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GLOBALIZATION, STATELESS CAPITALISM, AND THE INTERNATIONAL POLITICAL ECONOMY OF TONGA'S SATELLITE VENTURE

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Globalization has led some Pacific Islands countries into ventures that use their sovereignty to advance private interests against regulation by metropolitan states. Tongasat, Tonga's innovative satellite enterprise, is one such recent initiative in "stateless" capitalism that has deep structural similarities with flags of convenience and offshore tax havens. The microstate has claimed a disproportionate percentage of geostationary slots and succeeded in filling a number of them. Tongasat's emergence is analyzed in terms of the contemporary world-system, declining U.S. hegemony over the global satellite regime (creating opportunities for independent entrepreneurs), and the end of the cold war (making inexpensive Russian satellites available for commercial uses in Tonga's slots). Tonga's satellite venture has benefited members of the ruling elite but made few contributions to the country's internal development. Tongasat has been at the vanguard of moves toward privatization, deregulation, congestion, and conflictual competition in outer space.

The current period of globalization is not simply a continuation of the expansion of capitalism and the West. If one wanted to fix its specific point of origin, it would be the first successful broadcast transmission made by satellite.

—Anthony Giddens (1994:80)

> *I see myself in the tradition of merchant princes. Tongans are pragmatists, some might say opportunists. . . . The essence of all this is that Tonga doesn't have a foreign policy. . . . I don't believe in policies.*
> —His Royal Highness Crown Prince Tupouto'a,
> then Tonga's Minister for Foreign Affairs and Defence
> (quoted in Bain 1993:101, 107)

THE CURRENT PHASE OF GLOBALIZATION has led some Pacific Islands countries into ventures where their sovereignty is used as a resource to advance private interests against regulatory attempts by metropolitan states.[1] Tonga's innovative satellite enterprise is one of the most recent initiatives in stateless capitalism:[2] the small nation claimed a disproportionate number of geostationary slots and succeeded in filling a number of them. This venture has deep structural similarities with flags of convenience and other offshore services provided by other Pacific Islands jurisdictions.

The present article offers the most complete account of Tonga's satellite enterprise so far and is the first to examine it from the standpoint of international political economy. Law review articles have recognized the great significance of the "Tonga issue" for the future of global telecommunications. They emphasize the implications of a country with no satellite capability of its own being able to secure slots for the purpose of warehousing, leasing, or even auctioning them (Delzeit and Beal 1996; Ezor 1993; Riddick 1994; Thompson 1996; Wong 1998). However, these law review articles treat the issue formally and legalistically, with no more than thin or superficial descriptions of the actual details of Tonga's satellite venture.

Origins: Tongasat and the Global Satellite Regime

On 23 March 1990 the government of Tonga registered its claims on sixteen of the most valuable unoccupied orbital parking places for geostationary satellites.[3] Such space vessels can link Asia, the Pacific, and the United States —a range stretching from Saudi Arabia to Hawai'i and from north of Russia to south of Australia—encompassing over sixty countries, most of Asia, and at least two-thirds of the world's population. The traffic between the United States and Asia alone generated about US$3 billion a year in revenue at the time and was growing rapidly. Tonga claimed almost 9 percent of the world's total of 180 slots.

Three years before, in 1987, Dr. Mats C. Nilson, a forty-eight-year-old American from San Diego who had looked into the possibility of retiring to Tonga after the death of his wife, had begun lobbying King Taufa'ahau

Tupou IV to file for the orbital slots. Friendly Islands Satellite Communications Limited, a company more commonly known as Tongasat, was registered on 16 February 1989 to be Tonga's exclusive agent in satellite matters for fifty years. Leasing each slot to television, telephone, and communications companies was to bring an annual rent of about US$2 million apiece (or US$32 million for all sixteen). According to the income-splitting formula Nilson and the king discussed, the venture would increase government revenue by about 25 percent. Nilson, Tongasat's managing director, and his compatriot Jerry Fletcher, a former beer distributor in Nuku'alofa,[4] who (like Nilson) had moved back to the United States, each owned 20 percent of the company, with Tongans holding the remaining 60 percent. The king did not want to be directly involved in owning or managing the company and recommended his daughter as a shareholder to Nilson. Her Royal Highness Princess Salote Mafile'o Pilolevu Tuita became chairman of the board and 40 percent shareholder, while Kelepi Tupou, a Nuku'alofa accountant and distant relative of the king's, was the other founding shareholder, with 20 percent. Tupou died soon after, leaving his shares to the princess, who would later emphasize that her investment had been intended to avoid the government's exposure to risk and to produce profits that she could give to the Red Cross, the hospital, and Vava'u's water system in Tonga (*Australian,* 7 March 1995).

Nilson had temporarily retired to Tonga for two years after making enemies in the United States. In the early 1980s he had obtained a U.S. license for two Ku-band slots for Advanced Business Communications Inc. (ABC) and enlisted a Hughes Aircraft Company subsidiary to build and operate satellites to rival Communications Satellite Corporation (COMSAT).[5] The U.S. Congress had created COMSAT in 1962 to control certain satellite services and dissuade Third World states from relying on the Soviet Union for them. Hughes withdrew from the deal with Nilson before any satellite was launched, however, because on 31 January 1985 the Federal Communications Commission (FCC), faced with an increasing number of applicants for fewer available slots, withdrew the permission it had given to ABC. The FCC contended that ABC did not have committed capital sufficient to make use of the license, as satellites might cost upwards of US$100 million each. Two years later Nilson retired to Tonga, where he developed his new entrepreneurial scheme.

Nilson identified aspects of international laws that give disproportionate powers to sovereign microstates. The number of satellite slots is limited by international law to prevent interference between satellites, but the slots can be reserved at no cost by nearly any sovereign nation on an essentially first-come, first-served or squatter basis. Control over orbital slots determines who has the right to launch satellites serving a particular region. Under interna-

tional law, satellites using the same spectrum of frequencies can be no closer than two degrees in longitude apart (1,488 km or 916 miles) to prevent radio interference and collisions, thus limiting the number of slots to 180.[6]

International law also provides that any government has the right to reserve any unused slot simply by registering its intention with the International Frequency Registration Board (IFRB). The IFRB is a quasi-judicial division of the International Telecommunications Union (ITU), the United Nations agency that (under different organizational names) coordinates the orbital positioning and radio frequencies used by satellites to avoid physical or electromagnetic clashes. Tonga has been an ITU member since 1972. Orbital slots are allocated on request either to individual sovereign governments or to the International Telecommunications Satellite Organization (INTELSAT) on behalf of more than 125 sovereign governments that are members. Tonga is not a member of INTELSAT, but as a sovereign state it can make claims directly to the IFRB—at no cost and without having to demonstrate any financial resources.

Nilson had worked at INTELSAT as its chief strategic planner until 1979. He had noted a major flaw in the organization's strategy: it was not claiming slots in the fast-growing Asia-Pacific region (*Forbes,* 12 September 1994; Reuters, 29 August 1990). INTELSAT apparently had not thought it had competition for, and consequently neglected to reserve, the sixteen orbital slots subsequently claimed by Tonga. Five INTELSAT member countries protested to the IFRB that Tonga was breaking customary law and subverting the IFRB's goals of maximizing global communications by the island nation's desire to warehouse slots until they could be leased for speculative profits.

