

The Economy of Ideas: Rethinking Property in the Digital Age

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How much do we really know about information and its natural behaviors?

Of course, information is, by nature, intangible and hard to define. Like other such deep phenomena as light or matter, it is a natural host to paradox. It is most helpful to understand light as being both a particle and a wave; an understanding of information may emerge in the abstract congruence of its several different properties...

Freed of its containers, information is obviously not a thing. In fact, it is something that happens in the field of interaction between minds or objects or other pieces of information. Gregory Bateson, expanding on the information theory of Claude Shannon, said, "Information is a difference which makes a difference." Thus, information only really exists in the Delta. The making of that difference is an activity within a relationship. Information is an action, which occupies time rather than a state of being which occupies physical space, as is the case with hard goods. It is the pitch, not the baseball, the dance, not the dancer.

Even when it has been encapsulated in some static form like a book or a hard disk, information is still something that happens to you as you mentally decompress it from its storage code. But, whether it's running at gigabits per second or words per minute, the actual decoding is a process that must be performed by and upon a mind, a process that must take place in time.

There was a cartoon in the Bulletin of Atomic Scientists a few years ago that illustrated this point beautifully. In the drawing, a holdup man trains his gun on the sort of bespectacled fellow you'd figure might have a lot of information stored in his head. "Quick," orders the bandit, "give me all your ideas."

Information Has to Move

Sharks are said to die of suffocation if they stop swimming, and the same is nearly true of information. Information that isn't moving ceases to exist as anything but potential...at least until it is allowed to move again. For this reason, the practice of information hoarding, common in bureaucracies, is an especially wrong-headed artifact of physically based value systems.

The way in which information spreads is also very different from the distribution of physical goods. It moves more like something from nature than from a factory. It can concatenate like falling dominos or grow in the usual fractal lattice, like frost spreading on a window, but it cannot be shipped around like widgets, except to the extent that it can be contained in them. It doesn't simply move on; it leaves a trail everywhere it's been.

The central economic distinction between information and physical property is that information can be transferred without leaving the possession of the original owner. If I sell you my horse, I can't ride him after that. If I sell you what I know, we both know it....

Information Is Perishable

With the exception of the rare classic, most information is like farm produce. Its quality degrades rapidly both over time and in distance from the source of production. But even here, value is highly subjective and conditional. Yesterday's papers are quite valuable to the historian. In fact, the older they are, the more valuable they become. On the other hand, a commodities broker might consider news of an event that occurred more than an hour ago to have lost any relevance....

Understanding is a critical element increasingly overlooked in the effort to turn information into a commodity. Data may be any set of facts, useful or not, intelligible or inscrutable, germane or irrelevant. Computers can crank out new data all night long without human help, and the results may be offered for sale as information. They may or may not actually be so. Only a human being can recognize the meaning that separates information from data.

In fact, information, in the economic sense of the word, consists of data, which have been passed through a particular human mind and found meaningful within that mental context. One fella's information is all just data to someone else. If you're an anthropologist, my detailed charts of Tasaday kinship patterns might be critical information to you. If you're a banker from Hong Kong, they might barely seem to be data.

Familiarity Has More Value than Scarcity

With physical goods, there is a direct correlation between scarcity and value. Gold is more valuable than wheat, even though you can't eat it. While this is not always the case, the situation with information is often precisely the reverse. Most soft goods increase in value as they become more common. Familiarity is an important asset in the world of information. It may often be true that the best way to raise demand for your product is to give it away.

While this has not always worked with shareware, it could be argued that there is a connection between the extent to which commercial software is pirated and the amount, which gets sold. Broadly pirated software, such as Lotus 1-2-3 or WordPerfect, becomes a standard and benefits from Law of Increasing Returns based on familiarity.

In regard to my own soft product, rock 'n' roll songs, there is no question that the band I write them for, the Grateful Dead, has increased its popularity enormously by giving them away. We have been letting people tape our concerts since the early seventies, but instead of reducing the demand for our product, we are now the largest concert draw in America, a fact that is at least in part attributable to the popularity generated by those tapes.

