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THE GROWING GLOBAL COMMUNICATION GRID: SHRINKING THE NORTH-SOUTH DIVIDE ?

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Access to the World Wide Technological/Information Grid

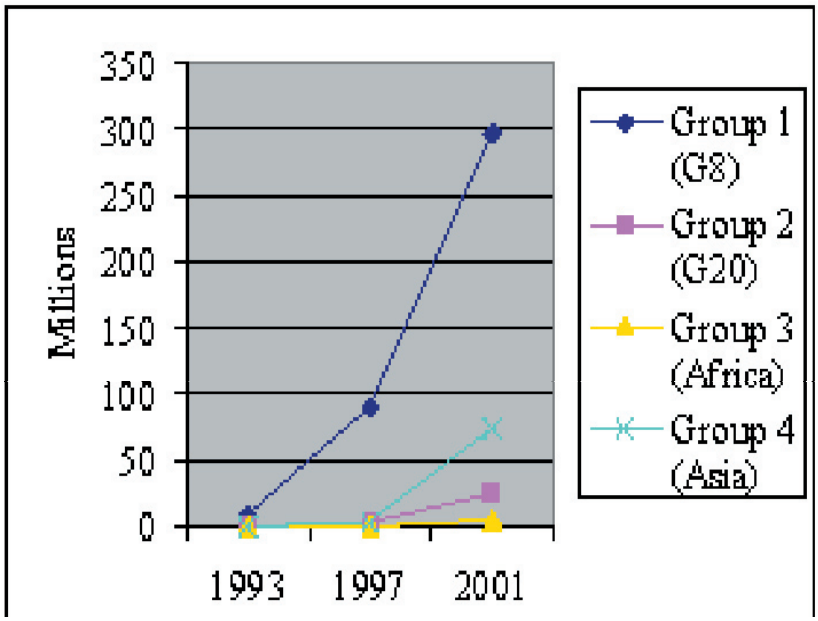
People today have access to an almost infinite amount of data through the technological/information grid.[1] Not only can people receive information by simply turning on the radio or television, they can, with a mere click of the mouse, express and publish their opinions and concerns instantaneously to a potential audience of millions across the world. With the instant communication that the global technological /information grid facilitates, interested citizens are able to form communities around specific issue areas outside of state control and regulation.[2] This global movement of information has also created cross-border communities around transnational issues. Public opinion and social movements compete with governments to provide information — particularly in the areas of foreign policy, global governance and human rights. With new arenas for public debate worldwide, is there tangible evidence that the information gap between the global north and south is closing?

For the purpose of this paper, we examined the global information grid to better understand the degree to which people in different regions are part of the information society broadly defined. Our sample included over 80 percent of the world's population. The country groupings included the G8 (Canada, France, Germany, Japan, Italy, Russia, the United Kingdom, and the United States), a sampling of the most populous countries in the G20 (Argentina, Australia, Brazil, Mexico, Saudi Arabia, and Turkey), the biggest African countries (Algeria, Cameroon, Egypt, Morocco, Nigeria, and South Africa), and the major Asian economies (China, India, Indonesia, South Korea, Singapore and Thailand).[3]

Diffusion of new technologies and access to the information grid are two key measures that interest us.[4] We wanted to see to what extent the information grid — composed of radio, television, the internet, satellites, and land and cell phones — is a north/south phenomenon or mainly a northern infrastructure for industrial nations. Analysis of the proliferation of radio and television receivers, sales of cell phones and telephone landlines, as well as satellite dishes and internet connections over time, points to the fact that technological infrastructure provides a conduit for global cultural flows that is expanding dramatically and exponentially.[5] More specifically, analysis of new information technology demonstrates that increasing numbers of people in both the developed and developing world are gaining access to the information grid even though there are still wide discrepancies in the breadth and depth of the network.

Despite different rates of diffusion between the global north and south, the number of internet subscriptions, satellite receivers, cell phones, televisions, and radios continues to expand in every region. The question is, is the digital divide likely to shrink into insignificance in the mid-term? The figure below demonstrates that global internet use is growing everywhere, not just in the developed north.

