it is useful to focus on knowledge (and how it should be distributed) rather than on the diverse benefits of having such knowledge (cf. Fallis 2004, 102-103).¹³

In his work on distributive justice, John Rawls (1971, 92) adopts this same sort of strategy when evaluating social policies in general. He focuses on *primary goods* (and how they should be distributed) rather than on the diverse benefits of having such goods (cf. Kirkwood 1997, 24-25). Primary goods, such as liberty and income, are "things that every rational man [sic] is presumed to want. These goods normally have a use whatever a person's rational plan of

life" (Rawls 1971, 62). Although Rawls himself does not explicitly discuss *knowledge*, it is clearly such a primary good (cf. Nozick 1993, 68, van den Hoven 1995).

Since we are concerned with how *knowledge* should be distributed, however, this is not just a problem of distributive justice. This is also an issue for *social epistemology*. Epistemology traditionally studies the conditions under which an individual has knowledge (cf. Goldman 1999, 4). However, there are many situations (e.g., the evaluation of digital divide policies) where we need to know how knowledge should be distributed among many different people (cf. Goldman 1999, 93-94). Social epistemology tries to identify social policies that have good epistemic consequences (cf. Goldman 1999).¹⁴

4 Goldman on the Distribution of Knowledge

In his work on social epistemology, Goldman has made two different proposals for how knowledge should be distributed among different people. However, as I argue below, neither of these proposals provides adequate guidance for evaluating digital divide policies.

Goldman's (2002, 218-220) most recent proposal is that any distribution that we might wish to aim for is an acceptable goal. Such a permissive proposal certainly allows for many epistemically and ethically acceptable goals. However, it also allows for goals that are clearly neither epistemically nor ethically acceptable. For example, on this proposal, we might aim for a distribution where nobody has any knowledge at all. However, one of the main constraints on epistemic goals is that knowledge is better than ignorance or error.¹⁵ Thus, this proposal does not provide us with adequate guidance.

Goldman's (1999, 94) earlier proposal was essentially that any distribution that is *efficient* is an acceptable goal. A distribution is efficient if, with any other feasible distribution, there is someone who will have less knowledge (cf. Rawls 1971, 67). In other words, once we have achieved an efficient distribution of knowledge, the only way for anyone to have more knowledge would be for someone else to have less. Efficiency is a necessary condition for an epistemically acceptable goal. For example, this proposal rules out goals that are clearly not epistemically acceptable, such as distributions where everybody knows less.¹⁶ Even so, as I argue below, not every efficient distribution is an acceptable goal in the context of the digital divide (cf. Rawls 1971, 69-71,

¹¹ More generally, the benefits of Internet access must exceed the opportunity costs as well as the financial costs (cf. Kingma 2000, 127).

¹² Knowledge can also be intrinsically valuable (cf. Goldman 1999, 75).

¹³ Even granting the importance of knowledge, it is not completely clear that we ought to be concerned with how knowledge itself should be distributed. It might be suggested that we ought to be concerned with how the capability of acquiring knowledge should be distributed (cf. Garnham 1999). The intuition here is that people should be allowed to choose for themselves how they make use of their capabilities. (In addition, we cannot actually distribute knowledge itself; we can only distribute the means to acquiring knowledge.) However, the capability of acquiring knowledge is only valuable because knowledge itself is valuable (cf. Goldman 1999, 351). As a result, in the following section, I will focus on the distribution of knowledge. In any event, what I have to say about distributing knowledge should also apply to distributing the capability of acquiring knowledge.

¹⁴ In carrying out this project, Goldman has evaluated social policies in several different areas (e.g., the law, education, and science). But this project is applicable to any area (e.g., the digital divide) where epistemic consequences are at stake.

¹⁵ It is possible (e.g., with prohibitively expensive or unethical scientific experiments) for the non-epistemic costs of knowledge acquisition to trump the epistemic benefits (cf. Nozick 1993, 69). However, it is not clear that this is a significant concern when it comes to providing information have-nots with more access to information technology.

¹⁶ Such distributions are not efficient because somebody (in fact, everybody) could have more knowledge without anyone having less.

Doctor 1992, 53).

Consider the distribution that maximizes the total amount of knowledge (i.e., the combined knowledge of all of the members of society).¹⁷ This “utilitarian” distribution is an example of an efficient distribution.¹⁸ Also, maximizing the total amount of knowledge is pretty clearly an epistemically acceptable goal. However, with the utilitarian distribution, there are no constraints on how this knowledge is distributed among people. For example, maximizing the total amount of knowledge might require that some people (such as the information have-nots) know very little.¹⁹ In other words, the utilitarian distribution is consistent with a very wide digital divide and with the information have-nots being worse off. While such a goal may be epistemically acceptable, it is clearly not the goal that we want to achieve with a digital divide policy.²⁰

While the utilitarian distribution is not the goal that we want to achieve with a digital divide policy, it is an epistemically acceptable goal. Thus, epistemic considerations by themselves are not sufficient to determine an acceptable goal in the context of the digital divide. Goldman (1999, 96) seems to be aware of this when he discusses the distribution of knowledge among the crew of a ship. He says that “information must be distributed to the people with a “need to know” ... even if that does not translate into a high average knowledge across the whole team.”²¹ The problem with the utilitarian distribution, however, is that it does not factor in our non-epistemic interests (in particular, our *ethical* interests) in how knowledge should be distributed among the members of society.