Geostationary satellite orbits and associated radio frequencies are seen by most observers as becoming ever more scarce, despite technical advances that temporarily increased supply (Straubel 1992:206; Thompson 1996:284). Satellite slots are allocated by a global regime that claims to consider them resources owned by all but in reality has given the overwhelming majority to highly regulatory core governments on the premise that these can arrange for the slots to be used most readily and effectively. Almost half of geostationary slots are occupied by U.S.-owned satellites.

The Third World has been relatively unified and effective in gradually changing the rules of the global satellite regime since the early 1980s. There is increasingly favorable treatment of claims to slots by less-developed countries, even though they may lack internal funds to launch satellites and thus need to locate external finance. Inadvertently, this change favored Tonga and strengthened its position in relation to INTELSAT, whose rhetoric of public service must be viewed in light of its goal of producing at least a 14-percent annual profit for holders of its shares, most of which are owned by

core countries. Tongasat emphasized from the outset that its telephone, radio, television, fax, and data transmission services were to be complementary (not in competition with) INTELSAT's (*South Sea Digest,* 13 April 1990), but on 28 August 1990 INTELSAT petitioned the ITU to change communications law to thwart Tongasat (*Matangi Tonga,* August 1990).

Washington, D.C.–based INTELSAT, created in 1965 out of the same American anticommunist agenda as COMSAT (which has effectively controlled it), continues to see Tonga's claims as a dangerous challenge to the world regime in telecommunications. This regime has been effectively controlled by the governments of core countries (particularly the United States) through "gentlemen's agreements." From the standpoint of INTELSAT, Tongasat is a subversive intruder, unleashing forces that threaten to convert outer space from a realm of governmental (particularly American) hegemony into a relatively stateless market where orbital slots are leased to the highest bidders.

Tongasat has become a top-level concern of INTELSAT. Tongasat has contributed more to polemic in Pacific satellite circles than any other regional system in recent history because it represents a formal and substantive challenge to an important aspect of the contemporary world order. Another of Tongasat's antagonists, the U.S. Federal Communications Commission (through which INTELSAT transmitted its protests to the ITU), estimated that the market value for telecommunications traffic—including telephone, data, and television signals—between the United States and Asia totaled US$2.5 billion in 1989 and was growing at nearly 40 percent a year (*New York Times,* 28 August 1990). Even in the Asian economic crisis of the late 1990s the ITU estimated that Asian telecommunications traffic would grow more than 20 percent a year during the five years up to 2002 (*Asian Business Review,* August 1997). Total global revenues from space were US$85 billion in 1997 and are expected to grow rapidly to US$121 billion by 2000. Satellite revenues are predicted to explode—from US$9 billion in 1996 to US$31 billion by 2002 (*Economist,* 3 May, 24 November 1997).

One of the spheres in which the United States still has supremacy is the one surrounding the earth, where its military and commercial powers have not yet been challenged seriously. Partly as a result of effective control over international space organizations such as INTELSAT, the U.S. government has been able to subject transnational corporations using outer space to a variety of licensing requirements, fees, and regulations, since each satellite has been under the sovereignty of a nation-state and, until recently, all but a few operating satellites were heavily regulated by governments. Somewhat paradoxically, in an attempt to reassert American hegemony, two new U.S.-based companies attempting to take advantage of a more deregulated and

privatized satellite market quickly appealed to the FCC to stifle Tongasat. Columbia Communications (which is closely tied to NASA) requested that the FCC deny approval for earth stations that would use satellites in Tonga's orbital positions. PanAmSat proposed that the United States deny landing rights to airplanes communicating through Tonga's slots (*Islands Business,* February 1994; *Telecommunications,* August 1994).

A Flag of Convenience in Outer Space

Despite well-publicized rumors that the ITU would grant Tonga at most a handful of slots and possibly none (*Times* [London], 13 March 1991), in June 1991 the IFRB and Tonga agreed that the kingdom could retain six slots if it renounced its claims to the others. Tonga would retain rights to the six until 1999. Tonga soon added three more slots, for a total of nine—14.0 degrees East, 70.0 degrees East, 83.3 degrees East, 130.0 degrees East, 134.0 degrees East, 138.0 degrees East, 142.5 degrees East, 170.75 degrees East, and 257.0 degrees East. Two of the slots were still not entered on the ITU's Master Registry by 1998—as they represent first claim on slots not yet available (*Matangi Tonga,* April 1998; *South China Morning Post,* 17 June 1991; *Via Satellite,* February 1998). The footprints span from Europe in the west to the western coasts of the United States, Canada, and Mexico in the east, and cover Australia, New Zealand, and the Pacific Islands. Tonga became the world's sixth largest ITU-approved claimant on geostationary orbital slots, after the United States, the United Kingdom, the former Soviet Union, China, and Japan (*Matangi Tonga,* August 1994). Tonga also applied for twelve lower-earth-orbit slots (*Matangi Tonga,* May 1993, April 1998).

With a staff of six people and little capital, Tongasat is in effect proposing a flag of convenience for satellites.[7] This allows capitalists to escape or minimize heavy regulation and the direct and indirect taxation by the core governments that have hitherto controlled outer space. Like all flag-of-convenience registers, Tonga's fees are extremely low in comparison to the costs of doing business with the traditional powers that have dominated satellite communications. As in the tax havens providing maritime flags of convenience (mostly small Third World states), such fees may produce a substantial proportion of the revenues received by their governments and the urban elites that control them. As already mentioned, Nilson said Tonga's governmental revenues would increase by around 25 percent if Tongasat leased each slot for a mere US$2 million apiece per year. The venture might also considerably enrich members of the indigenous aristocracy who control Tongasat and the Tongan state. In 1990 the Tongan parliament approved a new tax rate of 10 percent for company headquarters (*South Sea Digest,* 20 July 1990); this reduced rate of taxation would appear to apply to Tongasat.

Many microstates provide havens from taxation, regulation, and disclosure and are important weapons in the arsenal of transnational corporations. Space remains one of the last bastions of American state hegemony, which created an ordered postwar realm of global governance under U.S. direction. American hegemony in most areas of international commerce, however, has been increasingly superseded since the early 1970s by a multipolar world in which transnational corporations play states off against each other to reduce taxation, regulation, and governmental control and where (since the end of the cold war) states act more like business firms (Tang 1995:574). Tongasat represents the first significant initiative to create stateless capitalism in outer space, presaging a realm increasingly controlled by powerful private interests with little or no allegiance to any constraining state or society.

Tonga's efforts to convert geostationary satellite slots into objects of financial speculation are more consistent with the New Right's notions of economic efficiency and reliance on markets than are the older standards of regulation and authoritative management by governmental agencies. Nilson had already identified what he regarded as an inevitable tendency toward deregulation, privatization, and multipolarity while working for INTELSAT during the 1970s.

The End of the Cold War

The disintegration of the Second World brought great transformations. Just as *glasnost* and *perestroika* encouraged a rapid transfer of Eastern Europe's maritime fleets from state socialist registers to flags of convenience offered by tax havens, so the cash-strapped Informcosmos, a commercial space-related organization in Moscow, reached an agreement with Tongasat on 20 July 1993. In August 1993 one of Russia's older Gorizont ("Horizon") satellites was renamed *Tonga Star 1* and moved into Tonga's orbital slot at 134.0 degrees East, where it began commercial operations in the following month. The economic crisis in post–cold war Russia meant little government money for even civilian telecommunications—and desperation among Russian satellite technologists to accept virtually any deal to keep the industry afloat. Since the former USSR possessed 1,198 of the world's 1,989 operating satellites (as of 31 June 1991), a considerable extension of such adventures in stateless capitalism could seriously undermine the entire regulatory structure of outer space.