Figure 1: Global Internet Users

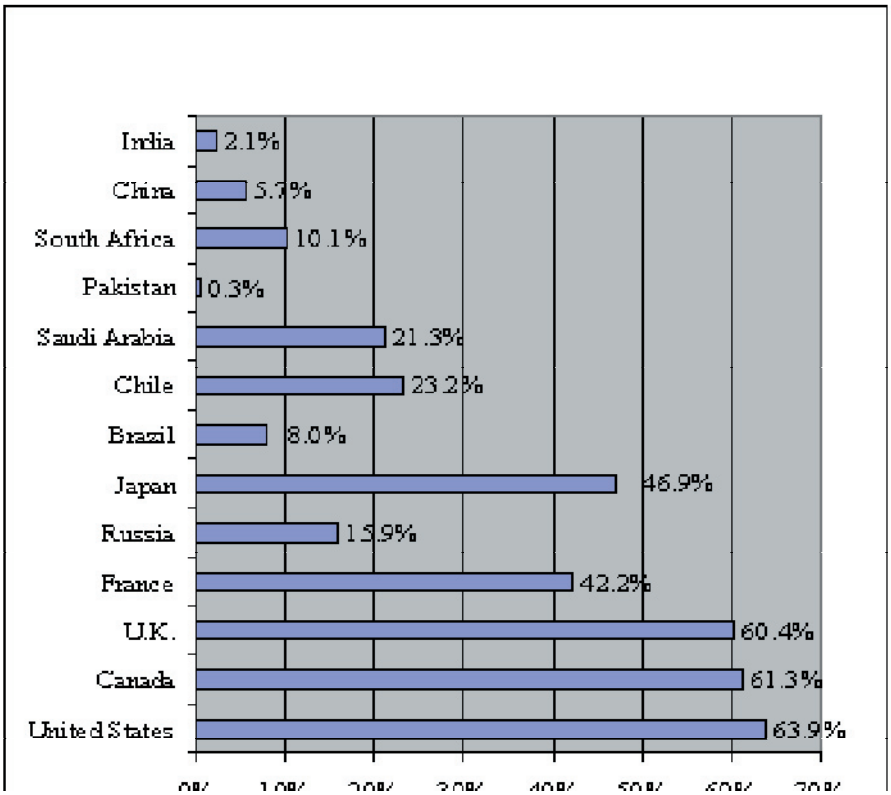


Source: International Telecommunications Union 2003

Certainly, internet growth is fastest in the north. The number of people online exploded from 7.3 million in 1993 to 297 million in 2001 in the G8. Similarly, in our sample of the G20, internet users rose from .43 million in 1993 to 25.28 million in 2001. During the same period, Asian use grew from 14 million to 74.1 million. Even in Africa, where telephone landlines are often a luxury, internet blossomed from approximately 40,000 people to an estimated 4.25 million.

Using the newest information from PricewaterhouseCoopers, we can place this growth in context. However, the numbers must not fool us. In a country like India with a population upwards of one billion, 2.1% of households may represent 50 million people or more. The market for internet access in India dwarfs the Canadian market — and some analysts predict these numbers will quadruple in this decade.

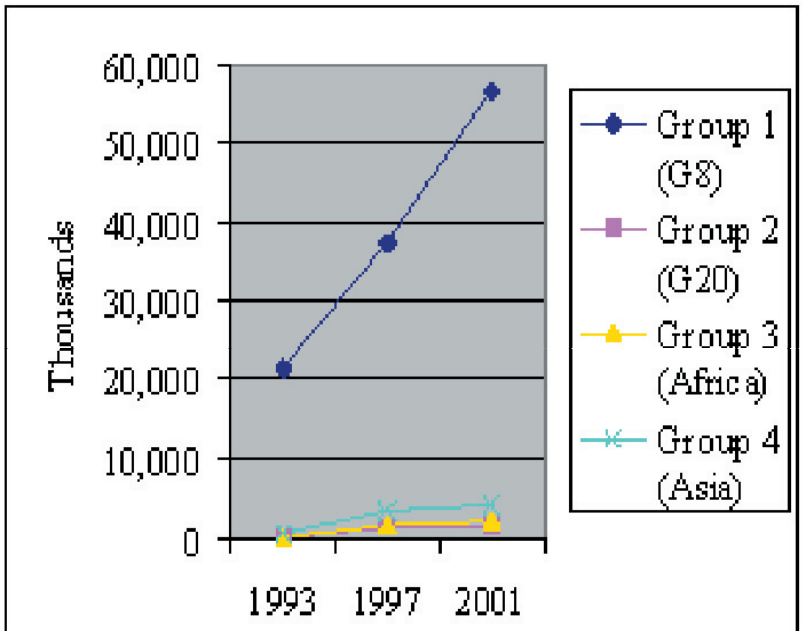
Figure 2: Percentage of Households Online (selected countries)



