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Monroe Price

University of Pennsylvania, Mprice@asc.upenn.edu

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Satellite Broadcasting as Trade Routes in the Sky

Abstract

The metaphor of trade routes - used from time to time to think about the distribution of ideas and imagery - ought to nourish our conception of transnational paths of delivery of electronic communications. Our minds are full of Rupert Murdoch and Disney, CNN and the BBC as traders in information, great shippers of data, distributors of sitcoms and news and advertisements. In the common reading of the world of electronic signals, the media is considered "global," and the general impression is of a constant and ever-present net that can deposit information everywhere, disregarding boundaries. Our common and most recent experiences with the Internet seem, at first blush, to confirm and underscore a belief that data careers around the world from server to server, in patterns that seem virtually impervious to purposive planning or political and legal intervention (Volokh, 1995). Sender and receiver are linked in ways that appear indifferent to the route or mode by which they are connected. The obsolescence of boundaries is reinforced. So, too, has been the effect of the seamlessness of telephony in the developed world, obliterating distance and time. In telephony, transmission pathways seem invisible, or at least irrelevant, to the substantive decisions of most users. Although users are almost never conscious of it, all these modes of communication (postal service, telegrams and telephones) required the construction of international systems of regulation. Assurance of adherence to worldwide standards was a condition for their instantaneous nature and compatibility. The predominance of the West in terms of development and control of access to technology dictated the change in structure of international communication, putting pressure on non-Western members to Westernize, in order to comply with the prevailing system's bureaucratic rules.

Chapter 9

Satellite Broadcasting as Trade Routes in the Sky

Monroe E. Price

The metaphor of trade routes—used from time to time to think about the distribution of ideas and imagery—ought to nourish our conception of transnational paths of delivery of electronic communications. Our minds are full of Rupert Murdoch and Disney, CNN and the BBC as traders in information, great shippers of data, distributors of sitcoms and news and advertisements. In the common reading of the world of electronic signals, the media is considered “global,” and the general impression is of a constant and ever-present net that can deposit information everywhere, disregarding boundaries. Our common and most recent experiences with the Internet seem, at first blush, to confirm and underscore a belief that data careers around the world from server to server, in patterns that seem virtually impervious to purposive planning or political and legal intervention (Volkh, 1995). Sender and receiver are linked in ways that appear indifferent to the route or mode by which they are connected. The obsolescence of boundaries is reinforced. So, too, has been the effect of the seamlessness of telephony in the developed world, obliterating distance and time. In telephony, transmission pathways seem invisible, or at least irrelevant, to the substantive decisions of most users. Although users are almost never conscious of it, all these modes of communication (postal service, telegrams and telephones) required the construction of international systems of regulation. Assurance of adherence to worldwide standards was a condition for their instantaneous nature and compatibility. The predominance of the West in terms of development and control of access to technology dictated the change in structure of international communication, putting pressure on non-Western members to Westernize, in order to comply with the prevailing system’s bureaucratic rules.¹

Central to this vision is the idea that the world's electronic umbrella is such that information and data are ubiquitous, capable of distribution everywhere, even if there are inequities in the manner and pattern of uploading and gaps in the earthbound infrastructure to receive them. But satellite routes for the distribution of images—even though digitally communicated—are neither entirely random nor random in the sense of indifference to historic and arbitrary boundaries of nation-states. Rather, as with their nautical counterparts for ports of call, certain orbital slots for communications satellites have advantages over other information routes. It is no longer fear of pirates or factors equally cinematographic that help determine a choice of passage. Nevertheless, issues of security in carrying goods (in the case of the satellites, information) over long distances in unpoliced areas (here, the upper atmosphere) are just as apparent now as they were to the historical trade in material goods. Similarly, satellite technology generates the need for zones of neutrality, though here we look at the allocation of orbital slots and issues of international regulation, rather than the neutral ground for trade provided by ancient ports of call.² What the new factors are, and how governments and businesses interact to shape the value of one route as opposed to another, are still open questions. Because these routes leave no marks and little in the way of associated activity, how these routes develop—and the impact of having one route rather than another—have not been examined.

Information is so valuable a commodity in the late twentieth century, and trade in information such a growing part of world balances and deficits, that it is productive to examine the metaphor of trade routes as a means of understanding current practices in law and regulation. It is for that reason that this chapter looks at the history of early eighteenth-century shipping routes as a source for common themes and major differences. This chapter, thus, explores the conceit that satellite patterns are trade routes that have their own agonizing histories and their own differentiated impacts. In the past, a trade route was an associated set of points which permitted ships to travel, receive coal for refueling, and to provide water, food and recreation for the sailors—in short, all stops necessary for goods to travel from Location A to Location B (and C and D), usually with the return of other goods (raw materials or manufactures). A good part of the history of colonialism can be read as the efforts of manufacturing and trading states to gain power or sovereignty over these points that were key to the maintenance of trading routes.

Along the coasts, these harbors were links in a complicated chain. Often, first a monopoly trading company and then a colonial power gained full dominion and sovereignty over the particular points in the trade routes (Auber, 1828; Horrabin, 1936; Juriaanse, 1943; Van Cleef, 1937). There were negotiations between the trader (or the government of the trader) and the local authority (king, tribe, city or otherwise). The reliable existence of

these points was essential to investment and to the success of the trade. Sovereign entities often sought certain benefits for the concession, sometimes financial, sometimes otherwise (Kumar, 1996; Quiggin, 1949; Raychaudhuri, 1962). Points on ancient trade routes were valuable because raw materials could be added there as vessels moved from place to place. Since ancient times, trade routes favored ports that opened up to large consuming markets as well as ports where raw material could be taken on.