Tongasat had already leased slots to Rimsat, a Fort Wayne, Indiana, satellite purchasing company incorporated in the Caribbean tax haven of Nevis. Rimsat was formed in April 1992 by three Americans: Michael A. Sternberg (a telecommunications consultant), James A. Simon (a wireless cable television operator in Indiana), and a leading communications attorney, Dr. Carl

B. Hilliard. The company was formed specifically to take advantage of Tonga's orbital slots and the sudden availability of relatively inexpensive Russian launches and satellites. Nilson initially acquired 11.25 percent of Rimsat to complement his 20 percent of Tongasat.

On 3 November 1992 the Russian Republic government approved the US$130-million agreement that Rimsat had signed with Informcosmos. The plan involved moving or launching seven satellites (three Gorizonts and four new-generation Express spacecraft) into Tonga's slots. All seven satellites have small capacities but cost less than one-third of their Western counterparts. Each Gorizont has seven transponders and a minimum guaranteed working life of four years, although it can possibly operate more than twice that long. Each Express satellite has twelve transponders and a minimum lifespan of seven years. Each transponder rents for an average of about US$1 million a year. Rimsat claimed that the Paine Webber stock brokerage, the First Chicago Bank, and about sixty private investors had already provided enough capital to finance four launches. Rimsat also had a ten-year option to lease another ten Express satellites from Informcosmos for about US$250 million.

The problem for Nilson had always been finance. In March 1993 Rimsat faced collapse, as it could not meet impending obligations to Tongasat and the Russians. Fortunately, Nilson had met a wealthy Malaysian who had acted interested in his project at a 1991 satellite conference in Hawai'i. Rimsat executives rushed to Kuala Lumpur to meet Dato Tajudin bin Ramli, who has close ties to the Malay political elite and whose Technology Resources Industries was a diversified investment holding company that had expanded into telecommunications in 1989 by buying a majority of the shares of Celcom, Malaysia's very successful second cellular-telephone network, from Telekom Malaysia (*Asia Business,* November 1992; *Matangi Tonga,* May 1993). Rimsat (through its Tongasat slots), Nilson claimed, could offer Celcom rates more than 25 percent cheaper than INTELSAT's charges, despite the Asia-Pacific being a seller's market for satellite services (*Fiji Times,* 7 July 1993).

Ramli bought 45 percent of Rimsat for US$38 million and planned, through it, to have as many as ten satellites in orbit as a result of its innovative pact with the highly price-competitive Russian space agency (*Far Eastern Economic Review,* 13 January 1994; *Forbes,* 12 September 1994). Ramli, described as "intensely ambitious, totally self-confident, and very aggressive" (*Airline Business,* December 1994:32), was extremely optimistic in 1993, when the stock market valuation of his Technology Resources Industries soared 1,300 percent—making this entrepreneur a paper billionaire by giving his 38-percent shareholding a value of US$1.2 billion (*Forbes,* 18 July 1994).

Ramli proposed listing Rimsat on the New York Stock Exchange (*Business Times* [Malaysia], 7 September 1993); soon his 45 percent of Rimsat was

said to be worth US$150 million (*Business Times* [Singapore], 24 November 1993). This extraordinary appreciation in the valuation of his Rimsat shares was based on enthusiasm over Rimsat's unique synergy between Asian telecommunications growth, Tonga's easily available slots, and cheap Russian satellites. The entry of the post–cold war entrepreneurial Russians into the global satellite market began to erode a regime that had been oriented around a few large satellite manufacturing or operating companies—most owned or tightly regulated by core governments.

Rates for telecommunications and broadcasting through Tongasat have in fact proved to be considerably cheaper than those available in the heavily regulated system, leading to a counterattack on Tongasat. Australia has been leading the (largely unsuccessful) opposition of some metropolitan governments to Tongasat (*Asia Pulse,* 17 July 1998; Thompson 1996:282–283). Although Australia's anti-Tongasat proposals have been explicitly meant to discourage overfiling for satellite slots by introducing much higher financial requirements for filers (*Communications Daily,* 24 November 1997), most countries' antagonism toward Tongasat seems primarily related to the cut-rate prices available in Tonga's slots. The Tongan price is as little as US$700,000 a year per transponder, considerably less than half the normal price and a substantial discount on the US$4.3–5 million that Australia's Optus has been charging (*Cable and Satellite Asia,* March 1996).[8]

The first Rimsat satellite was a Gorizont 17 *(Tonga Star 1),* which, as we have seen, was moved into a Tongan slot at 134.0 degrees East in August 1993. On 18 November 1993 a Gorizont named *Rimsat 1* was launched from the Balikonur Cosmodrome in Kazakhstan into a second Tongan geostationary slot over the Pacific Ocean (*Flight International,* 1 December 1993, 31 May 1995; *Jane's Intelligence Weekly,* March 1994). On 20 May 1994 a Gorizont-42 named *Rimsat 2* was launched from Kazakhstan into a third Tongan slot —the 142.5-degree-East orbital position over Papua New Guinea. This satellite's capacity had been fully leased (particularly to companies associated with Ramli), except for one transponder set aside for Tonga's use. The three satellites in Tonga's slots had a footprint extending from Iran to Hawai'i, covering 3.5 billion people. Rimsat claimed annualized revenues of US$12 million and a US$4 million cash flow. In September 1994 Tongasat's share capital was valued at US$41.7 million and Rimsat's equity was calculated to be worth approximately US$88 million[9]—meaning that Nilson's 11.25 percent of Rimsat and 20 percent of Tongasat were valued at US$18 million and Princess Pilolevu's 60 percent of Tongasat was estimated to be worth US$25 million (*Flight International,* 25 November 1992; *Forbes,* 12 September 1994; *Matangi Tonga,* May 1993; Rimsat media release, 17 November 1992; *Tonga Chronicle,* 8 July 1993).

Space Jam

The scarcity of slots is now becoming more acute, and conflicts among businesses and governments are becoming more frequent. Tonga's claims have conflicted with those of other sovereign nations in the past. Other satellites operated in three of the sixteen slots initially claimed by Tonga, leading Nilson to protest to the U.S. National Aeronautics and Space Administration (NASA) that the United States was encroaching on Tonga's territory and later suggesting that some compensation would be in order. Tonga and the United Kingdom also had competing claims to two slots (*New York Times,* 28 August 1990). In 1990 a third party, Hong Kong–based Asiasat, had the temerity to launch a satellite into the slot above 105.5 degrees East longitude claimed by both the United Kingdom and Tonga. Several delegations to Nuku'alofa from Asiasat, the U.K. Department of Trade and Industry, the ITU, and others failed to reach a mutually acceptable agreement on an Asia-Pacific regional satellite communication system (*Pacific Magazine,* November 1990; *South Sea Digest,* 13 April 1990). These disputes all transpired in 1990—at which time none of these conflicts concerned the six (and then nine) slots the ITU would subsequently grant to Tonga.

