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# Telecommunications Technology and Sovereignty: Effects on States as Information Transfer Increased from the Speed of Oxcart to the Speed of Light

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# TELECOMMUNICATIONS TECHNOLOGY AND SOVEREIGNTY:

# EFFECTS ON STATES AS INFORMATION TRANSFER INCREASED FROM THE SPEED OF OXCART TO THE SPEED OF LIGHT

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ABSTRACT

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Sovereignty — the absolute and unlimited power of the state — provides independence of action. Information about actions or intentions of competitors, enemies, or even friends, arriving after extended periods of time, resulted in responses to *fait accompli*. When information travels nearly instantaneously, states must consider potentially rapid international reactions before the fact. This suggests that since a state's freedom of action has been abridged, the nature of their sovereignty has altered.

This study pursues the research question: In what ways does telecommunications technology affect state sovereignty? The evolution of sovereignty is compared to development of telecommunications technology over four distinct eras, each characterized by a dominant means of telecommunications.

The first era (1648 to 1844), serving a control function, covers the period from Westphalia to introduction of the electromagnetic telegraph. Information moved at the speed humans could carry it and the concept of sovereignty manifested in the guise of an international system of sovereign European states.

The second era (1845 to 1917) began with introduction of the telegraph and concluded when the Zimmerman Telegram was plucked from the electromagnetic ether

and became an element in the entry of the US into World War I. At the same time, sovereignty extended far beyond its original "closed club" of European states.

Radio, telephone, telegraph, and television dominated information transfer during the third era (1917 to 1964). Sovereignty extended throughout the world while information transfer became widespread and nearly instantaneous.

The final era (1965 to present) began with the launch of the first telephone relay satellite and telecommunications approached ubiquitous. The international system of states grew to nearly 200 sovereign entities and took on the status of the "norm" throughout the world and "nations" of all types demanded their share of sovereignty.

Each era compares the development of information transfer on sovereignty by examining the dominant mass media, telecommunications systems, state territorial control, cultural cross-pollenation, and international finance. The sovereignty and the international system of sovereign states of Westphalia in 1648 differs from the sovereignty of the early twenty-first century but the sovereign state remains an organizing factor in the international system.

Dedicated to
Miriam Elizabeth Bentley Radford
February 14, 1915 to August 27, 2004
Bachelor of Science, Practical Arts, Business Training
Boston University, 1936
"Mom"

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# CHAPTER I

# INTRODUCTION

Relationships between widely diverse causes and apparently unrelated effects often appear incomprehensible to initial observation. This study pursues a similar enigma and describes a search for, and analysis of, a covariant relationship between telecommunications technology and national sovereignty. Superficially, connections between telecommunications and sovereignty might seem as remote as an association between a small patch of warm water in the Pacific Ocean and the number and intensity of hurricanes in the Atlantic. Superficial observation, however, does not always indicate an obvious association, or causality, among variables. As revealed by intense study of weather patterns, periodic appearance of *el Niño* — a relatively small Pacific region where water temperature increases by only a few degrees — results in changed weather patterns in North America and the Atlantic.[1] Detecting causality between Pacific water temperatures and Atlantic weather patterns requires navigating through an extensive labyrinth of intervening variables. Similarly, an appropriately focused examination of telecommunications development reveals the likely existence of an interesting relationship to state sovereignty through the addition of an intervening variable — information.

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This paper follows the format requirements of *The Chicago Manual of Style* 15th Edition.

[1]Stanley A. Changnon, "Impacts of El Niño's Weather," in *El Niño, 1997-1998: The Climate Event of the Century*, ed. Stanley A. Changnon, 136-166 (Oxford: University Press, 2000), 145.

Throughout humanity's history, information traveled at the speed human beings could carry it — nominally, and somewhat metaphorically — the *speed of oxcart*. In primitive times, data traveled only via "word of mouth." In later eras, the information might be written on parchment, paper, or some other substrate, or perhaps, committed to memory but the speed of human travel still limited the rapidity of transfer until the nineteenth century advent of the electronic telegraph. By the twenty-first century, information traversed the world in a multitude of formats at velocities up to and including the speed of light. The volume of information transferred, the distances traversed, and the depths of society reached all depended upon telecommunications technology, but more specifically, it is the information element which holds the primary potential for influence on states exercising their sovereignty; the underlying technology makes it possible.

Sovereignty is manifested in the international system of sovereign states which reached fruition during the seventeenth century when telecommunications did not exist. Information transfer changed little during the ensuing two centuries. Often, depending on distance, by the time potentially influential "news" reached a distant state, it had passed through its natural metamorphosis to become "history." By contrast, in contemporary society, the entire world often learns of, and follows, breaking news in "real time" because of telecommunications technology which allows immediate transfer and concurrent wide dissemination of information. Telecommunications systems — ranging from the telegraph at its simplest to twenty-first century interconnected computer networks at a current zenith — have the ability to carry information of all types over vast distances and across sovereign territorial borders with little, if any, state supervision or control. Therefore, information — the rapid exchange of which is made possible by

modern advances in telecommunications — emerges as an intervening variable suggesting the possibility of association or causality between sovereignty and telecommunications deserving further study.