Today, satellites and their orbital slots constitute the points necessary for delivery of video (and other) signals over long distances. The trade route that information follows is superficially very different from its nautical predecessors. Because the process is electronic, painless, free of manual labor, and invisible, no novels—science fiction aside—will be written about information trade routes. No Herman Melville of global transmissions will arise. Lives are not risked. No coaling stations are required as intermediate stops between the original ports of debarkation and the ultimate ports of call. The economic need for two-way traffic is diminished because the costs of an empty ship returning are not present. With respect to the information colonies, the new order seems to deliver a manufactured product but appears not to obtain raw materials, a pattern strikingly different from the eighteenth-century model.

Yet the similarities between ancient trade routes and modern ones have the potential to instruct. The current powerful generation of communications satellites is located in a precise and limited geostationary orbit above the Equator, the only orbit that allows continuous contact between a satellite and a single ground station. Slots on this orbit are finite and, as a result, contested, bargained for and, to some extent, colonized (Finch, 1986). Particular orbital slots are often more important than others because of the particular terrestrial footprint a satellite can reach from those slots. A footprint that reaches a vast population or a wealthy population or a politically important one can be more valuable than one that does not. Governments seek to use such natural advantages as their terrestrial location to gain greater economic leverage, for example, more favorable orbital slots. Control of routes may be used to control the nature of the cargo—what information is carried (European programming, public service programming, anti-government programming) and what legal constraints are imposed (for example, indecency regulation or prohibitions on subversion or the advocacy of terror). Improvements in satellites add further complexities, just as changing shipping technologies did in seventeenth- and eighteenth-century trade routes.³ There are moments, too, when existing patterns of trade routes are altered, sometimes permanently, by war, new technology or changing patterns of consumption. For the traditional trade routes, the opening of the Panama Canal or the Suez Canal reduced once important points on the trade route compass to impotency and brought new sites to prominence. Transitions from one direct broadcast satellite

format to another or the introduction of communication satellite paths that do not rely on geostationary satellites may also change the relative value of orbital slots. Governments maintain the value of some orbits (their favored ports) rather than others by outlawing some receivers so as to preserve and enforce their determination as to preferred orbital slots and satellite systems (Price, 1994). They place pressure on channel service providers (the new networks) to use favored carriers, like Spain favoring Hispansat or Egypt Nilesat or Turkey Turksat. These deliberate governmental interventions increase the value of some trade routes and reduce others to nothingness. Low earth orbital satellites, much greater in number, with very different characteristics, may replace old technologies; and, combined with the Internet, may render existing attributes of value less reliable. Trade routes have always defined markets. They enrich the immediate environments of the ports of call by creating subsidiary needs for commercial support, such as the building or maintenance of ships or the provision of housing for those who came to ensure the security of the routes themselves. The route itself implied a particular form of trade, a scope of trade, a set of demands that were the very product of the route.⁴ The opening of new routes in the sky for the distribution of images has radically altered the strategies of transnational corporations, just as the opening of new eighteenth-century routes altered the strategies of their equivalent business entities. These new routes in the sky also require new definitions of markets, as when states use the capacity of the new technology and the routes that are made available to reach out to their diaspora populations.

All of this suggests the need for a richer understanding of the geopolitical, economic, and technical factors that determine who controls which orbital slots, what satellites gain access to those slots and what program services are actually carried. Much of the literature of globalization deals only with the last point and its supposed cultural impact. But an understanding of the infrastructure—the way satellite routes come into being and are regulated—is necessary for an assessment of the consequences of information and entertainment flows. One way to begin this process is to examine some examples—small case studies—of the differentiation of satellite patterns. These examples help show how the struggles of users, governments and the international community mirror similar events in earlier efforts to control paths of commerce.

TONGA AND CONTROL OF ORBITAL SLOTS

A first example involves the Kingdom of Tonga, a bold pioneer in creating political control of orbital slots and turning that control to economic advantage (Ezor, 1993). In the late twentieth century, bureaucratic wiliness, not armed force, allowed Tonga to accomplish its objective of becoming a power in information routes. Assertions of the right to control these ephem-

eral harbors for the shipment of data must traverse the International Telecommunication Union (ITU) and its World Administrative Radio Conferences (now known as WRCs). Modern bureaucracies, not distant potentates, determine the existence of routes. It is neither papal decrees nor regal ordinances, but bland officials in Geneva that organize lines on maps of commercial consequence (Thompson, 1996). The dominant figures in the battle for control over orbital slots wear suits, shirts and ties, not naval uniforms. Trade routes emerge because of complex compromises and interrelationships among issues, not the sheer exercise of cannons or the clever use of sophisticated maps.⁵

Tonga has been one of the most dramatic actors in the process of acquiring orbital slots. Tonga was once representative of the point of view that equatorial nations ought to have preferred access, almost by natural law, to the geostationary orbit in outer space above. The equatorial states asserted this right in the 1976 Bogotá Declaration (Gorove, 1991). The view was argued in contrast to the strongly asserted position of the industrialized West that outer space was a kind of public domain not belonging *a priori* to any state. The view of Tonga and others conflicted with international precepts that favored the highly developed nations by allocating orbital slots to those countries first to have the financial and technological resources to use the slots for satellites.⁶

In the 1980s, the ITU adopted a policy that, while rejecting the assertion of the equatorial nations, did establish a process for claiming an orbital slot which sought to leave some leeway for developing countries. Member states could file their intention to use a slot. Then, if they in fact used it within a reasonable period, they would actually have control of that slot.⁷ Tonga used this paper filing opportunity more than any other country. It obtained claims on seven valuable slots even without drawing on its status as an equatorial state. As with their counterparts, the terrestrial trade routes, Tonga transferred use of its space to others, private telecommunications corporations, for economic benefits. Because neither the ITU nor the "paper-satellite" countries had any means of policing the slot once a corporation launched its satellite there, the orbital slot effectively became a commodity controlled by the leasing corporate entity.

