Applying International Relations Theory
To the Current Politics of Outer Space Development

Edythe E. Weeks, J.D.
Northern Arizona University
Department of Political Science Department
Social and Behavioral Sciences Bldg., Box 15036
Flagstaff, Arizona 86011
U.S.A.
(928) 523-3163
eew@dana.ucc.nau.edu

Abstract
This paper demonstrates the explanatory value of a Gramscian analysis by using the concepts hegemony and consent and an historical materialist analysis to the field of outer space development. It establishes a framework for understanding periods of change within the outer space development regime within the context of three political-economic epochs. The power politics intertwined with causing these shifts are linked to the rise in free market neoliberal ideology as they ascended in dominance over time and across different epochs. U.S. law has been used by political and economic elites to commercialize and privatize space technologies to encourage the growth of satellite telecommunications, remote sensing, space launch and transportation and launch services, space stations and spaceports. Historical and ideological blocs are hidden sources of power which serve to maintain a pattern of dominance and maintenance of the international political economy. International institutions have ushered in the consent to these trends by the international community. There is a myriad of new space laws and policies being created in rapid succession for the encouragement of private-sector participation in a newly proposed free market approach to outer space development. This paper argues that a Gramscian analysis provides a more adequate explanatory framework than the mainstream theories of realism or neoliberal institutionalism to elucidate current outer space politics occurring today. It takes into account the dominance of free market ideology, capitalism and U.S. power in the Post Cold War era. This analysis reveals how U.S. power and globalization processes have impacted the outer space development regime and how this will continue to shape space law and international institutions as humankind ventures into this untapped territory - the final frontier.

INTRODUCTION

Space commercialization has become generally accepted by the international community. There are several space industries which have officially gone through the process of becoming commercialized¹, and more recently privatized. These processes have been patterned by U.S. domestic laws which have encouraged space industries to become successful. Economic successes have then been used to gain the support and backing of the United Nations Committee on Peaceful Uses of Outer Space and the International
Astronautical Federation. Strategic, targeted, specific agenda-setting arrangements such as conferences and workshops occurred in order to facilitate the commercialization processes across various countries. First this occurred with respect to satellite telecommunications, then remote sensing, then space transportation and launch services. Over time, more nations and more private companies became key players in the market. This pattern has become the international norm during the 1980s and has been increasingly the case ever since. After 1980, there was an increase in domestic regulations governing space activities. A historical analysis of both domestic and international space law evinces a pattern wherein certain norms, established through U.S. law, precede similar international legal norms and sometimes international law established by the United Nations Committee on Peaceful Uses of Outer Space, the International Astronautical Federation, the International Academy of Astronautics and the International Institute of Space Law. The U.S. was the leader in this trend wherein domestic laws began to guide space ventures. Other nations have begun to do the same. Today, for example, the U.S. commercial space transportation industry is composed of a variety of private entities such as major aerospace firms and a multitude of other viable business entities and entrepreneurs engaged in space related businesses. More recently, the industries of space stations and spaceports have been placed on the agenda to go through this process.

In the current or third epoch, new actors are taking new actions. Outer space development has been re-packaged to match other arenas impacted by globalization. The field is taking on a new image – a place for joyrides, thrill seeking, fortune making, colony building and permanent settlement. This new image is increasingly being popularized at the cultural level. Swift actions such as the creation of spaceports in several countries around the world, multimillion dollars prizes for pioneering achievements towards space commercialization, privatization, and rapid advances in space transportation technology
by the private-sector are occurring right now. These actions are being merged with actions taken by the U.S. government and international space institutions. New laws and new policies have recently been created to further encourage a free market approach to the next steps of outer space development. This includes a Presidential Commission mandate to "transform NASA" and to allow greater participation and investment from the private-sector. This paper provides an historical materialist analysis to explain why bold new steps are being taken by the U.S., towards hyper-commercialization and hyper-privatization of outer space development, explains historical trends in the political-economy of space industries and how U.S. law has functioned as an instrument to facilitate commercialization and privatization processes within this regime, and explains that Post Cold War distribution of power is shaping international institutions' consent to and endorsement of free market ideology.

Initially, outer space development was seen in terms of the Cold War balance of power, and as a matter of national competition. With respect to the historical materialist analysis applied herein, it is important to point out that in spite of the overarching national security concerns of the U.S. and U.S.S.R., promoting the commercial uses of space technologies has been an important goal to the United States since the beginning of the space age. For example, shortly after President Eisenhower in 1959 declared that the U.S. Government . . . "should aggressively encourage private enterprise in the establishment and operation of satellite relays for revenue-producing services" (Jasentuliayana & Lee, 1979-1981, Vol. 1: at 304). In spite of the United States' interest in space for commercial purposes, the private-sector except for Private actors played only a minor role in the first epoch, as subcontractors for the government was not participating in space activities during the first epoch (McCurdy, 1997: 85). Furthermore, since the 1960s, the U.S. has followed a policy of using "spin-offs" of government developed space technologies for commercial
purposes. Since the beginning of the space age the U.S. position has been that the development of space activities depended on the possibility of recovering investments made in this sector. However, the U.S. had to parlay around the interests of the other superpower during the first and second epochs. For example, during the first epoch of outer space development, during space law negotiations, President Kennedy and Chairman Khrushchev spoke of "cooperating" to explore outer space (Von Bencke, 1997). However, their actions marked furthering state self-interest. For example, Kennedy would respond only a portion of remarks made by Khrushchev. Particularly when Khrushchev made remarks concerning the need for complete disarmament and removal of U.S. foreign military bases. Likewise, Khrushchev would response to only part Kennedy's proposal, ignoring articulations on issues concerning profitability and investor relations issues with respect to Kennedy's desire to create a U.S.-led Comsat Corporation (Von Bencke, 1997: 52-57). The U.S. consistently refused the Soviet request to completely disarm, and the Soviet Union consistently refused to agree to allow non-state actors to participate in outer space development. The Soviet Union was insistent that space activities be carried out "solely and exclusively by states"; hence, "barring private bourgeois corporations" (Von Bencke, 1997: 57). In spite of this tension, Kennedy was seriously considering ways that the U.S. could formally turn the space competition into a joint venture with the Soviet Union. Tensions between Kennedy and Khrushchev arose between the two leaders, for example the Berlin Crisis (the construction of the Berlin Wall, August 13, 1961) the Vienna Summit, the Soviet test of a nuclear weapon (September 1, 1961) and the Cuban Missile crisis in October of 1962 (Von Bencke, 1997). In spite of this, the international community negotiated and drafted five international treaties. The process of creating international space law during this era involved the satisfying of two main state actors - the United States and the former Soviet Union. Space law actors during this era seemed to act
out of sheer fear. During this period, the United Nations was invited to act as the middleman between the two superpowers articulation of fears and aspirations, and the Committee of Peaceful Uses of Outer Space was established. In addition, other states were involved in providing input and suggestions regarding wording contained in what eventually became The Outer Space Treaty of 1967. This was the most fruitful period of international space law making. It was during this period that the five space treaties were negotiated and drafted. The United States and Soviet Union signed and ratified the first four. During the 1960s the international community negotiated a series of five international space law treaties. However, by 1979 détente between the U.S. and U.S.S.R. had ended and so did international space lawmaking. The last in the series of five treaties, the Moon Treaty was stillborn into the second epoch of outer space development. Space lawmaking shifted from the international sphere to the domestic sphere exclusively during the 1980s. This drastic shift to domestic space lawmaking was initiated by U.S. domestic commercialization lawmaking practices with the Reagan Administration.