The first significant problem in Tonga's relationship with Rimsat came when Indonesia moved a satellite into one of the kingdom's ITU-approved slots in July 1992 (*Matangi Tonga,* May 1993). A private Indonesian operator, PT Pacifik Satelit Nusantara, purchased an eight-year-old Palapa B-1 satellite, renamed it *Palapa Pacific 1,* and moved it into the slot at 134.0 degrees East, north of the Indonesian province of Irian Jaya. After three months of unsatisfactory diplomacy with the Jakarta government, Tonga retaliated by threatening to move a satellite into an Indonesian slot and saying that it would jam many of the country's telecommunications links (*Daily Post* [Suva], 12 July 1993). Indonesia responded by seeking a meeting in Jakarta, but Tonga appealed to the ITU. In October 1993 representatives from the Tongan and Indonesian governments met at the ITU's headquarters in Geneva, Switzerland (*Tonga Chronicle,* 2 October 1993). For both countries it was not only a matter of economic competition; each felt its sense of nationhood was at stake. Indonesia is a 4,800-kilometers-long (3,000 miles) archipelago of 17,508 islands, and its government considers satellites as vehicles for creating national unity (*Los Angeles Times,* 20 September 1993).[10] Tonga issued a T$2 stamp commemorating its first satellite as a significant national achievement. National prestige and the quest for a vague sense of national greatness have generally been fundamental motives for space development. In authoritarian regimes such as Tonga and Indonesia, successful space exploration can be useful in diverting people's attention toward the

skies, away from the immediate terrestrial problems around them (Marshall 1995:45, 48).

It was finally agreed that Tonga and Indonesia would share the slot for the life of *Palapa Pacific* 1, which was estimated to be only five or six months (*Tonga Chronicle,* 25 November 1993). The two nations agreed to consider joint procurement of satellites and co-registration of future satellites in slots currently allocated to Tonga, including those at 130.0 and 138.0 degrees East (*Telecommunications,* August 1994). This truce was short-lived. Tonga claimed that the agreement to share the 134.0-degrees-East slot was of limited duration (ending in October 1995), but Indonesia asserted that the two countries had agreed to share the slot into the indefinite future. Indonesia persisted with its original claim that there were no technological reasons that two satellites could not operate in the same slot (Reuters, 10 December 1993). Tonga launched new satellites into the slot, but Indonesia protested. In 1996 Tonga complained that Indonesia was jamming the slot from a transmitter on Sumatra, disrupting television and telecommunications reception. Four days of negotiations between the countries in Sydney in February 1997 broke up in acrimony, with Indonesia apparently insisting that Tonga make room for a new Indonesian satellite in the slot (*Islands Business,* May 1997; *Satellite News,* March 1997; *Tonga Chronicle,* 27 February 1997). Extensive litigation in Geneva led to the dispute's temporary resolution, with the satellites of both countries being adjusted so that both could occupy the slot (*Islands Business,* February 1998).

Similar problems are even more likely to recur if Tongasat does not maintain an active launching program, as the Gorizont (although quite reliable) has an average in-orbit life expectancy of only five years and seven months. Although the Russians have placed a high priority on extending the lives of their satellites (*Satellite Communications,* October 1993), their current rapid obsolescence makes Tonga's slots vulnerable to incursions that have been justified (in the Indonesian case) on the grounds that they are not being used. The entry of private operators into a realm previously dominated by governments and a new aggressiveness on the part of certain governments that are ignoring international conventions have led some commentators to predict "orbital anarchy." This situation might leave extremely expensive satellites orbiting uselessly—unable to operate effectively because of interference problems with other satellites that are too close.

Tonga's problems with Indonesia in June 1992 were a first sign of this breakdown of the world satellite regime. Even more serious, though, was China's insistence on launching a satellite (without collaborating with the ITU, of which it is not a member) into a slot already occupied by a Tonga-registered and ITU-approved satellite (*Australian Financial Review,* 16

November 1993). Tonga's second satellite, a second Gorizont named *Rimsat 1,* which had been launched in November 1993 to cater exactly to Rimsat's requirements, was operating at 130.0 degrees East longitude and fully leased to Sun TV and Asia Net of Madras, India, and to Intersputnik of Moscow. Nevertheless, China insisted on placing the US$130-million Hughes HS-376 spacecraft named *Apstar 1* in orbit at 131.0 degrees East longitude on 21 July 1994, creating the possibility of interference (*Aviation Week and Space Technology,* 30 May, 8 August 1994).

Rimsat had already filed its intention to launch a larger, Russian-made Express satellite into the slot in 1996. Tongan and Japanese officials as well as Michael Sternberg of Rimsat rushed to Beijing to protest. The Japanese government complained that China had not notified it of its plans and that the twenty-four transponders of *Apstar 1* would create serious interference for its *Sakura 3a,* launched twenty days earlier into the slot at 132.0 degrees East to provide telecommunications services for Nippon Telegraph and Telephone Corporation. In September 1994 it was agreed that China's *Apstar 1* would move to 138.0 degrees East, which had been allocated to Tonga by the ITU and leased to Unicom, which had not used it.[11] Not all *Apstar 1* customers were happy. These included Turner Broadcasting System's CNN, MTV, HBO Asia, Discovery, Viacom, Time Warner Entertainment, ESPN, China Telecommunications, and the Australian Broadcasting Corporation. At least one complained that the move would weaken its signal over the lucrative Indian subcontinent, although clients focused on the East Asia market would not be affected. Tonga started collecting fees from the Chinese owners of *Apstar 1* (*Aviation Week and Space Technology,* 8 August 1994; *China Daily,* 15 September 1994; Lee and Wang 1995:136; *Telecommunications,* August 1994; *Tonga Chronicle,* 25 August, 15 September 1994).

Crisis

But all was not well between Rimsat and Tongasat or between Nilson and the princess. In March 1994 she had replaced Nilson as managing director of Tongasat with Dr. Wilbur Pritchard, a satellite engineer based in Bethesda, Maryland. She contended that Tongasat should be more independent of Rimsat and that Nilson's shareholdings in both created a conflict of interest. The second problem for Rimsat was the developing prospect of excess capacity over Asia as many new satellites were scheduled to be launched. This compounded the global regime's problems of poaching, congestion, and coordination. In 1994 two or more satellites had been proposed for more than twenty of the slots in the Asia-Pacific region. Some suggested that severe price competition would enter this market, as supply increased so rapidly

that it would exceed demand, even though demand was growing at very high rates. Nilson and Rimsat predicted that few of the scheduled launches would actually take place. Rimsat continued to contend that its smaller, cheaper satellites would put it into a good position to compete, even if prices decreased (*Satellite Communications,* July 1994; *Telecommunications,* August 1994; Tongasat media release, 7 March 1994).

Rimsat's confidence was unfounded. A very high level of launchings did occur in a short period and soon serious problems arose. In December 1994 Carl Hilliard, Rimsat's sacked attorney (whom Rimsat was suing for US$300 million as compensation for alleged fraud, breach of fiduciary duty, and malpractice), and Nilson filed for the receivership of Rimsat in the Caribbean tax haven of Nevis, where the company had been incorporated two and a half years earlier. The High Court of Nevis appointed Hilliard the receiver of Rimsat, which the Fort Wayne faction saw as his device to escape the US$300-million Rimsat lawsuit against him and gain control over Rimsat's assets. In February 1995 the Fort Wayne officials of Rimsat filed for Chapter 11 bankruptcy in an Indiana court, which issued a judgment that refused to recognize the effective validity of the Nevis court's bankruptcy judgment.

