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## Will technology make CBS unconstitutional? Net Gains

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Forty years after Nobel Prize-winning economist Ronald Coase suggested privatizing the radio spectrum, the FCC has caught on. Now there's a quiet frenzy raging in Washington. Every slice of spectrum, from cellular to satellite and, later this year, even commercial FM and analog TV, is being sold off to help fund the budget. (Everything, that is, except hdtv. Broadcasters got those channels for free.) Everyone seems to assume that this radio bake-off is constitutional. No doubt at one time it was. So said the Supreme Court--at least about licensing--in 1943. But is it constitutional anymore? Does the government have the right to auction off spectrum as if it were just another national resource?

We think the answer is probably no. Changes in technology are likely to render much of the allocation of spectrum constitutionally suspect, and it's time that the auctioneers--and the buyers--took note.

Our argument is straightforward: The FCC regulates speech. It says that, if you want to speak on 98.6 FM in Boston, you must get a license (or, now, buy one). If you speak on 98.6 without a license, you will have committed a crime. The FCC will prosecute you and seize your transmitter. All this despite the fact that the First Amendment to the Constitution says, "Congress shall make no law ... abridging the freedom of speech." What gives?

The traditional rationale goes something like this: 98.6 is part of the radio spectrum; radio spectrum by its "nature" must be allocated for it to be useable. Two transmitters can't use the same channel, so someone must decide who gets which. Since 1927, the FCC has had that authority. For many years, the FCC did this by licensing. During the 1990s, it has increasingly allocated spectrum through auctions. But, whether through licensing or auctioning, the government must, the argument

goes, organize and police the parceling out of the spectrum commons. We have, it is said, no other choice. Thus has "allocated spectrum" been the dominant architecture for broadcasting. This architecture in turn has justified massive involvement by government in the distribution of speech sans wires. Nature makes it so, the government says, and government must respect nature.

But what if "nature" changed? What if it were no longer true that spectrum had to be allocated? What if the spectrum could be shared by all rather than set aside for a narrow class of licensees? What if the FCC, CBS, or Bell Atlantic Mobile became unnecessary?

A growing body of research suggests exactly this. Using a variety of strategies, mostly known as spread spectrum, researchers in wireless technology have begun to demonstrate the viability of systems that allow many users to share the same slice of spectrum without interfering with one another. Just as packet-switching is replacing circuit-switched telephony, spread-spectrum techniques, these researchers argue, could replace traditional broadcasting. And just as tcp/ip protocols tell packets on the Internet where to go, and how not to get mixed up or interfere with packets carrying other peoples' messages, spread-spectrum technologies could use one of a number of protocols to avoid collision and congestion in wireless communication.

The implications of this change are profound. Instead of defined frequency ranges over which someone--a licensee or an owner--gets to decide who communicates what, and to whom, the government would permit anyone using certain kinds of equipment (basically a computer with a wireless modem) to send and receive whatever he or she wants, over broad swaths of spectrum. Instead of a market in spectrum, we would have a market in efficient wireless modems. Instead of the government and a small group of companies dictating how wireless communications will be used, we would have every user deciding for her- or himself whether to use a computer to talk to a friend, watch a movie, or play an online game. In other words, instead of a few railroad companies deciding who gets to go where, and when, people would buy cars and go wherever they wanted to go.

If the engineers are right--if the efficiency of an architecture of spread-spectrum wireless technology were even roughly equivalent to the architecture of allocated spectrum--then much of the present broadcasting architecture would be rendered unconstitutional. If shared spectrum is possible, in other words, then the First Amendment would mean that allocated

spectrum--whether licensed or auctioned--must go. And, if allocated spectrum must go, then so must the government's giveaways and sales to private industry. If we are right, the government can no more auction the right to broadcast in Boston than it can auction a license to print a newspaper there.

**W**hy? The First Amendment protects the freedom of speech and the press; it is strongly opposed to a system of licensing or prior restraint. The "press" the Framers had in mind was not *The New York Times*; the press of 1791 was the printing machine and a jumble of small printers and pamphleteers--in short, the Internet of their day. Economics has gotten the better of this original pamphleteer press; concentration has replaced diversity. And it isn't clear that the Constitution can say much about the consequences of such economic rationalization.

But the Constitution does have something to say when the concentration comes from state-sponsored monopolies and state prohibitions on competing speech. When the state creates a regime where all speech must be licensed; when it establishes monopolies over valuable speech resources; when it erects a framework that concentrates, rather than decentralizes, opportunities for speech, then the state needs a very strong justification.

Necessity would be such a justification. If the only architecture for broadcasting that could work were the architecture of allocated spectrum, then spectrum allocation would be justified. But, when technology advances such that this concentrated architecture is no longer required, then "necessity" disappears. And, when the reason for this state-sponsored monopoly--abridging the freedom to speak without a license from the state--vanishes, then broadcasters need new reasons to justify their state-supported monopolies.

We are not convinced that such a justification couldn't be made. We're not in the business of closing off debate. But, before the government proceeds to auction (or to give away) even more spectrum to the few, shouldn't we at least pause to ask where we will be if the promise of spread-spectrum technologies comes true? If spectrum can be shared, does the Constitution really permit the state to silence the many so that CBS can speak?

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