Source: PricewaterhouseCoopers 2004

The most significant trends in the diffusion of new information technologies are that access to satellite and cell phones in all four regions in the most recent period have had an unprecedented growth spurt, particularly for the global south. The G8 remains the single largest market for home satellite technology. Subscriptions grew from 21.3 million in 1993 to 56.5 million in 2001. However, Africa has shown the most marked growth, going from approximately 1000 satellite subscriptions to 2.1 million during this period. Growth in the G20 and Asia was also impressive. The markets in these regions grew by almost ten times (from 110, 000 to 1.4 million in the G20 and 613, 000 to 4.2 million in Asia).

Figure 3: Satellite Television Subscribers

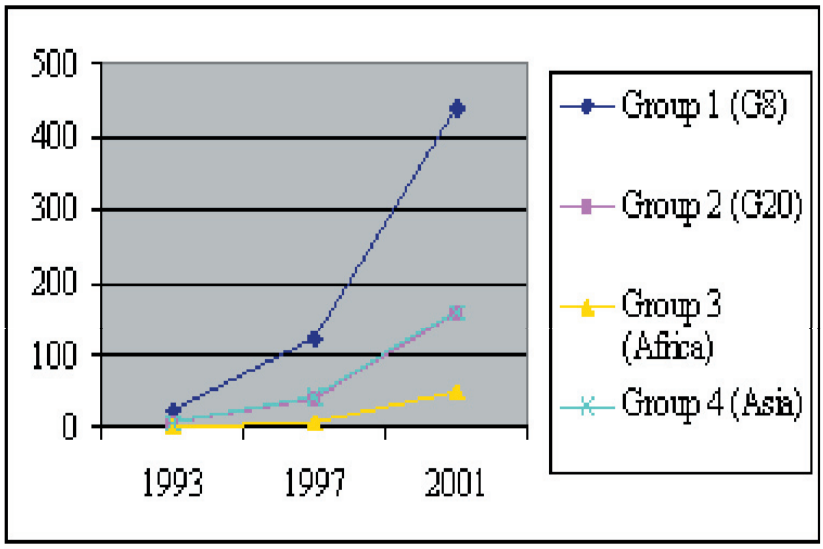


Source: International Telecommunications Union 2003

We must interpret these figures with caution because satellite dishes are used illegally in most large cities around the world. It is likely that the number of satellite receivers vastly outstrips the number of service subscribers.

The worldwide growth of cellular networks has been astounding. The biggest relative gains have been in Africa, where the number of phones has increased by more than two hundred times over the past decade. From 1993 to 2001, the number of cell-phones per 100 inhabitants increased from 0.18 or one cell phone for every five hundred people, to 48, one phone for every two people. In Asia and the G20, the number of phones increased from less than one for every ten people, to an average of 1.5 phones for every person living in Latin America, Eastern Europe, India, China and the rest of Asia. In the G8, cell-phone ownership rose from one for every five people, to a whopping four phones per person. This number represents the increasing use of cellular networks for both business as well as personal calls.