5 Rawls on the Distribution of Knowledge

An obvious alternative suggestion is that knowledge should be distributed *equally* among the members of

society. Such a distribution would completely eliminate the digital divide. However, this “strict egalitarian” distribution is not necessarily an efficient distribution. Thus, it is not an epistemically acceptable goal (cf. Fallis 2004, 107-108). In fact, there are many cases where everybody does better if goods are not equally distributed. For example, train service can be provided to more people when there are several different levels of service (some of which some people may not be able to afford) rather than just one level (cf. Ekelund 1970, 275-276).²²

This suggests that we ought to be more concerned that knowledge be distributed *equitably* (or fairly) than that it be distributed equally (cf. Lievrouw and Farb 2003, 502-504). Fortunately, there are a number of ways to distribute knowledge efficiently and equitably. One such distribution is suggested by the work of John Rawls (1971) on distributive justice.

According to Rawls (1971, 75), “the social order is not to establish and secure the more attractive prospects of those better off unless doing so is to the advantage of those less fortunate.” In other words, from a Rawlsian perspective, inequalities in the distribution of primary goods (such as knowledge) can be acceptable, but only if such inequalities are to the advantage of the least well off (such as the information have-nots). The justification for this theory of distributive justice is that it is what people would adopt in a *fair* deliberation (see Rawls 1971, 17-22). In other words, it is what people would agree to if they did not already know what their position in society would be.²³

This suggests that a digital divide policy should aim for a distribution of knowledge where the information have-nots have as much knowledge as possible. This “Rawlsian” distribution is another example of an efficient distribution. Thus, it is an epistemically acceptable goal. In addition, it is an acceptable goal (though not necessarily the only acceptable goal) in the context of the digital divide.²⁴ For example, aiming for the Rawlsian distribution insures that the information have-nots will have as much knowledge as possible. In addition, taking this distribution as the goal of digital divide policy is in line with the view that access to information technology is a basic human right (cf. United Nations 1948, Johnson 1991, 212-214, Lievrouw and Farb 2003, 512).²⁵

¹⁷ This is the distribution of knowledge that Goldman (1999, 94) seems to favor. (Goldman actually talks about maximizing the *average* amount of knowledge, but this difference only matters when the number of people involved changes.) In fact, Goldman sometimes sounds like he thinks that the utilitarian distribution is the only acceptable goal (cf. Goldman 1999, 93, Goldman 2002, 216). However, he offers no argument for this claim.

¹⁸ This distribution is only “utilitarian” in the sense that it maximizes the total amount of some particular good. In this case, the good in question is *knowledge* rather than *happiness*.

¹⁹ This is analogous to a standard criticism of utilitarianism in general (cf. Rawls 1971, 26).

²⁰ It might be suggested that, as a matter of fact, the total amount of knowledge will not be maximized with a very wide digital divide. (In a similar vein, utilitarians sometimes argue that, as a matter of fact, overall happiness tends to be greater when happiness is more equally distributed (cf. Broome 1991, 175-177).) But even if this were the case, the utilitarian distribution still does not capture what we want to achieve with a digital divide policy. We are not solely concerned with maximizing the total amount of knowledge; we are also concerned that knowledge is distributed equitably.

²¹ In addition, Goldman thinks that a policy only has good epistemic consequences if it yields knowledge about “questions of interest” (Goldman 1999, 89) where such interests are not necessarily epistemic.

²² The same sort of scenario arises with access to information technology (cf. Shapiro and Varian 1999, 56-57).

²³ Appealing to such a hypothetical agreement is especially appropriate in the context of the digital divide. Houston and Erdelez (2002) provide evidence that what people think should be done about the digital divide depends a lot on their position in society.

²⁴ As with the strict egalitarian distribution, aiming for the Rawlsian distribution might involve taking resources away from the information haves. However, this would only happen if it epistemically benefits the information have-nots. Also, it is important to remember that, from a Rawlsian perspective, the information haves do not have any antecedent right to the resources that they currently have.

²⁵ Article 19 of the “Universal Declaration of Human Rights” states that “everyone has the right ... to seek, receive and impart information and ideas through any media and regardless of frontiers.” Also, aiming for the Rawlsian distribution supports

Even so, there are some reasons to worry that the Rawlsian distribution might not be the goal that we want to achieve with a digital divide policy. For example, even though the inequalities sanctioned by the Rawlsian distribution must be to the advantage of the information have-nots, such disparities can be very large. In other words, the Rawlsian distribution is consistent with a very wide digital divide.

Such large disparities can certainly harm the information have-nots even if they have more knowledge than they would have had otherwise (cf. van den Hoven 1995, 16). For example, people sometimes prefer to have a lesser amount of some good (e.g., income) and do better relative to others than to have a greater amount of that good and do worse relative to others (see Solnick and Hemenway 1998). However, people's frustration with their relative epistemic position is probably not a good justification for adopting or rejecting a particular digital divide policy.²⁶ For example, consider the policy of providing free Internet access at public libraries. The people that make the most use of such access tend to be those that already have Internet access at home (cf. Hull 2003, 135). Thus, providing such access might actually make the digital divide wider. Nevertheless, this seems to be a perfectly reasonable digital divide policy since such access greatly benefits the information have-nots.

6 Conclusion

In this paper, I have argued that, before we can decide on an appropriate digital divide policy, we need to be very clear about what our goal is. In particular, we need to be very clear about what our goal is with respect to the distribution of knowledge. Social epistemology can help us to identify the distribution of knowledge that we should aim for. Goldman's specific proposals, however, are not adequate. We need to factor in ethical as well as epistemic considerations. With this in mind, John Rawls's theory of distributive justice can help us to identify an acceptable goal in the context of the digital divide (viz., that we should try to insure that the information have-nots have as much knowledge as possible).

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the adoption of universal service policies (cf. Camp and Tsang 2000).

²⁶ Of course, such large disparities do not necessarily just lead to frustration. For example, such disparities might allow the information haves to impose their will on the information have-nots (cf. Moss 2002). In that case, the non-epistemic costs of distributing knowledge in this way might trump the epistemic benefits.

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