By 1997, the international community, at the ITU Radio Conference, modified the procedures to lessen the likelihood of Tonga-like occupation or warehousing of orbital slots. The 1997 plan shortened the length of time a satellite application could remain on file from nine years (six plus an automatic three-year extension) to seven years (five years plus a two-year extension, conditional on an indication that a satellite was not launched despite good faith efforts to do so). Still, an effort to impose financial prerequisites for the posting of allocation claims was beaten back. Language endorsing "equitable access" was retained, recognizing some desire to ensure representation for developing countries. This compromise measure

gained support from Tonga and other equatorial countries. It was also favored by satellite businesses that preferred using these countries as ports of entry, rather than other, more truculent and difficult holders of orbital rights.

In March 1998, the national satellite company of Tonga, Tongasat, together with Russian-owned and registered Inspace Corp., announced a plan to launch an ambitious fleet of satellites to serve the Asian Pacific region, and perhaps beyond, using Tonga's seven ITU-registered slots. This "paper-plan" to use paper-satellites, if it were to occur, would have made Tonga a major telecommunications service provider, allowing the country to realize the profits of using its orbital slots, rather than only the income from selling the airspace (Keith-Reid, 1998). This plan has not been realized.

Think of this Tongan experience, repeated elsewhere, in trade route terms. A geographical location (be it an ocean port or an orbital slot) might have the potential to be of great value to traders. For it to become an active site within a trading pattern, however, requires more: a degree of investment, security, establishment of a physical port with attendant facilities. Tonga had gained the right to a slot, but only with further activity could that slot actually become part of a route that would bring financial and other benefits to Tonga. Sione Kite, then-managing director of Tongasat said, "We will prove the world wrong. They never expected us to have satellites up there in their wildest dreams."⁸ Tonga's creative use of the definitions of "rights" to orbital slots is a gloss on the idea of the West's technological dominance in the demarcation of satellite use. We could compare revisionist historical accounts that criticize the predominant view of European dynamism in the demarcation of terrestrial trade routes from the seventeenth century onwards.⁹ It is probable that some important traditional ports, part of the complex of seventeenth-century trade routes, gained their significance not through selection by the East India Company or its counterparts, or by location alone, but by the initiative and ingenuity of preexisting political forces.

Ironically, the United States, which had been one of the strongest critics of Tongasat on the international scene, indirectly acknowledged that speculation in orbital slots was acceptable. The United States did this in 1996 through the auctioning by the Federal Communications Commission of an orbital slot for direct broadcasting services (DBS), alleged at the time to be the last DBS slot capable of "seeing" all of the continental United States. MCI agreed in 1996 to pay \$682 million for this slot—a staggering sum that reinforced the point that some points on trade routes are more valuable than others.

The MCI DBS auction purchase also illustrated another point about orbital slots: that numerous countries may have claims to similar slots, leading to potential conflicts as we move in communications to a world with new mapping and new forms of boundaries. After MCI agreed to pay the

huge price for its DBS slot, other companies suddenly became interested in Canadian and Mexican slots that offer the potential for a footprint that covers most of the United States, therefore theoretically able to reach the most lucrative audience in the world. This aspiration for competing slots would have been based on the general U.S. position that the distinction between the “domestic” and “international” satellite systems was no longer a meaningful one. The U.S. effort has been to establish the principle, largely based on the WTO agreement on telecommunications, that satellite transmissions should not stop at national borders. MCI was not pleased to find out that others might receive—for free or at greatly reduced prices—orbital slots somewhat similar to the one that MCI bought with a promise from the United States that it was the “last” of its type. Of course, MCI’s unhappiness in this regard may be an illustration of a point that applied to trade routes as well: Investing heavily in one trade route for profit is usually accompanied by efforts to ensure that competitors cannot establish a route in the immediate vicinity.

The story of Tonga is, of course, an anomaly. As with trade routes of the past, it was not the actual, physical, terrestrial route or the points of transportation that ultimately counted, but the economic and political forces that controlled trade along those routes. Even if orbital slots are widely distributed among states, the arrangements to control satellites themselves, and the ultimate predominance of the West in the satellite trade, makes the analogy to the past more striking (Curtin, 1984).

COMPETITION TO CONTROL THE SATELLITES

Let us, thus, turn from the orbital slots themselves to the satellites that fill them. If the slots are the trade route equivalent of ports of call, then the satellites can be likened to the great trading vessels, especially when the entire system of uploading and downloading of signals is taken into account. Here there are many dramatic stories. One of the most dramatic involves the effort of private corporations seeking to break government satellite monopolies, mirroring, perhaps, swashbuckling efforts to enter government-controlled trade in the eighteenth century. Take, for example, the long struggle of Rene Anselmo, creator of the fiercely independent PanAmSat, a U.S. private satellite operator later associated with Hughes Electronics, against the intergovernmental body that has been Intelsat. Anselmo saw that Intelsat, concentrating on the satellite transmission of data and telephone messages, was ignoring a trade opportunity for the shipment and distribution of broadcast signals through satellites. Anselmo saw an unserved geographical market as well, using satellites to link the United States to Latin America and to link parts of Latin America to one another.¹⁰

Intelsat, like the trading companies of old, used government power, treaties, discriminatory pricing and other techniques in the late 1980s and early

1990s to maintain its monopoly and squelch PanAmSat and Anselmo.¹¹ PanAmSat used a clever capability of navigating various government bureaucracies and banking firms to gain a foothold. The existence of these carriers meant new markets. The boom in global broadcasting channels, such as CNN, meant a profitable cargo source for PanAmSat.