True, I don't get any royalties on the millions of copies of my songs which have been extracted from concerts, but I see no reason to complain. The fact is, no one but the Grateful Dead can perform a Grateful Dead song, so if you want the experience and not its thin projection, you have

to buy a ticket from us. In other words, our intellectual property protection derives from our being the only real-time source of it.

Exclusivity Has Value

The problem with a model that turns the physical scarcity/value ratio on its head is that sometimes the value of information is very much based on its scarcity. Exclusive possession of certain facts makes them more useful. If everyone knows about conditions, which might drive a stock price up, the information is valueless.

But again, the critical factor is usually time. It doesn't matter if this kind of information eventually becomes ubiquitous. What matters is being among the first who possess it and act on it. While potent secrets usually don't stay secret, they may remain so long enough to advance the cause of their original holders.

In a world of floating realities and contradictory maps, rewards will accrue to those commentators whose maps seem to fit their territory snugly, based on their ability to yield predictable results for those who use them.

In aesthetic information, whether poetry or rock 'n' roll, people are willing to buy the new product of an artist, sight-unseen, based on their having been delivered a pleasurable experience by previous work.

Reality is an edit. People are willing to pay for the authority of those editors whose point of view seems to fit best. And again, point of view is an asset, which cannot be stolen or duplicated. No one sees the world as Esther Dyson does, and the handsome fee she charges for her newsletter is actually payment for the privilege of looking at the world through her unique eyes.

Time Replaces Space

In the physical world, value depends heavily on possession or proximity in space. One owns the material that falls inside certain dimensional boundaries. The ability to act directly, exclusively, and as one wishes, upon what falls inside those boundaries is the principal right of ownership. The relationship between value and scarcity is a limitation in space.

In the virtual world, proximity in time is a value determinant. An informational product is generally more valuable the closer purchasers can place themselves to the moment of its expression, a limitation in time. Many kinds of information degrade rapidly with either time or reproduction. Relevance fades as the territory they map changes. Noise is introduced and bandwidth lost with passage away from the point where the information is first produced. Thus, listening to a Grateful Dead tape is hardly the same experience as attending a Grateful Dead concert. The closer one can get to the headwaters of an informational stream, the better one's chances of finding an accurate picture of reality in it. In an era of easy reproduction, the informational abstractions of popular experiences will propagate out from their source moments to reach anyone who's interested. But it's easy enough to restrict the real experience of the desirable event, whether knockout punch or guitar lick, to those willing to pay for being there....

Information as Its Own Reward

It is now a commonplace to say that money is information. With the exception of Krugerrands, crumpled cab fare, and the contents of those suitcases that drug lords are reputed to carry, most of the money in the informatized world is in ones and zeros. The global money supply sloshes around the Net, as fluid as weather. It is also obvious, that information has become as fundamental to the creation of modern wealth as land and sunlight once were.

What is less obvious is the extent to which information is acquiring intrinsic value, not as a means to acquisition but as the object to be acquired. I suppose this has always been less explicitly the case. In politics and academia, potency and information have always been closely related.

However, as we increasingly buy information with money, we begin to see that buying information with other information is simple economic exchange without the necessity of converting the product into and out of currency. This is somewhat challenging for those who like clean accounting, since, information theory aside, informational exchange rates are too squishy to quantify to the decimal point.

Nevertheless, most of what a middle-class American purchases has little to do with survival. We buy beauty, prestige, experience, education, and all the obscure pleasures of owning. Many of these things cannot only be expressed in nonmaterial terms; they can be acquired by nonmaterial means.

And then there are the inexplicable pleasures of information itself, the joys of learning, knowing, and teaching; the strange good feeling of information coming into and out of oneself. Playing with ideas is a recreation which people are willing to pay a lot for, given the market for books and elective seminars. We'd likely spend even more money for such pleasures if we didn't have so many opportunities to pay for ideas with other ideas.

This explains much of the collective "volunteer" work, which fills the archives, newsgroups, and databases of the Internet. Its denizens are not working for "nothing," as is widely believed. Rather they are getting paid in something besides money. It is an economy, which consists almost entirely of information.

This may become the dominant form of human trade, and if we persist in modeling economics on a strictly monetary basis, we may be gravely misled.

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