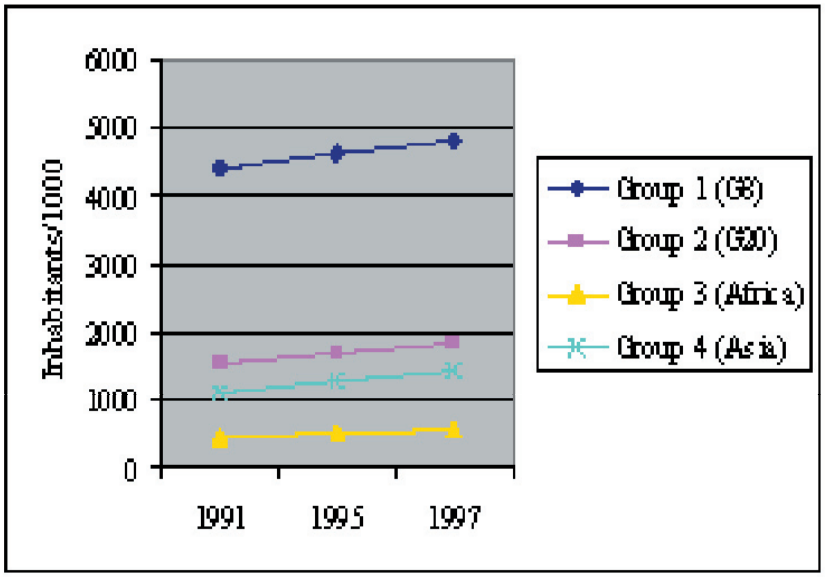
Figure 4: Cellular Subscribers per 100 Inhabitants



Source: International Telecommunications Union 2003

Despite the total domination of modern culture by television, the total number of TVs still increased among all regions over the past decade. There are more TVs than people in every part of the world except Africa, where the number rose from 432 to 571 TVs per 1000 inhabitants, or one television for every two people as of 1997 (the most recent estimate). The chart below shows that the G8 has approximately five TVs for every person. This does not mean that the average family of four owns twenty television sets. Rather, TV is present in most public places, from bars and restaurants, to airplanes, buses, shopping malls and sports stadiums. Similarly, the numbers rose from 1.5 to 2 TVs per person in the G20, and from 1 to 1.5 per person in Asia.

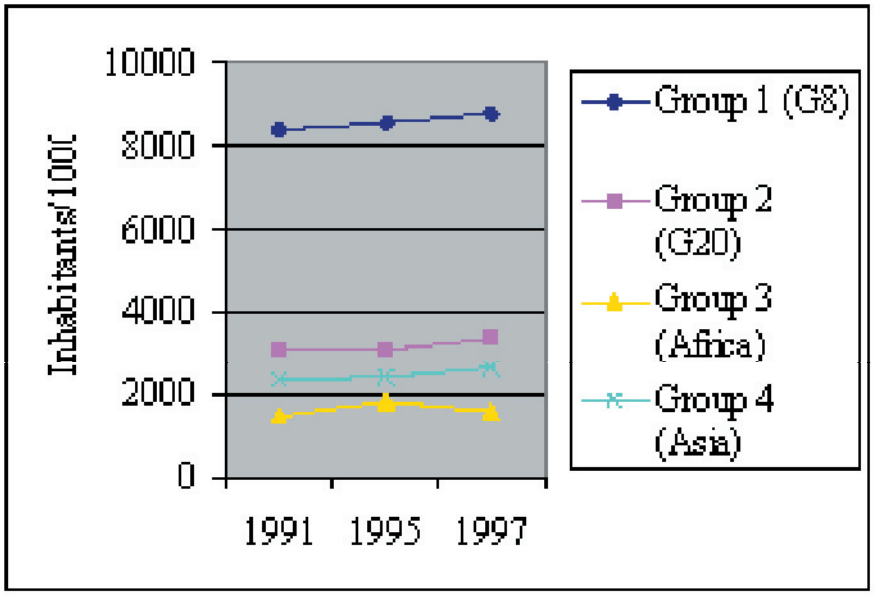
Figure 5: Televisions per 1000 Inhabitants



Source: International Telecommunications Union 2003

The ubiquity of radio is even more remarkable. Radio is the only truly global medium of communication. It comes as little surprise that there are nearly nine radios for every person in the G8 (from 8371 radios per 1000 inhabitants in 1991 to 8773 in 1997).