The rise of the deregulatory mentality endorsing the theme of competition and of multilateral trade agreements in which government restrictions would be reduced, magnified opportunities for PanAmSat to deliver its signals to earth stations in Europe and elsewhere. In a cocktail of his own metaphors, Anselmo wailed about the monopoly in 1990 when he sought greater freedom to carry data over his system as well as video channels: "We were sent into battle with this monstrous worldwide telephone cartel with both hands tied behind our back. . . . Intelsat's response to PanAmSat was to launch a global boycott of the company, lobby to prevent and stall the launch of our satellite, and start a war of predatory pricing to drive us out of the market. And that was only the tip of the iceberg of unfairness that they have thrown at us."¹² Once the monopoly was avoided, Anselmo's company succeeded wildly, challenging the rules of access and use of trade routes in the sky.

There are many other stories about the use of control over satellites to gain the profits of the trade, other chapters in the drama of establishing empires of the sky. In the 1990s, Luxembourg's Societe Europeene des Satellites (SES) came into existence with its Astra satellite series offering the most aggressive opening to a broadly European audience. This satellite company is responsible for more than 75 percent of Europe's direct-to-home audience. Again echoing the history of trading companies, a consortium of banks with substantial public investment owns it.¹³ At the end of the decade, SES was in high-stakes, fierce competition for a single point on the geostationary orbit, the valuable 29 degrees east satellite position reaching Europe.¹⁴ SES claimed the right to that airspace, based on varying interpretations of a 1997 World Administrative Radio Conference Agreement, but so had Deutsche Telekom. Both had already placed satellites in that airspace in dangerous proximity. Eutelsat planned to launch a third within that same 28–29 degree space by the year 2000, violating the norm that satellites are usually positioned at least three degrees apart.¹⁵ With the ITU as decision-maker, SES obtained the slot.

A third element of the infrastructure involves the programming services that use the satellite, much like the shippers whose cargoes filled the vessels of seventeenth-century trade routes. Just as those trade routes reorganized markets for goods, satellite footprints reorganize markets for information. There are numerous examples of trade routes creating the possibility of trade and of physical distribution patterns inspiring new approaches to them. One recent example is Alfa TV.¹⁶ Established by 25 countries in Central and Eastern Europe and the former Soviet Union, Alfa TV was

proposed as a multilingual channel “to promote cooperation and reconciliation” in the region. With the support of the European Parliament and the European funding project called Eureka Audiovisuel, its task would be to use films and other cultural programs to reach an audience estimated at 400 million viewers, from Finland to Azerbaijan. Like other trans-European channels, such as the German-French Arte and the regional Euronews, Alfa-TV is presenting itself as an alternative to the oft-cited flood of American culture. It is the existence of new satellite routes that makes Alfa-TV and its cohorts possible, just as it was the existence of the great new foci of Hudson Bay and Goa that created new forms of cross-cultural imagining, respectively, between English, French and Native American fur traders or Portuguese, Asian and African in earlier times. Like these centers of trade, which were not exclusively dominated by any one cultural group, alternatives such as Alfa-TV resist the imposition of one cultural model in the ever-expanding stream of information available by satellite (Curtin, 1984).

THE LAW OF SATELLITE TRADE ROUTES

One of the most intriguing questions is whether particular trade routes—historically or at present—are selected not just for their geographical span, but because of the legal environment that surrounds them: whether there is a relationship of pathway to law, and law to cargo. Points within distribution patterns traditionally have barred certain cargo or put them in quarantine (one can think of animals or seeds or people). Such rules may have made some routes preferable to others. Now we can ask how governments that have control over an orbital slot regulate its use to affect the cargo in programming. In 1993, for example, the Secretary of State for what was then National Heritage (now Culture, Media and Sport) in the United Kingdom sought to block the marketing of subscriptions to allegedly pornographic broadcasts arriving in the country via direct broadcast satellite (i.e., a signal that came straight from a satellite to a small receiver at a person’s home or place of business). The particular route selected for the delivery of the service, called *Erotica Rendez-Vous*, involved the “uplinking” (the sending from the ground) of the signal from France to a transponder within the Eutelsat satellite system for transmission into the United Kingdom.

The route selected meant that the legal structure of the European Union applied to this transmission, especially the 1989 Television Without Frontiers Directive. Under that regime, the law precludes officials in the recipient country, in this case the United Kingdom, from unilaterally prohibiting the programming, as could have been the case had the programming originated from outside the European Union. Because of the trade route selected by the programming source, the United Kingdom was obliged to mediate with the host authority, in this case France, to discuss its official finding that

British standards were violated. Under the European law applied to images distributed within the Union, if distribution of *Erotica Rendez-Vous* is lawful in the country of origin (or where the sender is established), then under the Directive, UK officials cannot act alone to block it. The European Directive gives member states the power to “suspend retransmission” of a service (originating from within the Union) only if it “manifestly, gravely and seriously” harms children by “impairing their moral development,” as defined in Article 22 of the Directive. The United Kingdom and France may have sharply different views on what constitutes manifest and grave impairment of a child’s moral development.¹⁷

It is still somewhat unclear what British officials can do, even with a domestic law that provides the secretary of state to “proscribe” a foreign satellite service deemed to be “unacceptable.” Many are the voices that say that regulation of programming as cargo is not only indefensible, but also technologically impossible. Still, the British government can preclude cable television operators from carrying a violating signal that arrives via satellite; it can try to prevent the sale of decoders and it can make it a crime to market a proscribed signal or to advertise in connection with such a signal. What it cannot actually do is make the signal itself go away. In terms of trade routes, the significance of European law is that the transportation of signals from one country within the Union to another is a trade route with a law of content that differs from a trade route that originates outside the Union.