In spite of needing to defer to the Soviet Union, even during the first epoch, the U.S. managed to facilitate the consent of the commercialization of satellite communications technology throughout various international institutions and within numerous other countries. Today this phenomenon is widely practiced to such an extent that the argument can be supported that legal precedent exists wherein the United States has established a custom of creating commercial applications for space technology via U.S. law followed by mirrored trends within the international community. The poignant example how this was done with satellite telecommunications involved the following steps. First, President Kennedy “charged his administration with the need to develop a coherent and cohesive policy with respect to communications satellites” and by July 1961 he called for joint ownership with other nations of a communications satellite system, non-
discriminatory access for all countries of the world, and a constructive role for the United Nations in international space communications. This call was at all times with the assumption that "private ownership and operation of the United States portion of the system would be favored and that her leadership in satellite communications would result in establishment of the system at the earliest practicable data the earliest practicable data for the benefit of all peoples in the interest of world peace and brotherhood" (Jasentuliyana & Lee, 1979-1981, Vol. 1: at 304). Second, the COMSAT Corporation was created through the Communications Satellite Act which President Kennedy signed into law August 31, 1962. President Kennedy stated:

> The benefits which a satellite system should make possible within a few years will stem largely from a vastly increased capacity to exchange information cheaply and reliably with all parts of the world by telephone, telegraph, radio and television. The ultimate result will be to encourage and facilitate world trade, education, entertainment and new kinds of professional, political and personal discourse which are essential to healthy human relationships and international understanding (Jasentuliyana & Lee, 1979-1981, Vol. 1: at 305).

In authorizing the creation of a Communications Satellite Corporation (COMSAT), this Act created a private corporation "to own and operate, either by itself or in conjunction with foreign governments or business entities, a commercial communications satellite system; to furnish, for hire, channels of communications; and to own and operate satellite terminal stations." This private for-profit corporation called the Communications Satellite Corporation (COMSAT) has "an interim Board of Directors appointed by the President of the United States" (Cheng, 1997: 544). This Act has "twin goals of quickly obtaining the benefits of satellite communications and doing so by creating competition". The Act was influential in many ways, including that it established the U.S. policy "of developing a global communications satellite system responsive to public needs and national objectives that would provide economical service to lesser developed countries, 'nondiscriminatory'
access for all users and ‘contribute to would peace and understanding’ (Morgan, 1994: 18).

Third, the U.S. influenced the same commercialization phenomenon at the international level, by creating the INTELSAT organization through the creation of several international agreements: the Agreement Relating to the International Telecommunications Satellite Organization with Annexes (opened for signature August 20, 1971), the "Operating Agreement Relating to the International Telecommunications Satellite Organization (opened for signature August 20, 1971), the "Agreement Establishing Interim Arrangements for a Global Commercial Communications Satellite System" (an international agreement registered with the United Nations) and the "Special Agreement" (a contractual arrangement between participating governments and certain public corporations) (Murphy, 2001). These agreements established INTELSAT as an IGO organization created for the purpose of operating satellites and providing access to satellites on a commercial basis for profit. In order to facilitate the commercial framework, these agreements included allowing the parties to participate in ownership (Wong, 1998). Countries therefore were allowed to purchase shares and to own a piece of INTELSAT in proportion to their investment. This provided an incentive for various governments to have an interest in INTELSAT's success. Countries were allowed to own a piece of INTELSAT in proportion to their investment. This provided an incentive for various governments to consent to the free market hegemony of wanting INTELSAT to succeed. And, it did. The U.S. owns the largest share at "just over 20% and the remaining foreign ownership is just under 80 percent". This remainder is split in differing proportions between approximately 143 other countries. Another key satellite communications provider is the International Maritime Satellite Organization (INMARSAT). It was formed by an international treaty in 1979 pursuant to the Maritime Satellite Act. Seventy-nine countries are members of
Inmarsat and it is headquartered in London. It came into being as an IGO in order to "provide global safety and other communications for the maritime community. Starting with a customer base of 900 ships in the early 1980s, it then grew rapidly to offer similar services to other users on land and in the air . . .". A service that began as a life-line to seafarers by carrying distress communications from failing vessels at sea has turned into a commercial enterprise. Both are intergovernmental organizations who through international agreements were entrusted with establishing the satellite communications industry. Today, the satellite communications industry is hailed as a success providing the world with voice, data and fax transmissions, credit/debit card and other bank transactions, the Internet, email and attachments, new varieties of telephone services including long distance and cell phones, new varieties of television options such as cable television and direct broadcasting, and remote sensing, mapping and GPS services. The goods and services provided from this form of commercialized space technology amount to hundreds of billions of dollars in annual revenues for a multitude of companies. As international governmental organizations owned by approximately 144 governments around the world. These IGOs own the bulk of choice slots in the geostationary orbit (Wong, 1998: 4), and they have certain special privileges and immunities from domestic laws and tax requirements, and special competitive, regulatory and market advantages over the competition entering and desiring to enter the satellite communications market. Therefore, these IGOs were seen by proponents of the Orbit Act as having unfair privileged relationships with these various countries, since the countries owning shares have an ownership interest in ensuring their operating success.