Rimsat lost US$10 million in 1994 and owed Tongasat US$2.5 million in license fees, but the company was still making some partial lease payments for the two orbital slots that its satellites were filling. Informcosmos had moved one of its Gorizonts from a Tongan slot because Rimsat had not met its payment schedule.

In September 1995 the Russians acted far more dramatically: they simply appropriated the two remaining satellites (at 130.0 and 142.0 degrees East). Without consulting any court, the Russians transferred the satellites from Informcosmos to another organization (Intersputnik)[12] and told Rimsat's Asian clients to negotiate new deals with Moscow or face termination of service. Some clients were blacked out, but their signals were restored when payments to the Russians were made. Robert Underwood, the trustee appointed for Rimsat by an Indiana bankruptcy court, maintained that the Russians had unfairly confiscated Rimsat's two satellites (for which Rimsat had paid the full price of US$20 million) and appropriated the satellites' annual revenues of about US$12 million. According to Underwood, the Russians had failed to account for the US$6.7 million that Rimsat had advanced for the construction of its first Express satellite or to give any adequate idea of when it would be built or launched. This situation had led Rimsat to stop making its monthly payments to Informcosmos in April 1994.

The Russians countered that they were perfectly justified in taking over the satellites, controlled from their earth station at Duna: Rimsat was fifteen months in arrears—US$780,000—on its transponder lease payments. Fur-

ther, Rimsat never came close to having the funding required to meet its obligations to the Russians of US$130 million, paying only about 20 percent of the agreed total and frustrating the Express development program, which was largely dependent on funding from Rimsat. The Russians claimed that Rimsat's US$6.7 million for development of the Express was accounted for, and they ignored a 30 August 1995 U.S. Federal Court judgment to block their appropriation of the satellites (saying no American court had jurisdiction over them). Protests by the U.S. State Department, Commerce Department, and prominent U.S. congressmen (especially from Indiana) had no effect, despite the legislators' threats to end or sharply reduce U.S. funding for any joint Russian-American space endeavors as retaliation for the Russians' "piracy." Attempts at arbitration and mediation (for example, by the Arbitration Institute of the Stockholm Chamber of Commerce, as specified in the contract between Rimsat and Informcosmos, and by 1990 Goodwill Games organizer Bob Walsh) came to nothing, despite diplomatic attempts by the U.S. government to persuade Informcosmos to compromise.

The Russians favored the reorganization of Rimsat in the tax haven of Nevis, as proposed by Hilliard and Nilson, and concentrated their aggression on the Fort Wayne faction (particularly former Rimsat executives James Simon and Michael Sternberg, trustee Underwood, and U.S. Bankruptcy Court Judge Robert Grant). The Fort Wayne faction claimed that the Russians embraced the Nevis receivership as an opportunity to form a new company with Hilliard and to evade their obligations to Rimsat—particularly their failure to build Rimsat's new Express satellite and their responsibility to account for millions of dollars that were missing.

In mid-October 1995 Intersputnik signed an agreement with Tongasat for mutual cooperation and joint operation of satellites serving Asia-Pacific clients. Fort Wayne shareholders in Rimsat soon started litigation against both the Russians and Tongasat (*Aerospace Daily,* 6 and 7 September 1995; *Broadcast,* 22 September 1995; *Cable and Satellite Europe,* December 1995; *Communications Daily,* 26 October 1995; *Flight International,* 20 September 1995; *Multichannel News,* 25 September 1995; Rimsat media releases, 30 June, 31 August, 7 September 1995; *Satellite News,* 9 and 30 October, 18 December 1995, 8 January 1996; *Satellite Week,* 18 September, 23 October 1995).

Tongasat canceled Rimsat's remaining leases and proceeded to "Tonganize" its own board of directors—encouraging Jerry Fletcher to resign as a director in July 1995 and requesting that Dr. Wilbur Pritchard quit as managing director in September 1995, although Pritchard remained as a consulting engineer. By 1996 all of its staff and management were Tongans, with the indigenous aristocracy strongly represented on the board: Princess Pilolevu as chairperson; her brother, Prince Lavaka ʻAta ʻUlukalala, as deputy

chairman; her San Francisco–based personal secretary, Meleane Ti'o, as corporate secretary; Lucy Anna Tupou, a Nuku'alofa businesswoman, as interim managing director; and Sione Kite, the former Tongan high commissioner to London, who had conducted many negotiations with the ITU and foreign governments, as a board member and (eventually) managing director. The reorganization was seen as further distancing Tongasat from Rimsat or any American connection. All operations were moved to the kingdom in mid-1996. In 1998 all full-time staff were Tongans and the princess was in the process of acquiring Fletcher's shares in Tongasat—raising her interest to 80 percent, leaving only Nilson's 20 percent in foreign hands (*Daily Commercial News* [Sydney], 6 April 1995; *Islands Business,* November 1995; *Matangi Tonga,* October 1995, April 1998; *Wall Street Journal,* September 1995).

There were many reasons for Tongasat to cut links with Rimsat and the United States. On 10 March 1995 Ramli's private family company, Kauthar Sendirian Berhad, filed suit in the United States suing investors in Rimsat and Tongasat (including Princess Pilolevu) for US$130 million, claiming that Ramli had been deceived. This was many months before the Russians seized Rimsat's satellites, but a few months after Rimsat was placed in bankruptcy. The lawsuit alleged that Rimsat directors had used part of the company's investment to pay secret, multimillion-dollar commissions to the people who had introduced Ramli to Rimsat and who had misrepresented Rimsat's prospects, including Princess Pilolevu. At the time that Ramli filed his suit, Tongasat had an office in the United States. The situation was further complicated by the fact that Princess Pilolevu spent most of the year in San Francisco, where her husband, Siosaia Ma'ulupekotofa Tuita, was Tonga's consul general. The princess announced the couple's intention to leave the United States to resume their residence in Tonga (*Islands Business,* November 1995; *Satellite Week,* 3 August 1995).

Pilolevu established Pacific Asia Global Holdings in the tax haven of Hong Kong. She emphasized that this company, in which she was the major shareholder, was designed to reduce or eliminate liability caused by Tongasat's problems with Rimsat and the Malaysians, who conducted extensive litigation over the years (*Pacific Islands Monthly,* June 1998). The princess, who began living in Hong Kong part-time, developed a strong relationship with the Chinese government in Beijing as part of her negotiations with it in regards to Tongasat. The Tongan government switched diplomatic relations from Taiwan to mainland China on 2 November 1998, accompanied by a ceremony in Nuku'alofa in which the Chinese satellite company that is now Tongasat's leading client presented the king with a larger-than-life bronze statue of himself. A major factor in the diplomatic shift from Taiwan was the Chinese

promise to help in developing important income streams from Tonga's satellite slots. China is interested in many of Tonga's nine slots, but it is not next in line to claim any of them—thereby giving Beijing an incentive to cooperate with Nuku'alofa in filling Tongan slots with Chinese satellites. It is not in the interest of either country for the slots to be unoccupied or for Tonga's claims to lapse.