MED-TV

A quite different story about the cultural and political implications of the choice of trade route involves an extraordinary satellite service called MED-TV. MED-TV was established in London to distribute programming via satellite to the Kurdish population worldwide. MED-TV especially sought to reach Kurdish minorities in Turkey, Iran and Iraq. Its programming, produced in large part in Belgium, was a mix of news, entertainment and education, important to a historically diasporic community of 35 million engaged in, among other things, trying to rediscover and redefine Kurdish nationhood and reaffirm its language and culture. Naomi Sakr has called MED-TV a “kind of Kurdistan in space,” as it provided a culturally unifying function despite the lack of a Kurdish homeland or single territorial base. Satellite broadcasting has proven a superior method of information exchange amongst Kurdish people because it neither relied on literacy (levels remain low, especially among women who remain in the home) nor involved complications of print media ranging from unstable mailing addresses to state censorship and circulation prohibitions. The service was also relatively inexpensive and was obtainable even in remote villages (Sakr, 1999).

Not all saw the implications of MED-TV in such a positive light. Turkey viewed MED-TV as virtually the media arm of the PKK, the separatist Kurdish force that has been engaged in armed conflict with Turkish government troops and has been deemed by Turkey to be a significant threat to the integrity and indivisibility of the country.¹⁸

For an entity like MED-TV, selection of a trade route for the distribution of its images was a complex matter. It sought a mode that would involve the least possible intervention, either directly by Turkey or by other governments at Turkey's behest. For example, its transmission was originally on the Hotbird satellite. But for viewers to turn their receiving dishes to Hotbird meant they were conspicuous in comparison to their neighbors, whose dishes were turned to a different, Eutelsat-originated satellite, which carried traditional Turkish entertainment channel services. The difference in the attitude of the dish could be perceived by the authorities. To protect its viewers, MED-TV had to shift, therefore, from Hotbird to Eutelsat.

Another element of political choice of route arose from the very transponders on the Eutelsat system that would be used by MED-TV. Access to Eutelsat's transponders, given the structure of the satellite service (it is owned by Eurovision, a cooperative effort of state entities), has political implications. These transponders are controlled by public agencies; the states that control those agencies have relations with Turkey. Stories were told of MED-TV securing time on a Slovakian-controlled time slot only to have the Turkish Foreign Minister obtain a cancellation through bilateral discussions. MED-TV was unceremoniously bounced from various transponders on Eutelsat and their contracts for access canceled. Put in trade route terms, because of the contraband nature/status of the cargo, the reliability of MED-TV's cargo arrangements was at risk.

One solace, an anchor, as it were, was MED-TV's license, or authorization to broadcast. Whatever their political goals, the choice of a relatively secure legal and political system that would govern the delivery of their information was one of MED-TV's most important goals and was a vital part of the strategy for obtaining transponder space to reach the relevant audience. The organization "established" itself in the United Kingdom, a technical term that meant that they were qualified, under British law, to receive a license from the UK's Independent Television Commission. This resulted in MED-TV's being subject to the ITC's content standards. However, receiving a British permit allowed MED-TV to claim that it met British broadcasting standards. This might, therefore, increase the chances that its programming would be subject only to legal, as opposed to extra-legal, constraints. At the danger of pushing the metaphor too far, the MED-TV decision could be perceived as a rough equivalent of flying the British flag on the main mast.

Turkish officials mounted an extensive campaign to pressure the British government to withdraw MED-TV's license and close the producer down.

They contended that MED-TV was a “political organization” and therefore, under UK legislation, precluded from obtaining a British license. In February 1998, the Independent Television Commission, charged with supervision of licensed entities in Britain, penalized MED-TV for three broadcasts, for a total fine of approximately \$150,000. According to the Commission, despite formal warnings, MED-TV violated the impartiality requirements of ITC’s programming code. In one breach, according to the ITC, a “40-minute long program consisted entirely of a political rally organized by the PKK.” The violation was that “No context was supplied and there was no balancing material.” In a second breach of impartiality requirements, MED-TV “seemingly endorsed” the on-camera condemnation of a United States list of terrorist organizations. A third transgression of the ITC’s rules (involving neutrality of journalists) involved “personal comments” from a MED-TV journalist in the field, namely a description of the more pro-government Kurdish Democratic Party as “treacherous and murderous.”¹⁹ Finally, in 1999, the ITC withdrew the license, finding that the station had too often violated standards of objectivity and impartiality. Soon thereafter, MED-TV closed down.

The point here is not the validity of the ITC decisions, but the legal and political consequences for MED-TV of choosing (or being forced by circumstances to choose) a particular route for the origination and transportation of its satellite-borne information. MED-TV, in fact, could be the poster-child for the idea that there are vital implications, in terms of the capacity to achieve a safe passage between sender and receiver, of the choice of path for transmission. MED-TV’s history has been one not only of British sanctions, but, within Turkey, specific army and police raids to destroy satellite receiving antennas that would be capable of retrieving the MED-TV signal. Those in charge of the Kurdish broadcasting entity were constantly searching for alternative means of assuring a route in which access to production facilities, uplinking, satellite access and downlinking into Turkey could be achieved as seamlessly as possible, free of government intervention.