Figure 6: Radios per 1000 Inhabitants



Source: International Telecommunications Union 2003

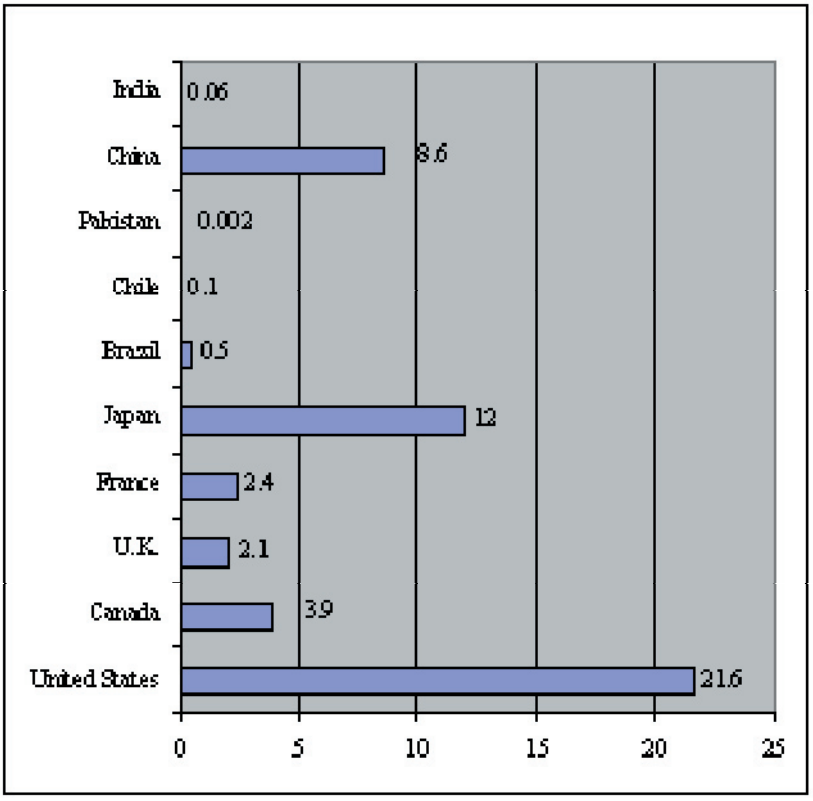
Radio is the oldest of the mass media, and the cheapest — both in terms of broadcast cost and transmission reception. Radios are cheap to buy and readily portable. There are no subscription costs, and the average unit can fit into the palm of your hand. Even in Africa, there are 1.5 radios for every person. In the G20 and Asia, the numbers have grown to approximately three radios per person.

Two major findings stand out. The first is that people rely most heavily on the traditional media of electronic communication – television and radio. Nevertheless, internet usage is steadily growing, the number of cell phones is exploding, and satellite receiver ownership is underestimated. Also, not surprisingly, the G8 countries are way ahead of the others. But what is significant and quite startling is the substantial growth in the diffusion of cell phones and satellite dishes in many parts of Asia and Africa that has occurred in the last decade. Although the developed world still predominates with respect to all of the mediums discussed, the developing world is beginning to compete for its share of the grid. The digital divide has began to shrink but it remains large. The good news is that within a decade hundreds of millions in the global south will gain access to it if present trends continue.

Furthermore, the pace of second generation information technology is accelerating and promises to shrink the digital divide further. In 2003, China had twice as many broadband internet subscribers as Canada. However, nowhere in the world has broadband made faster inroads than Korea, where 70% of all households are connected by broadband. While price is still a key factor in broadening and deepening diffusion, consumer research groups estimate the current global market of 100 million broadband subscribers will grow to more than 300 million by the end of the decade.[6]

The second is that people are consuming more information than ever before, and spending a larger proportion of their incomes for entertainment and information technology. The most up-to-date estimates place the value of the global market for media and entertainment at $1.2 trillion. As a global industry it is larger than automotive manufacturing and the textile industry combined. According to the newest information available, this market grew by 4.3% in 2003, a trend not likely to crest in this decade.[7] There is a socio-cultural dimension to this trend; people consume more as technology comes to be seen as a necessity of modern life. This is particularly true in the global south, where computers, satellite television and cell phones are signs of success and symbols of aspiration.