Therefore, fourth, pursuant to the Open Market Reorganization for the Betterment of International Telecommunications ("the ORBIT Act") both IGOs, INTELSAT and INMARSAT, were mandated to privatize and to have an initial public offering of their
shares. The deadline for compliance was extended several times through U.S. laws. This new privatization process, in addition to existing commercialization processes began with political actors\textsuperscript{17} within the U.S. Congress taking action in pressing for new laws which would privatize the two key IGOS – INTELSAT AND INMARSAT. On March 17, 2000, President Clinton signed putting this U.S. law into effect for the international community. Subsequently, the INTELSAT Assembly of Parties (representing all 144 member governments) unanimously approved a plan to privatize INTELSAT during their meeting November 13-17, 2000 (Murphy, 2001: 18). After privatization, INTELSAT became Intelsat LLC, a limited liability company incorporated in the state of Delaware. It is wholly owned and controlled by Intelsat Holdings LLC, also a Delaware limited liability company. Intelsat Holdings is wholly owned by Intelsat, Ltd., a company incorporated under the laws of Bermuda. Intelsat, Ltd. is wholly owned by INTELSAT, and INTELSAT is owned by approximately 140 signatories - mostly government entities. The U.S. (through COMSAT) owns the largest share at "just over 20 \% and the remaining foreign ownership is just under 80 percent"\textsuperscript{18}. This is an important example of U.S. power to shape the international satellite communications industry (Salin, 2002: 220). Inmarsat privatized in April 1999, transferring all of its assets over to a U.K. private limited corporation - Inmarsat Ventures, Ltd. Ownership of Inmarsat by signatories to the Inmarsat Agreement remained in the hands of mostly government-owned telecommunications companies as ownership was transferred from Inmarsat to Inmarsat Ltd.

This example elucidates how seeds were planted for a gradual application of free market ideology for the commercialization and ultimate privatization for the satellite communications industry during the first epoch. It also demonstrates that industry spouts began to appear during the second epoch in the 1980s. Nursed by U.S. domestic laws, international institutions and government assistance from many other nations, the satellite
communications industry became a lucrative commercialized and privatized industry. Putting this evolvement into context, at the beginning of the space age, key actors had been strictly focused on preventing the Soviet Union and the United States from colonizing space or using space to deliver or store atomic weapons. Therefore, the framers of space law, not wanting to freeze negotiations due to the ideological conflict between the U.S. and U.S.S.R. other privatization issues, made a conscious decision to leave future legal issues concerning the business aspects of space activities up to each nation (Jasentuliya, 1992; 1999). This was part of the reason space law making shifted over into the domestic sphere. Another reason is that the international environment was marked by increased global trends towards privatization with the Reagan-Thatcher revolution of the 1980s. Governments around the world were selling off public assets to private owners in order to improve efficiency and increase production. Between 1985 and 1994, $468 billion worth of state enterprises were sold off to private investors" (Cole, 1999). By the 1980s commercial applications of space technologies was the predominant concern within the outer space development regime. From 1957 to 1987 the nations of the world had spent approximately $300 billion on outer space development activities (Dula, 1985: 163). By the mid-1980s these nations were spending about $100 billion each year on space (Goodrich, 1989: 12). This increased spending occurred because the profit potential of space was now clearly demonstrated. However, space research and development is extremely expensive, time consuming, not very profitable initially, and is very risky. Therefore, not many private businesses wanted to get involved without government incentives (Straubel, 1987: 950). For example, in the United States, communications satellites were first developed with government assistance and through government subsidies (Miyagiwa, 1986). Satellite telecommunications, remote sensing and space launch services went through the process of commercialization and privatization, and were
increasingly influenced by the rise in deregulation, neoliberalism, globalization and free market philosophy prevalent in the international environment for many types of industries in the 1980s (Jayakar, 1998; Cavusgil, 1993).

U.S. domestic space laws were created to supplement the commercial issues left vague in the international space treaties. In addition, space lawmaking at the international level through the United Nations was viewed to being to be too slow and too unpredictable (Goldman, 1996). Key actors in this U.S.-led pattern of facilitating commercialization through domestic law were President Reagan, NASA and Congress, and all expressed an interest in having private business participate in space activities. Due to this push, the U.S. government began the process of transferring space technologies over to private industry (Obermann and Williamson (1998: 17)\(^\text{20}\)). This became widely accepted trend consented to by the international community (Salin, 2002: 212). Commercial space endeavors became a growing trend in the 1980s in China, Japan and Europe, however they were fragmentary and piecemeal (Chen 1993; Yoshida, 1992; Tatsuzawa, 1988; and Chorley, 1988). Several space law scholars have commented on U.S. trendsetting behavior in shaping domestic space laws to foster commercialization and privatization of space activities. For example, Salin (2002) asserts that "the United States is the predominant space power on earth, due to its sheer economic, technological and political might. But the business dimension does not explain the whole story. The United States also administers a full-fledged body of space laws and regulations that is unchallenged in volume, sophistication, and coherence by any other nation, or group of nations on earth" (at 209). As distinguished space law scholar and current President of the International Institute of Space Law and former Deputy Director-General of the United Nations Office for Outer Space Affairs states "National legal regulation of space activities began with the onset of space activities. The United States, of course, has the most exhaustive legislation in this field. This is especially so with regard to
the privatization and commercialization of space activities" (Jasentuliya, 1999: 11). Space businesses began to flourish and even former political adversaries formed joint ventures for the purpose of conducting space business (Bencke, 1997: 151-182).

The Reagan Administration's space policy during the mid-1980s sought to create private industry in space. As part of the Reagan Administration’s "general fervor for deregulation", the government began to encourage the commercialization and privatization of space activities (Brooks, 1991: 60). The rationale behind these initiatives is that it is necessary to streamline the federal government by increasing its efficiency and reducing government's size and scope. In addition, some have argued that by privatizing or commercializing activities formerly conducted by the federal government, NASA will achieve reduced costs, thereby freeing up funds for space initiatives such as human exploration beyond Earth orbit (Heydon 1996). Many of the space technologies were converted into consumer goods and services. Examples include the Internet, cell phones, cable television, weather forecasting, imagery retrieval and computer-mapping systems which are all widely used products which were derived from space technology. Space research and development is extremely expensive, time consuming, not very profitable initially, and is very risky. Therefore, not many private businesses wanted to get involved without government incentives (Straubel, 1987: 950). President Reagan, NASA and Congress all expressed an interest in having private business participate in space activities. Due to this push, the U.S. government began the process of transferring space technologies over to private industry (Obermann and Williamson (1998: 17)\textsuperscript{21}. For example, in the United States, communications satellites were first developed with government assistance and through government subsidies (Miyagiwa, 1986). Satellite telecommunications, remote sensing and space launch services went through the process of commercialization and privatization (d’Angelo, 1994; Goldman, 1988). A few examples of action taken to trigger
this change include President Reagan's National Space Policy of 1982 articulating that the basic goals of the United States space policy included the goals of obtaining economic and scientific benefits through the exploitation of space and to expand the United States private-sector investment and involvement in civil space and space-related activities. President Reagan "set the direction of United States space activities during the 1980s" (Straubel, 1987: 948) and provided for private-sector participation and for the United States to encourage domestic commercial "exploitation of space capabilities, technology and systems for national economic benefit" (Dula, 1985: 183). Congress took actions towards these goals. In 1982 Congress passed the Small Business Innovation Development Act, requiring that every federal department with a Research and Development budget of $100 million or more establish and operate a small business innovation research (SBIR) program (Schacht, 2002: 1). Another example, Congress stated its support for commercialization of space activities during deliberations resulting in two reports. The Committee on Science and Technology, U.S. House of Representatives, report of April 15, 1983 stated that "we should establish a policy which would encourage commercialization of space technology to the maximum extent feasible", and the Committee on Commerce, Science and Transportation, U.S. Senate report of May 15, 1983 stating that "efforts by the private sector to invest and seek commercial opportunities in space" (Rumerman, 1999: 357). On May 16, 1983 The National Security Council "issued the Reagan Administration’s policy on commercialization of expendable launch vehicles (ELVs)". Thereby fully endorsing and facilitating the commercialization of ELVs (Dula, 1985: 183-184). This space policy directive created "the Senior Interagency Group on Space (SIG-Space), to focus on the issue of commercialization of the space launch business, created the Presidential Directive on the Commercialization of Expendable Launch Vehicles on May 26, 1983 (Straubel, 1987: 948). President Reagan issued this Directive on the
Commercialization of Expendable Vehicles to "encourage a private sector development of commercial launch operations" (Finch and Moore, 1987: 56-57; Straubel, 1987: 948). This involved making space technology available to private industry at no cost (Dula, 1985), thereby providing even greater incentive for private-sector participation. Another step taken by President Reagan was on February 24, 1984, he issued Executive Order 12465, and “a National Commercial Space Policy was established late in 1984” (Taylor, 1987). This provided the private-sector with an important government resource when it made the Department of Transportation the "lead federal agency for encouraging and facilitating private commercial ELV activities" (Straubel, 1987: 949). To further ensure a smooth shift, the Secretary of Transportation created the Office of Commercial Space Transportation (OCST) to carry out the duties set forth in Executive Order 12465.