Although MED-TV was on some levels a success, the hostilities toward it and the successful attempts to close it down, should prompt a reevaluation of some of the predictions for the potential of satellite communications. Channels like MED-TV are both “deterrestrialized,” meaning that they address audiences in multiple geopolitical territories, and “deterritorialized,” in that they may be based abroad, target primarily foreign audiences, and hire foreign nationals. The “deterritorialized” world can be seen as organized vertically into nation-states and horizontally into “overlapping, permeable multiple system[s] of interaction,” along lines of shared interests, opinions, beliefs, tastes, ethnicities and religions. For some time, scholars have been weighing the implications of the supposedly disintegrating value of territory. In 1961 historian Arnold Toynbee posited that

in the information age, diasporas could be "the wave of the future," supplanting the nation-state. Waves of information can serve to affirm nations that supersede existing states, or they can affirm the power of existing nation-states, reaffirming and relegitimizing their existence and their regulatory powers (Toynbee & Castells, cited in Verlhust, 1999).

States have passed stringent laws regarding access to satellite channels. These measures are imperfect at best: Cheaper and easier access to technology, from satellite dishes to wireless cable systems, enable the flouting of regulations such as the bans on satellite dishes in Saudi Arabia and Iran. Furthermore, sporadic enforcement of the ban in Saudi Arabia and declarations that the ban was unconstitutional in Iran have rendered these measures ineffectual. Even in Algeria, where a military coup in 1992 ended that country's political aperture, residents continued to turn to francophone news and analysis. Sharing satellite dishes and "improvised cabling" (read "stealing") further lower the cost of obtaining satellite transmissions. Governments can no more prevent the spread of this contraband than the Spanish viceregal government could entirely prevent the circulation of yellowing philosophical texts. Furthermore, technology allows its spread to happen at a much greater speed and reaches a much wider audience.

There is a much more powerful restraint on this spread of information than attempts to rid remote villages and urban shantytowns of their television access, namely control of the material being broadcast. Although access to satellite television can cost as little as U.S.\$10 per month, the start-up costs for a channel runs into the millions. The Saudi Middle East Broadcasting Centre (MBC) was half-jokingly referred to as "My Broadcasting Company," as within several years the financial support of private investors apparently shifted to King Fahd and his associates. As we have seen before, even those private channels broadcasting from outside the region (based instead in England, France or Italy, to circumvent state restrictions on content) are subject to international pressure exerted by incensed governments and the preferences and judgments of private management and investors. Power relations within individual states and between them drive satellite transmission in the Arab world in a far greater way than had been optimistically predicted.²⁰

ORBITAL SLOTS AS CULTURAL GATEWAYS

There are other examples, often trade related, in which countries have used slots from time to time to regulate access of information and entertainment to their populations, much as governments have often used ports of entry as a caliber of openness. Some countries, such as Malaysia, control trade routes by establishing a monopoly of information distribution in a favored orbital slot and restricting the use of the slot by limiting channel services to the control of those friendly to the government. Canada wishes

to enforce its Canadian cultural content effort by prohibiting its citizens from gaining access to signals that travel through orbital slots not under Canadian control. It has, in the past, sought to criminalize the sale of receivers that allow the receipt of signals from satellites in orbital slots of American origin. Iraq has prohibited and confiscated satellite dishes capable of receiving signals from the West, particularly transmissions thought to be culturally subversive. There is some distant affinity to trade routes here, in the use of points of entry to control the kinds of products that would otherwise pass to affected populations, or in other words, the use of the power of the trade route for cultural screening. The BBC published excerpts of recorded prayer sermons at Teheran University on September 16, 1994, by an Imam for whom screening and banning was essential:

Satellite transmission, broadcasting the programs of foreign television networks, is not designed to increase the scientific knowledge of nations. Rather it has been developed to mislead the youth. . . . They [the West] do not transfer their knowledge . . . [or] their experience of modernizing technology. What they transfer is something which drags families into corruption.²¹

Such cultural screening is by no means unique to the Islamic world. Almost two centuries ago, in its efforts to retain its tenuous hold on its American colonies, Spain prohibited the transport, sale and distribution of subversive documentation inspired by Enlightenment philosophy. National and international regulation of trade routes is a complicated matter. The debates discussed in the ITU on actual control of orbital slots, the concept of "equitable access," and the debate between the developed and developing countries over *a priori* and *a posteriori* approaches to regulation, have not been the only ones to arise. Twenty years ago in the United Nations, countries were already debating whether an international regime could be established that controlled the content in the trade of images. A sweeping draft convention would have imposed a set of substantive standards on satellite-delivered information, excluding from television programs transmitted by satellites "any material publicizing ideas of war, militarism, nazism, national and racial hatred and enmity between peoples as well as material which is immoral or instigative in nature or is otherwise aimed at interfering the domestic affairs or foreign policy of other States."²²

CONCLUSION

The complexity of corporate structures, the intricate relationships between business ventures and governments in the satellite field, and the difficulty of public accessibility of contracts for the transmission of program services, all turn the current, intricate patterns of transportation of satellite images around the world into a black box of unknown content. Scholar-

ship, partly as a consequence, has looked at what seemed most apparent about this traffic for a very long time, namely that programming has its source in values and in production in the West, often the United States, and its impact elsewhere (Schiller, 1976; Tunstall, 1977). But as this picture changes, details will be far more important, including details about the ways trade routes in imagery and data are shaped and restricted. This will have to include closer examination of how governments use such powers as they still attempt to retain control of the ways information is received within their borders, and how they use their control over orbital slots.²³ Not for nothing has the rhetoric of the global entrepreneurs, like Rupert Murdoch, changed from the claim of borderless skies to a claim of deference to states.

Trade routes, of whatever vintage, have always been constituted of a series of physical points where ownership or control has been vital. More than that, however, these points, taken together, had geopolitical implications as they transformed into ports, concessions, warehouses, colonies, sources of raw material and markets for products. For the old trade routes, any government or power seeking to maintain the value of any particular point along the route was expected to struggle for that point's exclusivity, its competitive advantage, or its access to raw materials or markets. Trade routes in the sky, too, have their elements of exclusivity. Orbital slots have increased value if they or the satellites that occupy them do not increase in supply or if the demand for them keeps exploding in volume. For the satellite routes, as for their predecessors, technology increases supply while participants seek to retain control and quasi-monopolistic power.

