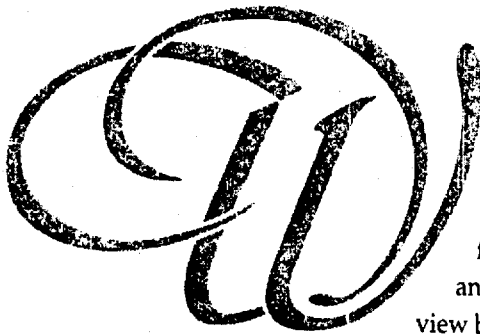


Telegeography:

MAPPING THE NEW WORLD ORDER

BY
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W HETHER A TELEPHONE IS used to seal a marriage between New York and New Delhi, to confirm a line of credit between Seattle and Singapore, or to conduct an interview between Boston and Beijing, a new geography is being created — socially, economically, and politically.

But the telegeography of the 1990s does not resemble McLuhan's "global electronic village." The village metaphor suggests that the spread of telecom technologies has made people more equal and that the trend is universal. This is untrue.

The global telecom network is really a network of networks. It comprises over 540 million telephone exchange lines linking over 1 billion terminals in 200 countries. Some groups control the networks, while others are on the periphery.

Since 1988, the London-based International Institute of Communications

The space we live in is not always visible. More and more often, events that affect our lives in tangible ways occur in the invisible part of the geography. When you pick up the telephone, graze through endless channels of satellite or cable TV, buy something with a credit card, you are traveling in digital communication-space.

It's time for people to find ways to visualize and map the new geographies of telecommunication. The authors have taken a first step by mapping the worldwide flow of telecommunications. In fact, a telegeographical overlay seems essential to any planet-monitoring information system, for telegeography is a concrete way of looking at the otherwise abstract territory where global-level self-awareness could take place.

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(IIC) has surveyed the volume and destination of telephone circuit traffic originating in over thirty countries. This unique database has begun to give us a more accurate picture of just how the global network is remapping the world (see map).

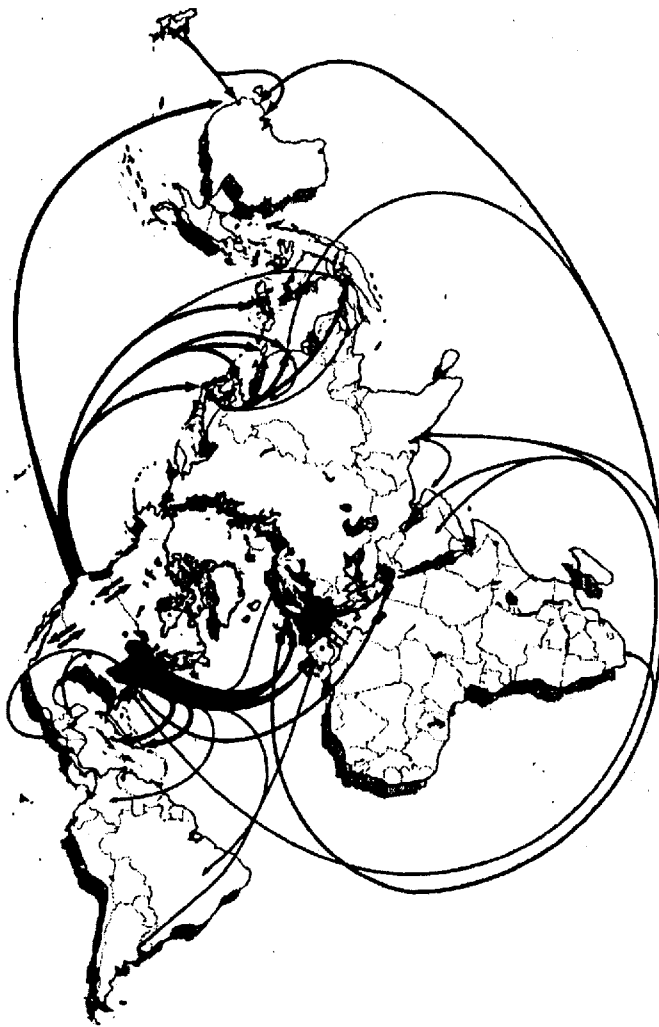
What have we learned thus far?