Congress further expressed its endorsement of these commercialization and privatization activities by amending the original NASA Act of 1958. The initial Act stated that NASA is to "provide for the widest practicable and appropriate use and dissemination of information concerning its activities and the results thereof". On July 16, 1984, The NASA Space Act was amended by Congress to include explicit language specifically mandating commercialization (Obermann and Williamson, 1998: 17). The very next day on July 17, 1984, Congress passed the Land Remote Sensing Commercialization Act. This Act of Congress facilitated the privatization and commercialization of space remote sensing by providing for the sale of the LANDSAT system to private industry. It also promoted the commercial distribution and use of data from remote sensing satellites. The Reagan Administration influenced Congress to pass this law arguing that "Landsat should be transferred to private industry more quickly and worked with Congress to accomplish the task" (Obermann and Williamson (1998: 19). The primary purpose of the Land Remote Sensing Policy Act was "to transfer remote sensing activities from the public to the
private sector" (Jasentuliyana, 1992: 79). This process of privatization was "intended to make the acquisition and use of the data more economically efficient and less costly to the government by phasing out government funding for operational satellite remote sensing" (Jasentuliyana, 1992: 79). The stated goals of this Act include the maintenance of US worldwide leadership in commercial remote sensing, the preservation of its national security and the fulfillment of its international obligations. Its ultimate end is a "viable private sector enterprise not hampered by excessive regulation" (Ramey, 2000). During a White House ceremony on July 20, 1984, in celebration of the 15th anniversary of the lunar landing of Apollo 11, Reagan elaborated the commercialization policy setting forth federal goals including tax code provisions favoring private business and investment incentives (Dula, 1985: 184).

In facilitating the commercialization and privatization process, NASA took actions concurrent with the Reagan Administration and Congress. In 1983 NASA established the Office of Commercial Programs and formed the NASA Space Commercialization Task Force consisting of NASA representatives, private contractors and advisory groups from industry and academia to "examine the opportunities or impediments to expanded commercial activities in space and developing a policy for NASA's commercialization efforts and an implementation plan for putting the policy to work" (Rumerman, 1999: 357). In 1984, the task force completed its efforts and created a plan "to enhance the agency's ability to encourage and stimulate free enterprise in space". The task force concluded that "private enterprise should help the nation retain its lead in science and technology, as well as modify or eliminate natural and bureaucratic barriers to the commercial use of space" and recommended "the implementation of NASA's Commercial Space Policy to expedite the expansion of self-sustaining, profit-earning, taxpaying, jobs-providing commercial space activities" (Rumerman, 1999: 358). In October 1984, NASA released its Commercial
Space Policy containing a detailed policy and implementation plan "aimed to foster commercial involvement in space". In stated that NASA encouraged "free enterprise to participate in space by inviting industries and other private entities to finance and conduct business in space" (Rumerman, 1999: 359). The policy provides incentives for private-sector involvement in "research and development, using NASA's facilities, patent rights and procedural issues, organizations designed for commercial involvement in space, and NASA's outreach program" (Rumerman, 1999: 359). Another important action taken by Congress on October 30, 1984 was the passage of the Commercial Space Launch Act. The purpose of the Act was "to facilitate commercial space launches, and for other purposes", and it "requires the Secretary of Transportation to promote and facilitate private sector commercial space launches". This made possible the privatization and commercialization of the space launch and transportation services industry. The new law announced a strong United States policy in developing a governmental infrastructure for supporting private investment in a space launch services industry and it created a regime for the smooth operation of a private U.S. space transportation system. It did this by making by providing a governmental entity to ensure fast and smooth paperwork. In 1986 Congress passed the Federal Technology Transfer Act to facilitate the transfer of government owned technology and intellectual property, such as patented space technology, to the private-sector and for commercial applications. This legislation authorized Federal organizations to enter into Cooperative Research and Development Agreements (CRADAs) with private entities. On January 5, 1988, President Reagan approved a new space policy released on February 11, 1988. The new National Space Policy Directive "separated US space activities into three separate and distinct sectors: two governmental sectors (civil and national security) and one non-governmental sector,
identifying for the first time a separate and distinct commercial space sector” (Salin, 2002: 213).