Figure 7: Broadband Internet Subscribers (millions)



Source: PricewaterhouseCoopers, 2004

It is important to map and track in detail the technological/information grid because analysis of the direction and intensity of global cultural flows is a relatively new field of research. We can see that media texts and ideas move between countries that have access to the grid. Conversely, global south countries with limited access don't have the chance to catch up. Our findings demonstrate that north-south asymmetries remain very large despite the fact that access for the global south has broadened and deepened.[8]

Conclusion: Global Prospects, Global Challenges

Three important contradictory dynamics are at work deepening and broadening the technological/information grid. First, the commercialization of culture has been the primary vehicle behind global information flows. The expansion of information technologies is driven by the sale of television, cellular, satellite and internet services. International agreements, such as the Trade Related Intellectual Property Rights agreement signed at the WTO, play a big part in facilitating the commercial success of the global telecom industries. The intent of the Doha Round is to further liberalize trade in culture and information technology.[9] Even if the Doha Round fails to get off the ground, consumers from India, China, Brazil, Mexico, Nigeria and Korea continue to demand more information. Commercially the global south is the growth market of tomorrow.

Secondly and surprisingly, there has been a democratization of global information flows that no one could have predicted. Much is driven by economies of scale and intense international competition, particularly among the cell-phone, satellite and internet providers. It is estimated that cost of long distance direct dial

calling in the last decade or so between the global north and south has fallen by over 80 percent. All regions worldwide are now structurally part of the information grid, albeit unevenly. In the future we will see much more convergence because millions of people will have access to the global information network. Information is empowering and those who acquire new access are likely to challenge the existing authority structure both directly and indirectly.

Finally governments are less effective at controlling informational flows; this is both positive and negative. On the upside, information travels in ways that are unprecedented. China and Iran have tried unsuccessfully to block internet sites periodically but internet usuage in both countries continues to operate despite these crackdowns adding millions of additional subscribers each year. Nye argues that power in the global information age is multi-centric, contingent and contested up and down the line by social movements.[10] All this new access has created a Habermasian moment where the public sphere and public debate have made a remarkable come back.[11]

On the down-side Appadurai has made the case that the intensity of global cultural flows threatens smaller cultural economies and many non-English speaking ones as well.[12] English language dominance on the internet severely disadvantages those from non-anglophone countries. It threatens cultural diversity and widens the gap between the global north and south. Without global governance institutions with regulatory powers to set better rules, the information commons remains at risk.

Open societies require broad and unimpeded access to the technological/ information grid. Access to information is now regarded as part of the tool kit of modern citizenship. For countries with large diasporic communities, information flows play a critical role in broadening and deepening cultural diversity. They enable transnational communities to keep in touch. The global production of news supports an international public that is visibly present, and governments cannot afford to be indifferent to it. The opposition to the war in Iraq is a case in point. For the e-public and transnational social movements, information flows are a virtual and real-time lifeline. Nevertheless, global cultural flows must, in the final instance, be read as 'maps of power' because a global information flow is never value-free, aimless or a response to market forces alone.[13] Unprecedented levels of global inequality will continue to organize the flow of culture far into the twenty-first century.

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Appendix I

Detailed Profiles of Countries and Populations by Region

Group 1 (The G8)	*Population*	*GDP*
Canada	32,207,113	$934 billion
France	60,180,529	$1.6 trillion
Germany	82,398,326	$2.2 trillion
Japan	127,214,499	$3.7 trillion
Italy	57,998,353	$1.5 trillion
Russian Federation	144,526,278	$1.4 trillion
United Kingdom	60,094,648	$1.5 trillion
United States	290,342,554	$10.5 trillion

Group 2 (Selected Members of the G20)		
Argentina	38,740,807	$403.8 billion
Australia	19,731,984	$525.5 billion
Brazil	182,032,604	$1.376 trillion
Mexico	104,907,991	$924.4 billion
Saudi Arabia	24,293,844	$268.9 billion
Turkey	68,09,469	$489.7 billion