▣ Telecom traffic patterns point to the formation of three main telecontinents. These continents are centered on the US, Germany, and Japan. As one might expect, each country is a crucial junction state for regional telecommunications.

▣ A few countries send and receive most international traffic. In 1990, carriers serving the G-7 countries (US, Canada, Germany, UK, France, Italy, and Japan) accounted for approximately two-thirds of the 20.5 billion total minutes of cross-border telephone traffic. Similarly, roughly 55 percent of telephone traffic from one of the twelve European Community nations was destined to another EC state; 10 percent went to the US.

▣ Large regions of the world remain virtual tele-islands. There is more telephone traffic between the UK and Germany than there is to and from the whole African continent. And there are more telephone lines in greater New York than in India.

▣ Other regions are tele-islands to a lesser degree. Although the former Soviet Union has approximately 38 million telephone exchange lines, there is but one international exchange in Moscow to link these lines to the rest of the world. This bottleneck helped keep 1990 US telephone traffic to the Soviet Union at the same



volume as that with Bahrain and Bolivia.

▣ The last 20 years have profoundly reshaped the American telecontinent. In 1969, the average US telephone line was used for over ten minutes a day, but foreign calls accounted for less than two minutes a year. Vietnam aside, the US telecontinent was oriented primarily to the Americas and Western Europe.

By 1990, Americans spent almost twice as much time calling overseas each week as they did during all of 1969. This global traffic boom expanded the American telecontinent to include Taiwan as much as Israel, the Philippines as much as the Dominican Republic, and Australia as much as Brazil. The boom also made America into a pivotal telecom power, looking east and west, with a unique

ability to exploit new telecom-based services across the global network.

▣ The scale of telecom traffic in the 1990s will be stimulated by further reductions in transoceanic call prices. Although the volume of international traffic is doubling every three to four years, the latest IIC report shows that the supply of fiber-optic cable and satellite circuits across the Atlantic and Pacific will more than triple by 1996. The capital cost per voice path on these new cable facilities, which have a useful life of over 25 years, will be approximately \$2,000.

All of these developments suggest a growing role for telegeography in orienting business and government policies.

Telegeography is a powerful tool for understanding the world because of

the way in which telecommunication has insinuated itself into virtually every branch of human endeavor. The global telecom network has become the world's nervous system, and almost all economic activity touches the network at least once.

Yet despite our daily experience of "globalization" and the "information revolution," many people still find it difficult to picture what is happening; they lack the right mental map. Most atlases are of little help: for much of its history, geography has been preoccupied with political boundaries (which slabs of territory are controlled by which nations) and natural ones.

Such concerns made sense in an earlier time. If nations could draw a line on a map, they could say that all the oil, coal, iron, or people inside the line belonged to them. Accurately charting oceans and mountain ranges was also important when topography set the bounds of a nation's commerce and communications.

But, as noted above, in an age of global networks traditional geography is less relevant. Territorial control no longer ensures a government economic sovereignty; the key resource is often information, not oil or brute labor.

Information is the product of human minds; if you try to control people's minds they stop producing ideas (or emigrate). But once information has been produced, it is like wildfire. It dances — via phone and fax — from one part of the world to another.

By mapping network boundaries rather than political or physical ones, telegeography can capture the underlying information flows which drive contemporary economic and political events. Moreover, by focusing on the pattern of networked communications — on what is connected rather than what happens to be physically conterminous — telegeography can help people to navigate this novel terrain. ©

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[Next](#) [We Need A National Public Network \(Spring 1992\)](#)

[Return to Electronic Index Page](#)