Actions taken recently by political and economic elites suggest the systematic furtherance of the capitalist mode of production for outer space development. For example 1) private business interests and for-profit corporations became visible and relevant actors in furthering commercialization and privatization processes; 2) the number of U.S. laws and policies encouraging free marketization and private-sector participation in outer space development dramatically increased within several government entities; 3) the number of countries participating in the space race increased; 4) space faring nations began following the U.S. trend of creating domestic space laws to govern the commercial aspects of space technologies; 5) government, private and institutional actors began to boldly assert neoliberal free market principles for outer space development; 6) private actors such as new space entrepreneurs along with established space corporations have been taking bold new types of actions to develop outer space, for private-sector profit. These new actions include private-sector political lobbying activities in the form of multi-organizational coalitions, and private-sector actors are taking highly visible publicized actions to promote the privatization of space activities; 7) President George W. Bush has taken distinctly new actions in articulating a new vision for U.S. space exploration policy. The new policy authorizes a new U.S. Space Transportation Policy, and it created the President’s Commission on Implementation of United States Space Exploration Policy to provide recommendations for a free market private-sector oriented the new vision for space exploration activities of the United States; and 8) space transportation systems are becoming faster and more advanced through private funding, which was encouraged by government incentives.
Studying this process is important and consistent with Gill’s (1993: 16) suggestion of a “new historical materialist research agenda for the study of global politics might consistently and systematically involve”, for example, “ongoing attempts to reconsider epistemological and ontological aspects of world order, in the context of past, present and future [emphasis added]”. Specifically, domestic actors operating as the state are facilitating this process in the interest of private-sector capital. These governmental entities include: President Bush, the President’s Commission on Moon, Mars and Beyond, the National Aeronautics and Space Administration, the Associate Administrator for Commercial Space Transportation, the Federal Aviation Administration, and the United States Chamber of Commerce Space Enterprise Council all lend support to the proposition that these actions are being taken to further the commercialization and privatization of outer space development, and the U.S. House of Representatives (Senators, Congressmen, the House Aviation Subcommittee, the House Committee on Science, the Subcommittee on Space and Aeronautics, U.S. Senate Committee on Commerce, Science & Transportation, and the Senate Subcommittee on Science, Technology and Space) are all working together at the request of private-sector space interests to create new free market-oriented legal and political norms for the next stages of outer space development.

Given the history of how U.S. laws have triggered commercialization and privatization trends in satellite communications, remote sensing, space transportation and launch services, space stations and spaceports, coupled with the Post Cold War hegemony of free market neoliberal ideology, it is highly likely that these new actions will fuel a free market direction into the final frontier and that this ongoing trend will be consented to by the international community via the influence mechanism of international institutions.

The Post Cold war and globalization have played an important role in furthering this trend of consent to commercialization, privatization, hyper-commercialization and
hyper-privatization patterns. Many agree that free market ideology and neoliberalism are dominant in the Post Cold War era\textsuperscript{31}. There has been a general gradual acceptance of commercialization, privatization themes within the outer space development regime, as evidenced by the annual International Astronautical Congress themes which have increasingly recognized free market neoliberalism as the relevant approach to outer space development. No longer was the geopolitical spectrum defined in terms of a bipolar balance of power which was conflicted between capitalism versus communism. Neoliberal, free market philosophy and globalization are dominant forces in the global society today (Gill, 2003; Rupert, 2000). For example, Steger (2001) refers to globalization as “the new market ideology” characterized by neoliberalism, neoliberal forces, discursive strategies and material interests. Globalization is often discussed as a process including “a set of interactions” which may be seen as a “complex of historical processes” and understood as “material processes closely related to the accumulation of capital” caught up with the “innovations in capitalism” including competition (Mittelman, 2001: 7). Mittelman in further defining the term explains that “globalization may be regarded as an ideology – the neoliberal belief in free markets and faith n the beneficial role of competition”, and that “globalization is an extensive set of interactions, dialectically integrating and disintegrating economics, politics, and societies around the world”. In referring to globalization as “an epochal transformation”. Neoliberal free market ideology have become a dominant belief system (Stiglitz, 2002; Steger, 2001; Rupert, 2000). This dominance was connected to globalization and privatization processes (Mandelbaum, 2002; Dumenil, Levy & Jeffers, 2004; Moylan & Baccolini, 2003; Yergin & Stanislaw, 2002; Steger, 2001). As Rao & Rao (1998: 1) in \textit{Globalization, Privatization and the Free Market Economy} point out that the interrelationship between the "three dominant forces shaping societies and economies around the world" - globalization, privatization, and
liberalization. They describe these three factors as a "multidimensional phenomena" that impact the economic considerations as well as the sociocultural and environmental aspects of societies. Similarly, Cole (1999) provides that privatization has "swept the globe". Furthermore, this dominance was achieved through the process of lawmaking (Aune, 2002; Williams, 2001; Garvey, 2000; Fitzpatrick, 1996). Similarly, Gilpin (2001: 3) sets forth that “since the end of the Cold War, globalization has been the most outstanding characteristic of international economic affairs, and, to a considerable extent, of political affairs as well”, and he acknowledges that “globalization has become the defining feature of the international economy at the beginning of the twenty-first century. . .”. The Post Cold War has witnessed drastic economic and structural changes in Russia and China and other countries have begun to accept many of the free market/free trade principles (Claudon & Wittneben, 1993; Travieso-Diaz, 1996; Zhao, 2004; Roden, 2003; Cafruny & Ryner, 2003).

Globalization has gradually been operating together with free market norms set at the Bretton Woods Conference immediately following World War II, along with the ascendency of U.S. power. Therefore, once the Cold War had ended, the U.S. began asserted herself in a new way – with an unbridled free market thrust which complements the phenomenon known as “globalization”. Globalization is perhaps the most important defining characteristic of the international system today. For example, Holst describes it as neoliberal globalization defined as “the compendium of economic and social practices oriented toward free trade and privatization initiatives and buttressed by neoclassical economic theory” (Holst, 2004: 23).

It is clear that neoliberalism and free market ideology are dominant belief systems in the Post Cold war era (Mandelbaum, 2002; Dumenil, Levy & Jeffers, 2004; Moylan & Baccolini, 2003; Yergin & Stanislaw, 2002; Steger, 2001), and that globalization and
privatization processes are connected to this dominance (Rao & Rao, 1998; Gershon, 1996). There is much support for the claim that this situation was achieved through the process of lawmakers (Williams, 2001; Garvey, 2000; Fitzpatrick, 1996), and how in the post-Cold War era “international law seeks to justify the power of late capitalism” (Stark, 2002: 1). It is also clear that the United States has been a key actor in the underlying processes towards this current reality (Rosenberg, 2003; Rupert et al., 1995; Hudson, 2003; Boggs, 1999; Gill, 1990; and Augelli & Murphy, 1988). Free market ideology and neoliberalism are linked to the globalization processes (Steger, 2001). For example, Trubek et al. (1994: 407–408) note “law and lawyers are being remade by processes of global restructuring, even as they actively participate in the shape these processes. New transnational and global economic processes and political trends create opportunities for law and lawyers and change the logic of legal practices”.