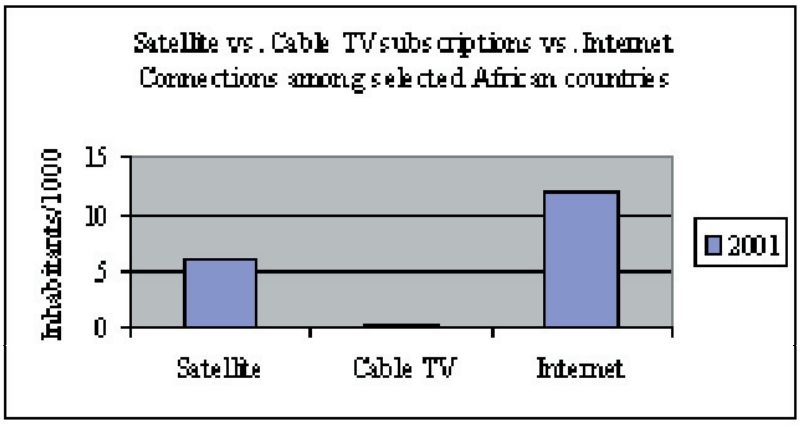
Group 3 (Africa)		
Algeria	32,818,500	$173.8 billion
Egypt	74,718,797	$289.8 billion
Morocco	31,689,265	$121.8 billion
Nigeria	133,881,703	$112.5 billion
South Africa	42,768,678	$427.7 billion
Cameroon	15,746,179	$26.84 billion

Group 4 (Asia)		
China	1,286,975,468	$6 trillion
India	1,049,700,118	$2.7 trillion
Indonesia	234,893,453	$714.2 billion
Republic of Korea	48,289,037	$941.5 billion
Singapore	4,608,595	$112.4 billion
Thailand	64,265,276	$445.8 billion

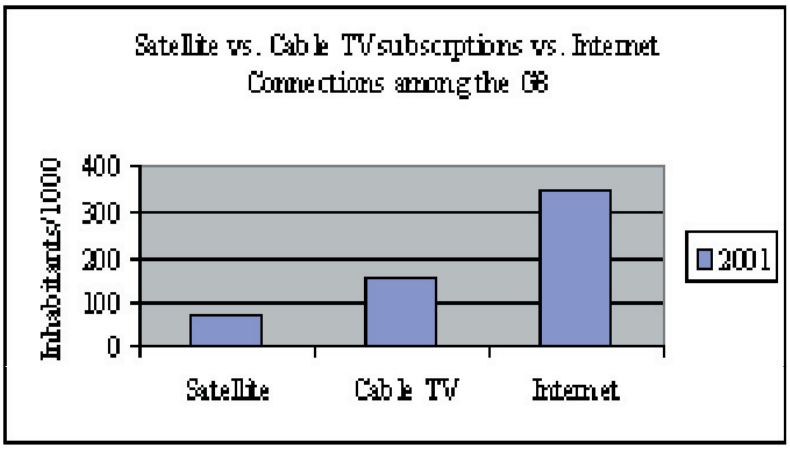
Source: Organization for Economic Cooperation and Development, 2003

Appendix II

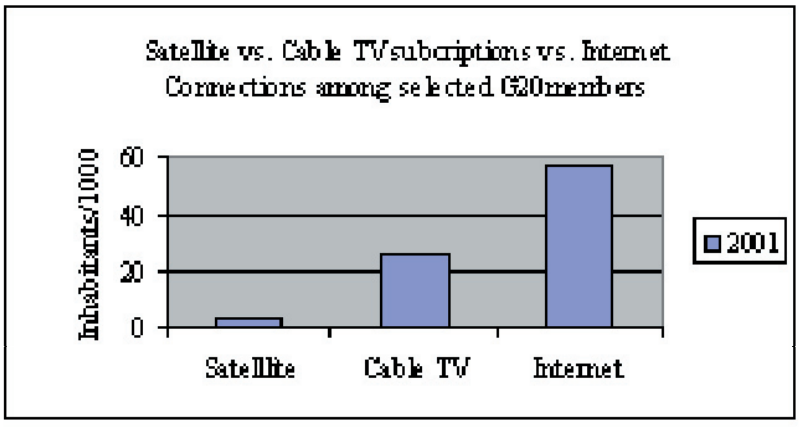
A Regional Comparison of Access to New Information Technologies, 2001