In the broadcast era, when terrestrial transmitters were the exclusive technology, international concern had, historically, been to avoid the possible invasion of the domestic space of one country from its neighbor, especially for propaganda purposes. There were exceptions, such as the implicit acceptance of short-wave radio as a space for transnational services, symbolized by the use of spectrum by the BBC, the Voice of America and hundreds of other external services. But bilateral agreements—for example, between Mexico and the United States—were designed to insure minimal intrusion along the long borders. In the Cold War, the Eastern bloc's choice of SECAM for its color television technology was a technological break with the West's PAL. With the recent inception of the post-Soviet era, the use of international pathways for external services, like Radio Liberty, has been freshly debated. There are new disputes about Radio Marti, directed at Cuba, and Radio Free Asia, directed, among other places, at China and Vietnam, showing that traditional technologies continue to play an important role in the transportation of political imagery.

For the first 50 years of broadcasting, the entire motivation of a virtually united international community was to establish trade routes that assumed a national gatekeeper. With some important exceptions, "harm" was

largely defined as the intentional spillover of spectrum use from one national zone into another. Terrestrially, the use of directional antennas, the reduction of power and the careful designation of spectrum were sufficient largely to accomplish the international consensus. As a 1930s international covenant put it:

The High Contracting Parties mutually undertake to prohibit and, if occasion arises, to stop without delay the broadcasting within their respective territories of any transmission which to the detriment of good international understanding is of such a character as to incite the population of any territory to acts incompatible with the internal order or the security of a territory of a High Contracting Party.²⁴

Today, despite the fact that the technological capabilities of the satellite implicate issues of national identity, there is no international consensus on the rules that should guide the establishment of trade routes in the sky. The world is sharply divided into camps on how and whether to restrict routes by which that content gets delivered. Some consider that transportation in images should (indeed, must) be subject to national controls. Malaysia and India, in recent broadcast reform proposals, require that any information or imagery that is sent down from a satellite to people within its borders must first arise from within the territory, a so-called uplinking requirement. The tendency of some countries to require uplinking within their boundaries is an example of what Saskia Sassen has called reinstalling the local (Sassen, 1996, 1998). Despite the dizzying potential for free exchange of information available through satellites, some states are attempting to assert a sort of digital trade monopoly, exclusively controlling the exchange and distribution of information transmitted by satellite, or at the very least its points of entry and departure.²⁵

On the other hand, multilateral trade negotiations which resulted in the World Trade Organization have dramatically asserted the idea of reducing barriers to free flow of services, including information and programs. The position has often been sounded that free trade in goods and economic growth is not possible without a free trade in information. As part of the ideology surrounding these multilateral negotiations, government restrictions on transmission of imagery and programming whether tied to national assertions or not, are condemned as violations of the human right to receive or impart information. The U.S. position, consistent with these views, is generally to assert that access to orbital slots, to licenses, and to markets should be as free as possible of public regulation. But, as we have seen, free trade does not necessarily mean random patterns of distributing information.

These new trade routes are not visible, linear, nor functionally evolved from prior methodologies. Invisible and "post-modern," the new routes will break some traditional categories, but reinforce others. They will criss-

cross regional lines, produce information spills such as pornography on the Internet, and allow diasporic groups to communicate among themselves. Seemingly indivisible by national boundaries, these routes prod existing sovereigns to search for ways in which these borders can be rehabilitated. They are almost solely about trade in information, though trade in information leads to changes in trade and development of physical products. Enveloped in technology, masked by complexity, it is apparent that the configuration of these satellite routes have an important relationship to democracy and culture and to the spaces for public debate. A focus on the details of these structures of distribution, the satellite routes of the distant firmament, is a necessary aspect of communications studies in the future.

NOTES

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1. Until the mid-nineteenth century, international, long-distance communication could be on the order of years. Steamships, canals and train reduced the lag to months. But it was not until the invention of the telegraph cable that a same-day exchange became possible (Curtin, 1984). Telephones, and following them, the Internet, have reduced the time lag to seconds.

2. The ancient definition of the port, *portus*, is “a place through which merchandise is carried.” In this sense the routes and ports of the system of satellite communication can be compared to their terrestrial predecessors (Curtin, 1984).

3. The focus of this chapter is on geostationary satellites, which have been virtually the only kind of satellites operating commercially. Over the next few years, however, commercial operations by low earth orbit (LEO) satellites will commence. For these satellites, the concept of orbital slots is entirely irrelevant, but the concept of orbital planes may nonetheless make the trade route metaphor relevant. The orbital paths taken by LEO constellations are not randomly selected, but rather are intended to traverse the major population zones of the world. In addition, the satellite themselves typically are designed with steerable antennas, which enable them to focus on populated areas even as the satellites move in and out of direct viewable range.

4. The classic example is the “spice trade,” the route from China and Southeast Asia through to Europe developed by Asian, Middle Eastern and Mediterranean traders. Only comparatively small quantities of pepper and spices, in comparison to other cargoes, were transported along this route, but their high ratio of value to weight not only made the trips worthwhile (even circumnavigation of Africa or across the Pacific), but determined the routes and stops at ports of call as well (Curtin, 1984).

5. The ITU (originally the International Telegraphic Union) was established in 1865. It has sought to encourage cooperation among its member countries to improve global telecommunications and offer technical assistance to developing countries. Its Radio Conferences, held every second year, allocate orbital space to member countries.