Gill (1990: 6) analyzed – how “ideology, ideas and institutions” work with an historical order involving “a combination of coercive and consensual aspects of power”, and how this “helps to structure the relationships between states, class, and group forces and social movements”. In the past as Rupert (1995: 42) provides, “the first hegemonic world order, a distinctively liberal system, was constructed in the nineteenth century (c. 1789-1873). With the political, economic and ideological ascendance of Great Britain – driven by the first industrial revolution – a qualitative change was brought about in global social relations as British statesmen and capitalists transported the norms and practices of liberal capitalism into the world in which they operated”. Currently a qualitative change regarding outer space development is in process. Driven by technological revolutions, the U.S. House of Representatives (statesmen), various private-sectors space companies and new space entrepreneurs (capitalists) have taken political steps to reconstruct legal norms and commercial practices to further neoliberal free market ideology regarding the final
Krasner's (1995) foundational work, *International Regimes*, leaves us to understand that whether or not international regimes really matter in IR is still unresolved and subject to debate. Very little is understood about international regimes. The literature on regimes has ignored the ideological role played by the dominance of free market ideology and capitalism (Rupert and Smith, 2002). At the same time, Gramscian approaches to the study of international relations have been largely overlooked — particularly in approaches which attempt to explain international regimes. This dissertation shows that applying a Gramscian analysis to the outer space development case elucidates the distinct way in which political power is exercised by international regimes, state governments, private corporations and international institutions. In this section I will demonstrate the value of using a Gramscian analysis by pointing out the strengths and weaknesses of other IR approaches. Several IR theories explain part of the space law and outer space development regime phenomenon, but only a Gramscian approach can provide an adequate explanation. Existing theories of regimes — state centric/realist approaches, neoliberal institutionalist each fail to provide an adequate framework for explaining the influence of private capital on the outer space development regime, how this has changed and endured over time, or the impact of structure. The Post Cold War distribution of power coupled with
globalization and the dominance of neoliberal ideology have impacted outer space regime
dynamics. By applying a Gramscian analysis to the study of the space law and outer space
development regime we can better understand the importance and impact that private
capital and the neoliberal global order has had on the outer space development regime.

Generally, for realists and neorealists relations between state actors take place in
the absence of a world government, and they view the international system as anarchical.
Realists focus on the relative distribution of power between states. State actors are seen as
the principal units effecting international politics. And, state actors are assumed to be
unitary and rational in asserting their own self-interest. When realists contemplate change
in the international system, they focus on changes in the balance of power between states
(Bull, 1977; Morgenthau, 1978; Krasner, 1982; Waltz 1979 & 1986). With respect to
international regimes and whether or not they matter in IR, similar arguments have been
made by realists and neorealists. Within the regime literature, realists assert that regimes
have no causal effect and do not matter. In addition, they suggest that the term itself is
misleading because it obscures basic economic and power relationships between states in
the international environment. For realists there is no significant role played by principles,
norms, rules and decision-making procedures in international relations (Strange, 1982).
Although using different categories, Krasner's modal perspective is similar to Hasenclever,
Mayer and Rittberger's power-based realist approach. Both of these categories take the
standard view of realist scholars that the only relevant actors involved in international
relations are rational, self-interested states. The structural realist approach seeks to
understand world politics by focusing on the structure of the international system. For
them, the international system has two constants (it is anarchic and it is made up of
interaction between units who "with similar functions") and one variable (the distribution
of capabilities across the states in the system, varies from system to system, and over
time". The international structure is defined by the major actors (Viotti & Kauppi, 1993: 193; see also Waltz, 1979: 93). Within the international regime theory literature, Krasner uses a second category - *modified structural* - to classify theorists who accept the basic analytic assumptions of structural realism. These scholars posit that the international system is symmetrical with power-maximizing self-interested states, acting in an anarchic environment. Modified structural theorists focus on state self-interest – often using theories of hegemonic stability or game theory. According to this perspective, regimes may arise, but only when actors believe that this is the only way or the best way to achieve certain desired outcomes. For example, these theorists have asserted that cooperation is only for the sake of self-interest, and they use the concepts of pareto-optimal outcomes and the prisoner's dilemma to demonstrate this point (Stein, 1982; Keohane, 1982).

A study of the space law and outer space development regimes reveals that understanding international politics requires more than realism's focus on international structure as a constant, or the relative distribution of power between states. Realism is strong in explaining the relevance of focusing on national interest and the distribution of power between the United States and the Soviet Union during the first epoch. However, realist assumptions do not explain periods of change within the regime, or the significant role played by private capital, towards institutional or symbolic coercion. Nor does it explain how the influence of private capital creates consent on the part of the international community, in regime formation, endurance and change. Although a realist approach would explain how power has been exercised through state actors within the space regime, it would not explain the high levels of interdependence, cooperation, or the relevant roles taken by key nonstate actors. Likewise, a structural realist approach might the focus of the structure of the international system, however, it cannot provide the necessary framework capable of explaining regime change by considering the increasing the dominance of
Neoliberal hegemony, ideological influence of private capital and cultural strategies apparent in the Post Cold War era.

Neoliberal institutionalists focus on how and when institutions matter in IR. For example, Crawford explains, "liberal institutional" theorists tend to exhibit more interest in investigating institutional dynamics than realists, and that realists tend to explain regimes away than to attempt to explain them. He further points out that the on the other hand, the directly relevant insights of liberal scholars are often shot down by realists as being "unsystematic, scattered and lacking in authority" (Crawford, 1996: 138). Neoliberal institutionalists tend to argue that institutions are relevant nonstate actors in IR since they “provide information, can reduce transaction costs, make commitments more credible, establish focal points for coordination, and aid in the operation of reciprocity and multilateralism among states” (Viotti & Kauppi, 1999: 488). Neoliberal institutionalists' assumptions about anarchy of the international state system are similar to neorealists'. Both believe that the anarchy of the international state system shapes the behavior of states, causing them to act in accordance with national interest defined as power (Keohane, 1986). However, unlike neorealists, neoliberal institutionalists see regimes as intervening variables having the power to effect IR. Neoliberal institutionalists focus on the complexities of change and tend to argue that institutions have the power to influence IR (Aceves, 1997).

Specifically regarding international regimes, a number of scholars have followed the neoliberal tradition. For instance, Hasenclever, Mayer and Rittberger's (1997) "neoliberal/interest-based" approach, focuses on motives for cooperation among states and how this causes cooperation and regime creation. By way of constrast, Krasner (1995) refers to this category as the Grotian perspective. This perspective posits the view that "regimes are a pervasive characteristic of the international system; and no patterned
behavior can sustain itself for any length of time without generating a congruent regime" (Krasner, 1995). With the Grotian perspective, regimes and the way nations behave are so intertwined that they cannot be disentangled. This perspective views regimes as a "pervasive facet of social interaction, and views interests, power, norms, customs, and knowledge as potentially playing a role in regime formation" (Krasner, 1995; Young, 1982; Puchula & Hopkins, 1982). These causal factors may be manifest through the behavior of individuals, particular bureaucracies, and international organizations, as well as states. This view assumes that "no patterned behavior can sustain itself for any length of time without generating some sort of congruent regime" (Krasner, 1995).