The pact with Beijing was the first significant action of Tonga's new foreign minister, Prince Lavaka Ata 'Ulukalala, the youngest of the king's four children and former chairman of Tongasat. The prince took over the post in mid-October 1998, after his brother, Crown Prince Tupouto'a, resigned from the position on 5 May 1998 to devote himself to his business interests—among which was Shoreline Property, proprietor of an expensive building that had been built to be occupied by Taiwan's embassy. The People's Republic of China will apparently build a new embassy in Nuku'alofa rather than occupy the new T$2.5-million Taiwan embassy complex for which the crown prince had provided the architectural concept and land and which had been officially opened less than ten months before (*Islands Business,* November 1998; *Matangi Tonga,* April, December 1998; *Pacific Islands Monthly,* February 1999; Reuters, 12 April, 18 October, 2 November 1998; *South China Morning Post,* 2 and 3 November 1998; *Tonga Chronicle,* 5 February, 5 November 1998).

A more significant problem for Princess Pilolevu emerged in 1998, when her brother Crown Prince Tupouto'a asked Tonga's cabinet and Privy Council to end Tongasat's exclusive rights. There were complaints circulating around Nuku'alofa that Tongasat had not paid the government all the royalties it was owed and was paying excessive salaries to the princess and her staff. In 1998 the princess refused to explain how the revenues of Tonga's satellite venture are divided with the government and Tongasat could not provide any specific information about how much the government had received from the enterprise. Tongasat requested a Supreme Court injunction against the kind of government action proposed by the prince, but the documentation relating to the case has been kept secret. The court date was canceled after the parties agreed to arbitration. Meanwhile, Crown Prince Tupouto'a and three American partners were organizing a rival to Tongasat called Diligence. This was to complement the most recent of the crown prince's ventures in stateless capitalism (also in collaboration with Americans): the successful Internet-registration site called Tonic, or the Tongan Network Information Center (*Matangi Tonga,* April 1998; *Pacific Islands Monthly,* April 1998).

In April 1997 Tonic Corporation, mostly owned by Crown Prince Tupouto'a (the Oxford-educated then-minister of foreign affairs and self-confessed "computer geek"), began successfully pioneering the creation of an interna-

tional market in Internet domain names. The company sought to capitalize on the severe shortage of names in the .com, .org, and .net domains. Tonic offers .to names that become immediately operational on the same day as purchase through an automated Tongan registry. Moreover, Tonic charges half or less of the price demanded by the considerably slower conventional name supplier, InterNIC or Network Solutions, which has a cooperative agreement with the National Science Foundation of the U.S. government.

Washington has never renounced its claim to own all the name space for Internet addresses. Tonic's strategy, then, implies that the Internet's domain name space is international property and that a sovereign state such as Tonga (which has an exclusivity agreement with Tonic) should be entitled to part of it. Like the oceans, the sky, and outer space, cyberspace may be claimed by sovereign states—no matter how small.

Tonic's fee of US$100 per name for the first two years and US$50 for each additional year is extremely competitive, particularly when one considers the recent bidding war for the "Business.com" site, which Network Solutions sold for US$150,000. In its first full month of operation Tonic registered about five hundred names, and subsequently received about fifty applications a day registering government, commercial, and personal sites. In November 1997 Tonic agreed that TABNet, the world's largest Internet domain-registration company (headquartered in Napa, California, but with offices on four continents) would resell .to domain names through its large marketing channels and unique domain-name registration system (*Australian,* 12 July 1997; *EDGE: Work-Group Computing Report,* 23 June, 14 July 1997; Gigante 1997; *IT Daily,* 16 June 1996; *Network Week,* 2 July 1997; TABNet marketing release, 24 November 1997; Tonic Corporation marketing release, 11 November 1997). The crown prince has shown considerable ability to form a successful venture in stateless capitalism and telecommunications, without the sorts of problems Princess Pilolevu and Tongasat had encountered with Ramli and Rimsat. However, King Tupou, chairman of the Privy Council, is still said to be divided in his loyalties—hoping that the disputes between his son and daughter will disappear and be hidden from the public.

Internal Development

One of the principal claims of Tongasat's promoters is that it assists Tonga's internal development. Crown Prince Tupouto'a, viewing the launching on 22 May 1994 in Balikonur, Kazakhstan, of the third satellite (one of whose seven transponders was dedicated to use by the kingdom),[13] called for the formation of a new company that would be a joint venture between Tonga-

sat, Cable and Wireless, Tonga Telecom, and the public to improve Tonga's telecommunications. The prince argued that separation of the organizations involved was impractical and would not take advantage of Tonga's satellite slots for Tonga's interests. He complained that Tonga's only earth station facilities have been operated by INTELSAT (since 18 June 1978) at the expense of the more remote islands of the archipelago.

Tongasat claims that the twelve lower-earth-orbit station slots, for which it had applied, would be useful for small dishes providing cheap communications for island nations. Tonga's fleet of high-powered and relatively inexpensive satellites in its proposed lower-earth-orbit slots would supposedly be capable of sending signals strong enough to be received by small antenna dishes in remote villages and isolated islands. Such satellite-based communication would improve education, general access, and weather forecasting (*Matangi Tonga,* May 1993) and help to reverse the relentless migration from rural areas to overcrowded towns—a trend of much concern to the king and the aristocrats. In short, Tongasat claims that the international space regime represented by its greatest enemy, INTELSAT, has stifled Tonga's and the Pacific region's development because it does not sufficiently promote deregulation, private enterprise, and the interests of a multitude of nation-states.

Nevertheless, neither Tonga Telecom (which provides domestic service) nor Cable and Wireless (which conducts the kingdom's international telecommunications) has been favorably inclined toward Tongasat, regarding it as unproven or even embarrassing for them at international telecommunications conferences (*Matangi Tonga,* July 1993). On 6 June 1994 Cable and Wireless signed an agreement whereby the government gave the large multinational a franchise for international telecommunications until the year 2000 (*Matangi Tonga,* June 1994). Tonga Telecom's independence from the Tongasat project was further revealed when it signed an A$4-million contract with NEC Australia on 12 December 1996 to install an INTELSAT F-3 standard earth station on each of the five main islands of the kingdom: Tongatapu, Haʻano, Vavaʻu, Niuatoputapu, and Niuafoʻou (*Matangi Tonga,* January 1997). No links have yet been established between Tongasat and the two providers of telecommunications in Tonga.

More substantial benefits for Tonga have come from leasing fees. Rimsat had initially leased two of Tonga's orbital positions for a period of ten years. It agreed to pay US$1.2 million up-front and US$1.5 million for each satellite, plus US$100,000 a month for both satellites' broadcast bands. Half of the lease money was to go to the Tongan government, with the other 50 percent a commission for Tongasat. Tongasat presented the prime minister, Baron Vaea of Houma, US$600,000 as a "gift" to the government to com-

memorate the king's birthday and anniversary in July 1993, just before the first satellite entered into Tonga's slot (*Business Times* [Malaysia], 13 May 1994; *Business Week*, 7 December 1992; *Flight International*, 25 November 1992; *Forbes,* 12 September 1994; *Islands Business,* November 1995; *Matangi Tonga,* May 1993; *Novecon Sevodnya,* 7 June 1994; Rimsat media release, 17 November 1992, 20 May 1994; *Tonga Chronicle,* 8 July 1993).