6. This could be seen as contradictory to the first world countries' rhetoric of free trade, which they then circumvent by enabling a preference for industrialized nations with satellite-building capacities. A historical parallel can be found in late eighteenth- and early nineteenth-century British and French criticism of Spain's monopoly on trade with its American colonies. After Latin American independence, Britain and France then vied for exclusive trade concessions with the new nations, in seeming disregard of their earlier arguments for the benefits of opening markets to diverse foreign trade (Miller, 1993).

7. The ITU structure that exists for registration of orbital slots developed out of a telecommunications environment in which each country, including the United States at the outset, was the single monopoly carrier for virtually all telecommunications traffic. Intelsat was created by this "club" of carriers as a cooperative intended to establish satellite links among the monopolies, much as the same club members had created undersea cable links among themselves. The theory was that each country, through (typically) its government-owned monopoly, would control the domestic orbital slots over its own region, while Intelsat would control the international slots. The ITU orbital slot registration process made more sense when a telecommunications monopoly model existed than when a more open, competitive approach evolved.

8. "Tongasat Set to Lead Asian Satellite Consortium," *Communications Today*, January 19, 1998.

9. For example, Europe did not create the aforementioned links on the "spice route" between Asia, Africa and Europe, ultimately used for European benefit. On the contrary, the Europeans were late entries into networks of trade which had existed for almost a thousand years previously and had been evolving since. Shifts in political alliances and transportation technology did alter the importance and predominance of some ports (for example, overland trading routes through Central Asia being supplanted by maritime trade from Asia to Europe and Africa), but overall it was not geographical innovation on the Europeans' part, but the harnessing of new technologies, the creation of new trade structures and an increasing reliance on military strength to defend those structures that gave the West its predominance in world trade (Curtin, 1984).

10. In the late 1970s and early 1980s, as the owner of the largest U.S. Spanish-language television network, Anselmo sought to import Spanish-language programming from Latin America. Because the transmission of this programming would be international, the FCC required Anselmo's network to use Intelsat for the transmissions, even though U.S. domestic satellites were technically capable of carrying the traffic and would have done it at rates that were 50 percent or less of Intelsat's. Although the U.S. government eventually allowed some transborder communications via U.S. domestic satellites, Anselmo became so enraged that he decided to compete directly with Intelsat in the provision of international satellite services.

11. "PanAmSat Lobbies FCC for Greater Freedom," *FinTech Telecom Markets*, July 26, 1990.

12. There is an important relationship—illustrative of the legal creation of sites—between Anselmo's PanAmSat and the legal adventurousness of Tongasat. When Anselmo and others filed at the FCC in the early to mid-1980s for what were then called "separate system" licenses (because they were "separate" from the Intelsat system), the issue of orbital slots serving international routes first arose. If

indeed it would be possible to compete directly with Intelsat, then orbital slots over the oceans—which theretofore had been of interest solely to Intelsat—were suddenly of great potential value. Tongasat, led at that time by an American entrepreneur, was one of the first to recognize this potential and to recognize that the ITU's procedures essentially allowed any nation, no matter how small, to file for large numbers of these valuable slots.

13. Following a flotation, SES has a large number of Luxembourg-based shareholders as well.

14. This slot was valuable even though Astra already had six satellites at 19 degrees east for two reasons: First, they needed to have three degrees of separation or they have to share frequencies, reducing their value; second, because most DBS dishes are in a fixed position, the introduction of competition in delivery to those dishes undermines monopoly rent.

15. "Eutelsat Promotes 290 East Slot," *Cable and Satellite Express*, March 26, 1998 (p. 9), available in LEXIS < World Library, ALLWLD File; "Hostilities Resumed in SES-Eutelsat Star Wars," *Cable and Satellite Europe*, April 1998.

16. "Alfa TV—A Multilingual Satellite TV for Europe and FSU," *BBC Summary of World Broadcasts*, January 16, 1998.

17. *Regina v. Secretary of State for the National Heritage ex parte Continental Television BV*, April 30, 1993: [1993] CMLR 387 (dismissing an appeal from a denial of injunction to prevent the United Kingdom from banning reception, viewing and advertising of the pornographic channel Red Hot Television, emanating from Denmark).

18. "Turkey Calls on USA to End MED-TV Broadcasts," *BBC Summary of World Broadcasts*, August 30, 1996; "MED-TV Off the Air after UK, Belgian Police Raids," *BBC Summary of World Broadcasts*, September 27, 1996; "Turkish Premier Discusses MED-TV with Tony Blair," *BBC Summary of World Broadcasts*, December 19, 1997; also see Hassanpour (1995).

19. This history is recounted in Price (1998).

20. Sakr (1999), *passim*.

21. "Emani-Kashani: West Interested in Transfer Not of Technology but of Corruption," *BBC Summary of World Broadcasts*, September 19, 1994; The Middle East; Iran; ME/2104/MED, available in LEXIS < News Library, BBCSWB File.

22. Draft convention on principles governing the use by states of artificial earth satellites for direct television broadcasting. U.N. Doc. A/8771 (1972), art IV.

23. For a discussion of human rights and the Indian Broadcasting Bill, see Templeton (1998).

24. International convention concerning the use of broadcasting in the cause of peace, September 23, 1936, Art. I, 186 L.N.T.S. 301.

25. The structure of Spain's restrictions on trade and exchange with its American colonies serves as a historical parallel (Zahedieh, 1986). Of course, as Zahedieh demonstrates, non-Spanish traders and others who wished to exploit the system soon found ways of circumventing crown regulations, for example, by striking deals with merchants in Seville or Cádiz to deliver non-Spanish manufactured goods to or raw materials from the colonies, all through the legally-defined "Spanish" ports.

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