Neoliberal institutionalist theories are useful in that they provide a more adequate explanation for the second epoch, than realism since they account for the relevance of nonstate actors and the processes through which nonstate actors operated during the second epoch. During this period, economic, social or environmental issues were treated as being just as important as matters of state power and national security. Also nonstate actors such as international institutions, corporations and organizations were relevant focal points for understanding international politics of the space regime during the second epoch. However, as with realism, there are certain aspects of the space law and outer space development regimes that cannot be explained by neoliberal institutionalism. For example, neoliberal institutionalism cannot explain the privileged position of business in a neoliberal economic order and capital's role in regime change. Although neoliberal institutionalists provide us with a framework to include multiple actors and multiple issues, this framework doesn't provide an explanation of the hegemony of neoliberal ideology in the space law and outer space development regimes. Neither focuses strongly enough on the impact that material resources has on individuals, organizations and/or networks. Also neither pays
close enough attention to structural characteristics of the new epoch wherein the free market ideology is dominant in today's global society, or the role of private capital.

Relying conceptually on Gramsci, Cox (1986), and Gill & Law, (1993) point out that in order to understand international regimes we must account for U.S. post war hegemony and its influence on international institutions. Cox exposes two weaknesses of regime theory: 1) the neglect of domestic factors such as “the (nearly) worldwide institutionalization of the specifically American Conception of social order” and 2) the lack of “systematic reflection on the moral status of contemporary international institutions including “the parallels between central domestic regulations in the United States and the multilateral principles of post war international institutions” (Hasenclever, Mayer and Rittberger, 1997: 203). In Historical Materialism and Globalization, Rupert and Smith (2002) demonstrate “the relevance of historical materialist approaches to the study of globalization and international relations” (2002: 4). The authors remind us “of the continuities which related contemporary global processes, and indeed possible future worlds, to the history of capitalism as an expansive form of social organization”. An historical account of the space law and outer space development regimes demonstrates that changes in the third epoch are a continuation from the second epoch’s rise in commercialization and privatization. Therefore, there is a link between the dominance of capitalism and free market ideology and regime endurance and change. Rupert and Smith’s (2002: 4) explanation which hinges on an understanding of “historically specific material conditions of social reproduction”, is uniquely useful in explaining how the second epoch shift to commercialization and privatization allowed the space law and outer space development regimes to endure and to change.

The last two periods of change within outer space development regimes (the second epoch and third epochs) seem to have been influenced by the global triumph of capital.
Moreover, there is a new boldness with which the neoliberal ideology has infiltrated the space law and outer space development regimes, along with new actors and new institutions, during the Post Cold War era. It seems that the role of international capital enjoys a privileged position in today’s neoliberal economic era. This aspect of regime change is linked to globalization. As such, a Gramscian inquiry aids us in understanding “‘globalizing capitalism’ – its dynamics and trajectory (or, more accurately, its possible trajectories) – and investigates how some of these traditions of thought can be used to help us understand contemporary international relations – or ‘globalization’” (Rupert and Smith, 2002: 4). Rupert and Smith (2002: 76) point out that “orthodox social science, and international relations, avoid” speaking about capitalism and imperialism. It “is as if the central motor of this phenomenon is too complex, or too sacred, for social science to utter its name: this, more than any other discursive denial, constitutes the ideology of social science, globalization studies included, today” (Rupert and Smith, 2002: 76). They further assert “that this process is conducted for profit, with the aim of both subjugating and incorporating, is the central dynamic, and secret, of the modern epoch” (2002: 76). The dominance of neoliberal ideology globally has made space law and outer space development regimes more ready to accept free market discourse and significant changes suggested by the entrepreneurial class regarding new directions for outer space development. As Cox provides, a Gramscian analysis with its focus on hegemony, ideological legitimation of norms and consensus, provides a useful theoretical tool to understand these developments. Cox explains that “international institutions embody rules which facilitate the expansion of the dominant economic and social forces but which at the same time permit adjustments to be made by subordinated interests with a minimum of pain” (Cox, 1993: 62). Gill & Law's (1993) framework provides a further explanation of this. For example, they assert that a “hegemonic order is one where consent, rather than
coercion, primarily characterized the relations between classes, and between the state and civil society” (93). They further assert that “the power of the ruling class, or class fraction over others, was partly exercised through the state. Gill & Law (1993) essentially argue that the exercise of power, or “was not simply dominance through sanctions, punishments or inducements; it also involves ‘intellectual and moral leadership’ “.

**Conclusion**

As political and economic elites are busy carving out a free market direction for outer space development, critical theorists are focusing on issues concerning past causes of structural inequities such as underdevelopment, colonization, slavery and the North-South divide. Meanwhile, the same forces that created these structural phenomena are currently and silently at work to perpetuate similar patterns of dominance for the final frontier – humankind’s next territory for colonization. While past phenomena are of great importance, it is also important to use critical insights such as Gramsci to uncover exercises of power and dominance relevant for our immediate future. In order to understand emerging trends we must know how to highlight relevant historical links between role played by capitalism, globalization, U.S. domestic lawmaking’s power and influence on international regimes and how these processes produce hegemony. This is the only way to hope for potential social change in the future. Hence, a Gramsican analysis allows for a more careful probing of the ways in hidden ideological dominance works with the international structure through the state and international institutions to further to maintain the global political economy. By highlighting historical trends wherein space lawmaking has been used as a mechanism to facilitate free market neoliberal hegemony and demonstrates the likely path that political and economic elites will pursue as outer space development becomes a reality.
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ENDNOTES


3 For example, in the US, domestic laws and policy statements have encouraged privatization of the space transportation industry. The Commercial Space Launch Act of 1984 regulated private space transportation in the US. Prior to this, it was fragmentary and inconsistent. In 1984, the Department of Transportation was designated the lead agency for commercial launch activities. And other similar policy statements followed. For instance, the National Space Policy (1989), the Commercial Space Launch Policy (1990), the Commercial Space Policy Guidelines (1991), and the National Launch Strategy (1991) see Nathan C. Goldman American Space Law: International and Domestic 2nd ed. (San Diego, California: Univelt, 1996); Patrick Salin (June, 2002) "An Overview of US Commercial Space Legislation and Policies - Present and Future" Air and Space Law, Volume 27: 3.

4 There is a distinct difference between commercialization and privatization. The term "commercialization" means the profit making transfer of goods and services by or to state, private or organizational enterprises. Whereas "privatization" means "the transition of government owned and operated civilian space activities to strictly private ownership and operation, or civilian space activities originating through private initiative". Also commercialization and privatization often occur in successive phases (Tatsuzawa, 1988).

5 For example, in 1958 when NASA was founded, Project Mercury allocated funds to NASA and its private contractors to develop spacecraft.