Despite this "gift," dissatisfaction surfaced over the fact that Tongasat is mostly owned by Princess Pilolevu. A commoners' representative in the Legislative Assembly, Viliami Fukofuka, attempted to place pressure on the minister of justice, Attorney General David Tupou, to renegotiate the agreement with Tongasat that gives the government only 50 percent of the net profits from the country's orbital slots until the year 2003 (*Tonga Chronicle,* 30 September 1993). On 20 June 1994 Tongasat and the government signed a fifty-year formal agreement that increased the government's share to 50 percent of gross, rather than net, profits. Yet Tongasat paid the Tonga Trust Fund only T$812,788 (US$636,494) in 1994 and T$625,078 (US$492,106) in 1995 (*Tonga Government Gazette,* 24 February 1996)—less than 5 percent of Nilson's early optimistic projections. Moreover, the money went not to the government directly but to the Tonga Trust Fund.[14]

Large contributions have been promised to the government's development budget from the Tonga Trust Fund, which has been accumulating in overseas accounts, principally from selling Tongan passports and, to a much lesser extent, from Tongasat fees. The *promised* contributions amounted to about 10 percent of total governmental expenditure during the early 1990s (Fairbairn 1992:6, 9). As discussed below, the Tonga Trust Fund has the resources to fulfill these promises. It is highly significant that little of this money was actually delivered (National Reserve Bank of Tonga 1995:S29, S44) and that by 1994 the National Reserve Bank of Tonga decided to omit the promised Tonga Trust Fund transfer from its budget forecasts. The bank stated that in the past the transfers had either not occurred or been far lower than predicted. There were even cryptic comments that the government's budget document failed to establish "entitlement" to the Tonga Trust Fund and that such "offshore" funds (money expended outside the kingdom) "represent . . . funds which are not accounted for by the government of Tonga" (Sturton 1994:13).

The kingdom's Ministry of Finance presented the assets of the Tonga Trust Fund as being T$37.8 million (US$27.8 million) as of 31 March 1994, almost T$1 million more than a year earlier on 31 March 1993, when the assets were T$36.9 million (US$26.5 million). Yet the fund made relatively stingy contributions to the government's budget. Despite the Ministry of Finance's repeatedly making grandiose promises of money from the Tonga

Trust Fund for the coming year, even the Reserve Bank of Tonga concluded that they could not be taken seriously as these promises had never been fulfilled. For 1993–1994, for example, the ministry had predicted T$11.4 million would be entering the government's development revenues from the Tonga Trust Fund. In fact, only T$45,708 was actually delivered, despite the increase in the fund's assets. The Tonga Trust Fund contributed less than 0.1 percent of the government's current revenues of T$54.7 million (US$40.3 million).

Tongan commoner politicians and central bank economists questioned how entitlement to these sums was actually being defined, how accountability was being established, and why T$28.5 million of the assets of the Tonga Trust Fund should be held offshore in fixed deposits at the Bank of America in San Francisco (where Princess Piliolevu had lived for many years with her husband) outside public scrutiny, Tonga's foreign exchange laws, and parliament's budgetary processes and control (Minister of Finance 1995:17, 35; National Reserve Bank of Tonga 1995; Sturton 1994:13). It is a measure of the monarchy's attachment to San Francisco that in 1997 the king proclaimed Tau'akipalu, a palatial private residence on two and a half acres in the affluent suburb of Hillsborough, to be a royal residence as well as a facility for Tongan government ministers and officials (*Tonga Chronicle,* 21 August 1997). In summary, the promised benefits of Tonga's satellite venture in assisting internal development have not eventuated. On the other hand, a small Tongan elite has been substantially enriched.

Stateless Capitalism in Outer Space

Tongasat represents the purest form of contemporary stateless capitalism in satellite communications, without the industrial, commercial, and firm-specific entailments of other ventures. Tongasat is primarily an opportunistic intermediary, a lessor of sovereign airspace and a registry for satellites. With the disintegration of the Second World (which controls a high proportion of orbiting satellites) and its jettisoning of central planning for a commitment to the free market, new possibilities exist for the allocation of satellite services on the basis of price—increasingly outside the control of governments.

Satellites, by their very nature, operate beyond a country's territory and serve as instruments to bypass the effective sovereignty and jurisdiction of most of the states of the world. They are increasingly owned or controlled by private capitalists rather than governments. The recent trend toward mobile cellular networks and small satellites has offered much greater opportunities for participation and even control by the private sector. It has made governmental regulators and national post and telecommunications monopolies

and oligopolies ever more apprehensive. This defensiveness has been expressed particularly by INTELSAT, which is financed by a consortium of national telephone companies and acts to limit competition with and between them. INTELSAT supports a system where satellites have genuine nationality. Tongasat points the way toward a "nationality of convenience," where a jurisdiction may register satellites and enact laws for them that favor the interests of capital. States such as Tonga have little actual supervisory power.

The tax havens of Mauritius and Singapore followed Tonga's lead by filing for a disproportionate number of satellite slots—apparently intending to offer them to foreign companies for a fee (*Business Times* [Singapore], 22 September 1994). Located in the tax haven of Luxembourg, Société Européene des Satellites (the platform of choice for Rupert Murdoch, Canal Plus, Leo Kirch, and other major media organizations) has become the third largest satellite operator in the world (*Australian Financial Review,* 30 March 1995; *Financial Times,* 10 May 1998). In a move seen as having "echoes of Tongasat," GE Americom (the company that has controlled the largest number of orbital slots over the United States and that has the largest satellite capacity in the world) abandoned the U.S. regulatory process administered by the FCC and turned to the government in the tax haven of Gibraltar for assistance in obtaining rights to twelve international satellite slots (*Satellite Week,* 15 January 1996; *Via Satellite,* 1 July 1997). Orion Asia Pacific also decided to avoid American regulations, including foreign ownership limits, by operating from the Pacific Islands tax haven of the Marshall Islands, whose government arranged access to a slot at 139.0 degrees East so Orion can provide services from India to Hawai'i (*Bernama,* 2 October 1997; *Cable and Satellite Asia,* March 1997). Tax haven promoters in Pacific Islands microstates would appear to be likely beneficiaries of the ITU's increasing reluctance to grant valuable slots to countries that already have a large number of satellites in orbit (*Newsbytes News Network,* 28 March 1996).

If American hegemony continues to weaken, it appears likely that current or aspiring offshore financial centers may become increasingly involved in passing satellite legislation that allows owners and lessors to avoid a welter of competing laws, regulations, and taxes that mainland states attempt to enforce. According to international law, positions in geostationary orbit cannot be maintained for longer than thirty years; hence an allocation amounts to usufruct and not permanent appropriation. Thus, over time, users of slots given to traditional powers may gravitate toward new space-age flag-of-convenience jurisdictions in a manner similar to the major post–World War II movement of ships to maritime open registers in tax havens.

Since it is difficult, if not impossible, for a state to appropriate or own

outer space (which is like the open seas), jurisdiction and regulation become largely a matter of regulation of the vessel, represented by its flag (Weaver 1992). Although a maritime flag of convenience does not give a ship exclusive access to any section of the global waters, a satellite flag of convenience currently is supposed to confer use of an orbital slot from which other satellites are excluded. But there is increasing recognition (even within the ITU) that space may be even more like the open seas than once thought and that the value of exclusion has been overly emphasized. At 94.5 degrees East four satellites operate harmoniously in the same slot because there are no conflicts between their frequencies and antennas (*Aviation Week and Space Technology,* 8 August 1994). Flags of convenience in outer space are likely to increase as the number of satellites grows. Some writers claim technical advances will allow four thousand satellites to operate in geostationary orbit without interference (Riddick 1994).

