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To have and to have not

During the first two months of my son's life, I became acquainted with the joys of walking through our home late at night with him crying. One evening my son and I happened upon my wife's computer, inexplicably left on for the evening. It played a screen saver, catching his attention for a moment, quieting the room. I was grateful for the distraction, so we both stood there staring at the computer.

Pointing at the PC, I turned to my boy and said in somewhat sanctimonious tones, "Some-day son, this will all be yours."

I grinned at how silly that sounded. As bequests come and go, this PC would not be a valuable gift. The computer was already a few years old. This PC was certain to be obsolete by the time my son was out of diapers or even old enough to play with a computer. (I wonder which will come first.)

Of course, that is too literal. These thoughts of inheritance were not just about my son's access to PC technology; they were about an attitude. My wife and I intend to buy our children the latest educational software and a top-of-the-line PC when they get old enough to type their ABC's.

Alas, my son's infant mind, temporarily amazed by movement on the screen, could not comprehend my sense of humor or my ambitions for him. He did not remain quiet for long.

That night illustrated something simple and important. I want my son to have access to the best things possible—including the best technology. More to the point, I want my son to be a "techno-have."

What is a techno-have and why is it important?

This may take some explaining.

Let me render the discussion concrete with a short autobiography. My wife and I, like most of our friends, are walking clichés. We are white,

over-educated, middle-class, dual-career professionals who laugh at Dilbert. We use cell phones regularly in our cars, bought a camcorder when we had a child, pump our own gas to save money, and know little about how the plumbing in our home actually works.

We are not engineers, but we are part of our society's techno-haves. My wife successfully employs the latest medical technology at her work. I touched a PC before any executive at IBM ever thought of making one. (Actually, I study technology markets for a living, which is pretty unusual, but let's not get hung up on that detail.) In short, we are skilled professionals and regularly use technology in our lives.

It turns out that there are millions of techno-haves in the United States. Being a techno-have is not about politics; we are Democrats, Republicans, and Indifferents. Being a techno-have is not about spirituality; some of us are religious and some are not (though in all likelihood we are not Amish). Being a techno-have is about being familiar with technology. It's about having no fear of the newest design, and a desire (and income) to explore gadgets, whatever shape they take. That cuts across many dimensions of being American.

Here is what interests me: We are not everybody. Indeed, we are, probably not even a majority.

While three quarters of Americans use a computer at work in some (even rudimentary) capacity, just over a third of Americans households have a home PC. Of this number, no more than half have Internet access from home. As a point of comparison, cable TV goes into two thirds of American homes. Further, over 90 percent of all US households have at least one TV and a telephone. In other words, for many households a computer is a luxury. It's not even in the same class as having a phone.

Does any of this matter?

Yes, this matters, but only in some subtle ways. In the short run, most households will survive just fine without Internet access at home. After all, we all know people who cannot program their VCR, but somehow make it through the day.

Also, and this is not a trivial digression, it is important to view this issue in the long run. That means we should ignore related questions that frequently pop up in the news.

For example, occasionally a reporter will write about an activist who tries to get free e-mail accounts for the homeless. Similarly, one may read about the lack of computers in inner-city public schools that are also plagued by violence and high dropout rates.

These are extreme and deplorable situations. Yet, these examples do not really illustrate the subtle differences between the techno-haves and techno-have-nots for the average Jane and Joe. The important differences have to do with access to economic opportunity, and the rewards from economic activity over an individual's lifetime.

This observation does not make it into newspapers because the issues are too subtle. Obscure government statistics bury most of this evidence.

Here are the facts in a nutshell: The earnings of those in the lowest 20 percent of income brackets are moving further away from those in the upper 20 percent of income brackets. This has been going on for almost two decades now. There is also some evidence that regional growth where the techno-have-nots live is slower than the growth where the techno-haves live.

Here is the provocative interpretation: Since PCs and other digital innovations are the fastest growing industries in the country, they are the main factor of growth in the higher income occupations. In other words, the wages for techno-have-nots are lower than the wages of the techno-haves. This gap has widened in the last two decades due to the diffusion of advanced information technology.

Every year the techno-haves come out better. That adds up over a lifetime.

In the background are issues about

the quality of life. The techno-haves may wash dishes during the summer break from college, but many techno-have-nots never get jobs outside the kitchen. The techno-haves may change the oil in their cars if they have the time, but the techno-have-nots might do it to earn money. In short, the techno-haves get access to better opportunities. While this is no guarantee for a better life—existence is far too uncertain for that—it is an advantage year after year.

The birth of the PC did not start these divisions. It is just this era's flashpoint. In previous generations, the flashpoints involved access to transportation (cars and trains), telephones (at work or at home), and other modern goods.

Are these divisions entirely bad?

While they may not strike us as democratic, divisions in economic obtainment are a fact of market economies. The harder question is whether these divisions represent a temporary phenomenon or permanent problems.

Here is one reason to think it is temporary. Lead users adopt most new technologies. They are the first to buy a technology, fund its initial development, and experiment with different designs. Divisions between lead users and others are a natural outcome for a while, but eventually go away.

What determines who is a lead user and who is not? Countless studies show that lead users tend to have higher income, more education, and different social networks—in other words, the same conditions that correspond with the differences between the techno-haves and the techno-have-nots.

Unfortunately, this explanation also gives us one reason to think the problem could be permanent. Some people, from an early time and onward, start on a path toward better jobs, high-paying careers, and wealthier retirement. Those people, by and large, have access to the latest technical toys and tools. Their schools, parents, and initiative contribute to this outcome. In other words, many techno-haves come from our society's

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traditional elite families and cultures.

How long will this division last? The history of technology does not offer many clues. Some technologies, such as radio and television, diffused quickly. Other new technologies took a generation. For example, the telephone was not in even half of all American households fifty years after its invention. It did not creep into 90 percent of US households until ninety years after its invention.

Looking forward

If given the choice, I would rather be a lead user than not. It is fun to play with new gadgets and, yes, it pays off in the long run. I am going to encourage my son to do the same. I hope it will make him a techno-have.

I do not expect the divisions between techno-haves and have-nots to go away in my lifetime. But I do hope that the issue will change by the time my son has kids (if he and I should be so fortunate). If his generation eventually takes for granted the diffusion of PCs, by historical standards that would represent impressive technical progress.

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