6 President Eisenhower was in office at the start of the space race. It is clear from U.S. government documents and correspondence between President Eisenhower and Chairman Khrushchev that suspicion and distrust were prevailing themes between the U.S. and U.S.S.R. during Eisenhower's Presidency. Also See Achievements in Space, International Aspects of Exploration and Use of Outer Space, 1954-1962, Senate Documents, Volume 6, No. 1, 88th Congress, 1st Session, 1966. International space law treating making constantly was at an impasse due to this tension between the U.S.
and U.S.S.R. until Kennedy became President. Tensions soothed somewhat and international space lawmaking was very progressive until 1979.


9 The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (The Moon Treaty) 18 ILM 1434, GA Res. 34/68, GAOR, 34th Session., Supp. No. 46, at 77 (entered into force July 12, 1984).

10 This Act was passed shortly after the successful launching of Telestar I in order to commercialize the satellite communications industry. This Act was created and implemented into law. Section 102 of the Act provides:

(a) The Congress hereby declares that it is the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable, a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives, which will serve the communication needs of the United States and other countries, and which will contribute to world peace and understanding.

(b) The new and expanded telecommunication services are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date. In effectuating this program, care and attention will be directed toward providing such services to economically less developed countries and areas as well as those more highly developed, toward efficient and economical use of the electromagnetic frequency spectrum, and toward the reflection of the benefits of this new technology in both quality of services and charges for such services.


12 The Interim Agreement provides that the U.S. COMSAT Corporation be designated to operate INTELSAT temporarily until the organization "gets on its feet" (Morgan, 1994: 18). It was a financial success creating investment revenues, jobs, goods and services. It was "intended to produce a minimum of fourteen percent return each year for its shareholders" (Wong, 1998).


15 http://about.inmarsat.com/business


17 On June 12, 1997, Congressmen Thomas Billey and Edward Markey introduced H.R. 1872 - the Communications Satellite Competition and Privatization Act of 1998 ("the Billey Bill") to the U.S. House of Representatives. The Billey Bill called for the privatization of Inmarsat by January 1, 2001 and INTELSAT by June 1, 2002. The Bill requires the FCC to limit or revoke authority from the ISOs (INTELSAT and Inmarsat) to provide non-core services to, from or within the U.S. unless the ISOs and their successor entities have been privatized in a manner that does not harm competition in the U.S. telecommunications markets. Moreover, this Bill directs the President and the FCC to initiate multilateral negotiations with the ISOs' current signatories to establish a pro-competitive privatization of the ISOs. Essentially The Billey Bill's purpose was to amend the Communications Satellite Act of 1962 by "calling for the privatization of all treaty-established intergovernmental Satellite Organizations" (Wong, 1998: 2). This legislation is aimed at promoting "competition in domestic and international market for satellite communications services by encouraging the privatization of the intergovernmental satellite organizations INTELSAT and Inmarsat, and by reforming the regulatory framework of COMSAT Corporation", which is the U.S. government's private corporation involved with contracting with the two IGOS. The overall legislative intent was to restructure the two intergovernmental organizations in order to "create a competitive satellite industry in the United States through the restructuring of the ISOs" (Wong, 1998: 2). The Billey Bill called for a "worldwide privatization of state-owned telecommunications companies". Supporters of the Bill argued that INTELSAT and Inmarsat, as international governmental organization are monopolies which are impeding free market competition. The Billey Bill was passed by the U.S. House of Representatives on May 6, 1998. A similar Bill (S 376) entitled "Open-market Reorganization for the Betterment of International Telecommunications Act" with the same intents and purposes was introduced to the Senate by Senator Conrad Burns on February 4, 1999. It passed the Senate Commerce Committee on May 5, and the full Senate on July 1, 1999. The House substituted the language of the Communications Satellite Competition and Privatization Act of 1999 (H.R. 3261) which was introduced on November 9, 1999. With this minor change the House and Senate agreed and passed the bill on March 2, 2000.

18 Their approved decision was consistent with the mandate set forth in the ORBIT Act to "transfer substantially all assets, liabilities, and operations to a private, Bermuda-based holding company, known as Intelsat Ltd., and its fully owned subsidiaries. All satellites, as well as corresponding operating licenses, would be held by a Delaware-incorporated subsidiary and U.S. licensee, Intelsat, L.L.C. Intelsat's main service subsidiary would remain in Washington, D.C., in the
ncompasses a wide variety of activities by which some public entity conveys
property rights to some private entity or entities - everything from outright giveaways or sales of public lands, to the
granting of licenses or concessions under which private firms finance, construct, or manage hotels, airports, wastewater
treatment plants, highways, prisons, and schools”. See also Robert W. Poole, Jr., (1996) "Privatization for Economic
Development", in The Privatization Process: A Worldwide Perspective by Terry L. Anderson & Peter J. Hill (eds.).
Obermann and Williamson (1998: 17) set forth a detailed analysis of the space technology transfer process. They
explain that for over four decades "successive US Congresses and Presidential Administrations have sought ways to
improve the prospects for successful commercialization in two major ways: transfer of technology developed in
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opportunities in space”.


Secretary Dole officially delegated the duties enumerated in Executive Order 12465 to the director of the OCST on
February 24, 1984". The Secretary's order described "OCST's primary responsibility to be the [f]ocal point within the
Federal licensing related to commercial expendable launch vehicle operations and for promotion and encouragement of
commercial expendable launch vehicle industry" (Straubel, 1987: 949).


National Aeronautics and Space Act of 1958, sec. 102 9(c), as amended July 16, 1984 by Public Law 98-361.
Prior to the Land Remote Sensing Policy Act of 1984, U.S. remote sensing activities were shaped by bilateral
agreements between NASA and foreign countries (Baker, O'Connell and Williamson, 2001).

A compilation of U.S. Land Remote Sensing Policy, and laws go to


Space Transportation, Chapter 701, Commercial Space Launch Activities, 49 U.S.C. 2601-2623 and 70101-70119 (as


See Gerard Dumenil, Dominique Levy and Derek Jeffers' (2004) Capital Resurgent: Roots of the Neoliberal
Revolution; Tom Moylan and Raffaelia Baccolini (eds.)(2003) Dark Horizons: Science Fiction and the Dystopian
Imagination; and Michael Mandelbaum (2002) in The Ideas that Conquered the World: Peace, Democracy, and Free
Markets in the Twenty-first Century.

interrelationship between the "three dominant forces shaping societies and economies around the world" (globalization,
privatization, and liberalization) and refers to them as a "multidimensional phenomena" that impact not only the
economic, sociocultural and environmental aspects of societies. Similarly, Gershon (1996) in The Transnational Media
Corporation outlines and discusses the combination of international privatization trends and specifically links them to
advancements in computer and communications technology.

The geostationary orbit has already been colonized. There are approximately a thousand satellites orbiting in this
region. Slots in the geostationary orbit were allocated to various states through the International Telecommunications
Union during the second epoch. This activity has resulted in a lucrative industry due to a multitude of goods and services
stemming from satellite telecommunications.