A Possible Future

As the world's global satellite regime continues to evolve, spacefaring companies ultimately owned in core countries may find it increasingly necessary to pay fees to microstates such as Tonga to gain access to orbital slots. Core countries (and particularly the United States) no longer have virtually unlimited use of the orbital spectrum. This evolving space satellite regime increasingly favors the claims of less-developed sovereign states. Even the United States will probably have to learn to cooperate with small, less-developed countries such as Tonga (Ezor 1993). Pacific Islands states would appear to be primary candidates for the further development of flags of convenience in space.

Like the shipping business over the past twenty-five years, the satellite business has been risky and unpredictable. High rates of failure have meant that not a single American satellite carrier from the early 1980s was still operating ten years later (*Australian Financial Review,* 16 November 1993). Tongasat's situation has also been extremely volatile. In May 1997 Tongasat had four satellites in different orbital slots, with a fifth just launched into the 170.75-degrees-East slot (*Islands Business,* May 1997). Less than a year later only two of its slots were still filled by satellites paying fees to Tonga—at 134.0 and 138.0 degrees East, which connect Asia and North America (*Via Satellite,* February 1998). Continuing deregulation of telecommunications would only further accentuate the satellite industry's instability, unpredictability, and riskiness (Giget 1994:478). The cycles of the world satellite industry increasingly resemble the boom and bust of the oil-tanker business, a great user of maritime flags of convenience. In both the shipping and satellite industries

there is a long delay between the ordering and the launching of vessels (*Economist,* 3 May 1997), with consequent cycles of great scarcity and oversupply.

If both the maritime and satellite businesses continue to become more entrepreneurial, more globalized, and less tied to subsidies and protection from states, the appeal of flags of convenience will grow. Flags of convenience are means of minimizing state regulation, taxation, national rules of procurement and service, and so forth.[15] The increasing deregulation of outer space reflects conditions on earth, where property is increasingly allowed to be relocated to jurisdictions that make the fewest claims on it. This is often justified by the doctrine of the equality of sovereign states. Tonga's satellite venture has departed radically from the social democratic conception of outer space as the common heritage of humanity. It has accelerated the globalization of stateless capitalism into ethereal realms. One day the advent of Tongasat may even be regarded as marking a significant new phase in world historical change.

NOTES

An earlier version of this article was presented in the Globalization and Pacific Politics section of the Sixth Pacific Islands Political Studies Association conference at the University of Canterbury, Christchurch, New Zealand, December 1998.

1. Globalization is a process of growing linkage between social groups so that occurrences in one part of the earth increasingly affect people who are distant.

2. The term "stateless" indicates lack of a genuine link to the nationality of the capitalist and freedom from meaningful state regulation rather than the absence of any state. "Stateless" points to an extreme limit, in the same way "countless" in ordinary language means very numerous, as in a "countless fortune." In the case of Tongasat, the capitalism is stateless since Tonga exercises no effective control over the satellites in its slots or the companies that own or operate them. I thank Michael Goldsmith for questioning my use of the term.

3. The "geostationary orbit" is 35,786 kilometers (about 22,300 miles) above the equator, where more than one hundred spy satellites, some early-warning satellites, and a few weather satellites orbit in tandem with the earth's rotation (*Economist,* 15 June 1991). It is also known as a "Clarke orbit" after Arthur C. Clarke, the science-fiction writer. Clarke brought the concept to a popular audience in his 1945 article "Extraterrestrial Relays," in which he speculated (correctly) that satellites positioned above the equator at this height and traveling at the same speed as the earth's rotation would appear to hover over one location, a condition he labeled "geostationary" (Clarke 1945).

4. In the 1980s Fletcher had also promoted a controversial proposal to dump toxic waste from the United States in Tonga (*South China Morning Post,* 22 July 1993).

5. Most satellite systems operate in C-band (6/4 GHz); the future may bring further development of the more expensive Ku-band (14/12 GHz) and Ka-band (30/20 GHz) as

well as the LaGrange L-5 orbital positions. Extension of transoceanic fiber-optic cable systems may limit, although not eliminate, the predicted scarcity but is a less attractive option in the vast Asia-Pacific region than in relatively compact markets such as Europe. Most Tongan satellites have been Gorizonts—each with one L-band, one Ku-band, and six C-band transponders (*Aviation Week and Space Technology,* 30 May 1994). The transponders on the satellites that have filled Tonga's slots, then, are mostly C-band, but this is not perceived as much of a weakness since Tongasat's primary market has been Asia, where the terrain presents severe problems for Ku-band (*Satellite Communications,* July 1994).

6. Some contend that technological advances have substantially lowered the necessary distance between satellites, to only about eighteen kilometers (twelve miles), although they still see future saturation of the orbits as an important problem (Thompson 1996:284).

7. A flag of convenience is a legal identity for a vessel registered easily for a fee in a jurisdiction where it is not ultimately owned, for the purpose of commercial or tax advantages (van Fossen 1992).

8. Important clients for transponders on satellites in Tonga's geostationary slots have included Australia's most popular television network, Kerry Packer's Channel Nine (*Cable and Satellite Asia,* March 1997); Rupert Murdoch's News Corporation (*Broadcast,* 24 May 1996); and even Australia's government-owned ABC (Lee and Wang 1995:136).

9. Another, earlier estimate valued Rimsat at US$333 million (*Business Times* [Singapore], 24 November 1993).

10. Indonesia has a history of frustrated ambitions in relation to the geostationary orbit. Indonesia was one of the eight equatorial countries that signed the Bogota Declaration of 1976. Their claims to the parts of the geostationary orbit over their territories were strongly rejected by both core powers and nonequatorial developing countries (Thompson 1996: 306–308).

11. Unicom (a Delaware-registered company headquartered in Aspen, Colorado) had concluded an agreement with Tongasat back in November 1991 to lease two of the kingdom's slots, with an option on a third (*South Sea Digest,* 6 December 1991). Unicom has not been able to place any satellites in these orbital positions, which the kingdom has reclaimed.

12. Intersputnik would soon spin off a private company, Intersputnik Special Project Company, headed by former Rimsat Vice-President Tim Brewer, registered in the tax haven of Gibraltar, and aimed at establishing a global satellite system (*Space Business News,* 26 June 1996). Lockheed Martin later formed a joint venture with Intersputnik and agreed with Tongasat to place Gorizonts in each of two of Tonga's orbital slots—at 130.0 and 142.5 degrees East—in 1999 (*Interspace,* 10 February 1999; *Space News,* 2 November 1998).

13. The statelessness of Tongasat's venture is highlighted by the fact that three of the four transponders that were leased were used for video transmission by Asian Broadcasting Company, headquartered in the tax haven of Jersey in the Channel Islands (Rimsat media release, 8 June 1994).

14. There was a report that Tongasat had presented a check for T$3,167,361.45 (US$1.89 million) to the Tonga "government" on 29 September 1998 (*Islands Business,* November

1998; *South Sea Digest,* 23 October 1998; *Tonga Chronicle,* 8 October 1998), but the details of this are still unclear.

15. Wong's (1998:875–879) contention that the problem of "paper" satellites will be minimized if banks, insurance companies, and other financial capitalists are given greater power by being included in the International Telecommunications Union is contrary to experience in maritime commerce. In the shipping industry, these financiers frequently encourage or even require ships to fly flags of convenience to avoid taxes, regulations, or other expensive requirements (van Fossen 1992).

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