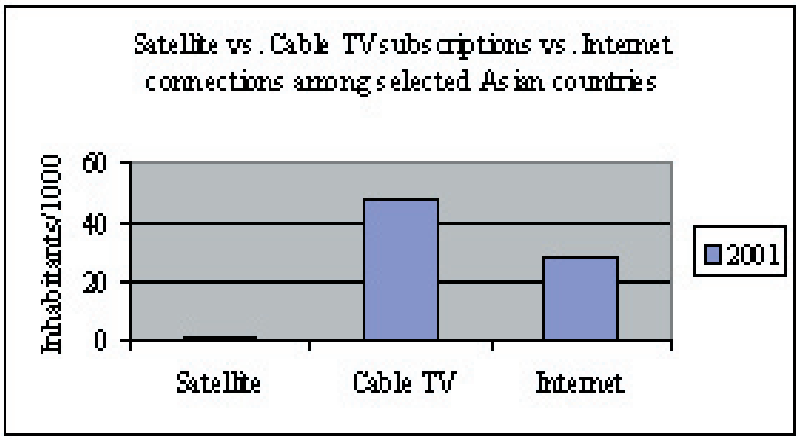
Selected countries: Algeria, Cameroon, Egypt, Morocco, Nigeria, South Africa



The G8: Canada, France, Germany, Italy, Japan, Russia, U.S.A., U.K



Selected Countries: Argentina, Australia, Brazil, Mexico, Saudi Arabia, Turkey



Selected Countries: China, India, Indonesia, South Korea, Singapore, Thailand

Source: International Telecommunications Union 2003.

(Footnotes)

[1] The Robarts Centre has recently won an SSHRC-RDI to investigate different aspects of global cultural flows. The empirical dimension demands special attention. 'Global cultural flows' is a relatively new concept and mapping its different dimensions remains an important task to complete. The following short paper should be read as work in progress intended to stimulate debate and discussion. Better statistical sources are always needed. The present work is not definitive, but is nevertheless highly suggestive of the global information grid. Daniel Drache is Associate Director of the Robarts Centre and principal investigator of the Global Cultural Flows Project; he can be reached a drache@yorku.ca. Marco Morra is completing his MA in the Department of Political Science, York University. Marc Froese is a research associate at the Centre. He is currently completing his PhD in the Department of Political Science.

[2] Manuel Castells *The Rise of the Network Society,* 3 vols. Vol. 1, *The Information Age: Economy, Society and Culture*, Malden, Mass.: Blackwell, 2000.

[3] See A*ppendix 1* for detailed profiling of countries.

[4] For further information on the global information/technology grid, see the Digital Divide Network "Basic Facts." Available from http://www.digitaldividenetwork.org/content/sections/index.cfm?key=2 and UNESCO Institute for Statistics "Culture and Communications Statistics" http://www.uis.unesco.org/ev.php?URL_ID=4962&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1063762155

[5] For a detailed examination of growth and access to information technologies, see Appendix II A Regional Comparison of Access to New Information Technologies, 2001

[6] Scott Morrison "Triple Play Shows the Way," *Financial Times of London*, July 20 2004.

[7] PricewaterhouseCoopers LLP, *Global Media and Entertainment Outlook: 2004-2008*.

[8] Daniel Drache. "The Political Economy of Dissent: Global Publics after Cancun." Toronto: Robarts Centre for Canadian Studies, York University, 2004.

[9] Joseph E. Stiglitz and Andrew Charlton. "The Development Round of Trade Negotiations in the Aftermath of Cancun: A Report for the Commonwealth Secretariat." New York: Initiative for Policy Dialogue, Columbia University, 2004. available from www.commonwealth.org

[10] Joseph S. Nye. *Power in the Global Information Age: From Realism to Globalization.* New York: Routledge, 2004.

[11] David Held (2004). Global Covenant: The Social Democratic Alternative to the Washington Consensus. London: Polity Press.

[12] Arjun Appadurai. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press, 1996; Ann Swidler. "Culture and Social Action." In *The New American Cultural Sociology*, edited by Philip Smith. Cambridge: Cambridge University Press, 1998.

[13]Franco Moretti,, "Graphs, Maps, Trees Abstract Models for Literary History." *New Left Review* 24(November-December): 67-93, 2003.

Source: Robarts Centre for Canadian Studies