Some effect on state sovereignty appears intuitively obvious. How can a notional state possess and pursue the same degree of sovereignty as previous centuries? Prior to the telegraph, states learned of the actions of other states only as people traveled between locales. In the "wired" world, with instantaneous and worldwide information transfer, state actions become known throughout the world, as they occur.

The state's sovereignty-based pursuit of security and its place in the international system of states receives stimuli to change or evolve from many directions as a result of telecommunications technology. Information, as an intervening variable, and the increased speed of its transfer receives much of the attention and analysis in following chapters. However, the ability to transfer information in massive quantities, rapidly, with little if any regard to distance also has secondary and tertiary effects. Developing international economy, especially in the second half of the twentieth century, moved toward a new system based on service, all types of technology, and information. The new economic order relied on telecommunications technology to survive and prosper — an essential element of the new system was constant, immediate communications among participants. As it developed, the importance of territorial control exercised by states decreased.

Various organizations took on elements of importance by which they claimed a place as players, if not actors, along side states, in the international system. The intermingled relationship of multinational corporations (MNCs), all types of international

organizations, and a new financial order required reliable, and constant communications provided by telecommunications. The impacts on sovereignty from telecommunications technology-reliant players in the international system also figure in this study and its analysis.

## Research Question and Hypotheses

As a first step, the specific areas for study must be identified in the form of a research question on which to base core hypotheses and provide for more complex exploration. Therefore, a parsimonious interrogative sentence establishing the basis of all that is to follow emerges as: In what ways does telecommunications technology affect state sovereignty?

From the research question, then, basic hypotheses come forth to provide a focus for investigation around which more complex explanations might be explored. At the core, this study explores the following hypotheses:

The more telecommunications technology developed, the less states could:

a. Control the passage of information across their borders.

b. Influence the inflow and outflow of funds.

c. Limit cultural penetration through foreign influence from MNCs, international financial institutions, and intergovernmental organizations (IGOs) and non-governmental organizations (NGOs).

Of course, a null hypothesis must also be considered in order to establish falsifiability: State sovereignty is unaffected by telecommunications technology.

Definitions

Evaluating changes in sovereignty over time and how telecommunications technology contributed to those changes necessitates the use of a variety of terms which share vernacular, technical, and discipline-specific meanings. The most used words on which the investigation depends, therefore, require specific definitions to clarify their use throughout this dissertation.

As the central theme, *sovereignty* requires special clarification. It is a term often used in mass media vernacular as well as a dominant theme in international relations. It is a social science term and takes on numerous theoretical nuances and practical interpretations as well. As a theoretical concept describing and explaining state behavior, it comprises the primary element in any debate concerning the international system and its actors.[2] It also has more substantial elements. Later discussion (Chapter II) will establish a more inclusive theoretical basis and interpretation of the concept, but for the purpose of introducing the study's subject and scope, a simple, introductory political science definition provides a starting point: "The absolute and unlimited power of the state."[3] The context implies "within the borders of the state." It provides a convenient framework within which to study the state as the primary actor in the international system, and by which to analyze state behavior. However, many sovereign state actions remain tacit and unacknowledged in such a simplistic definition. Further study requires a definition which acknowledges the scope of sovereignty while maintaining succinct and

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[2]Sohail H. Hashmi, "Introduction," in *State Sovereignty: Change and Persistence in International Relations*, ed. Sohail H. Hashmi, 1-14 (University Park, PA: Pennsylvania State University Press, 1997), 4.

[3]Andrew Heywood, *Political Theory: An Introduction* (London: St. Martin's, 1999), 90.

parsimonious limits; it must acknowledge both the nature of sovereignty and the sovereign state to which it refers.

Sovereignty divides into two categories, both of which must be included in any definition. Internal sovereignty is the absolute and unlimited power of the state within its territorial boundaries. External sovereignty is the state's place in the international system.[4] The 1933 Montevideo Convention on Rights and Duties of States defined a sovereign state under the context of international law as containing four essential elements: Defined geographical territory; a population identified with the state; a functioning, sovereign government recognized by other sovereign governments within the international system; and the capacity to enter into relations with other states.[5]

Therefore, a working definition must include both internal and external elements of sovereignty. Internally, it is the state's ability to control activities that are nominally or juridically subject to authoritative decisions,[6] with that realm of control defined by territory wherein a stable government exercises final authority.[7] External sovereignty requires recognition by other actors in the international system. A working definition of

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[4]Ibid., 92-97.

[5]Hurst Hannum, *Autonomy, Sovereignty, and Self-Determination: The Accommodation of Conflicting Rights* (Philadelphia: University of Pennsylvania Press, 1990), 16.

[6]Janice E. Thomson and Stephen K. Krasner, "Global Transactions and the Consolidation of Sovereignty," in *Global Changes and Theoretical Challenges: Approaches to World Politics for the 1990s*, ed. Ernst-Otto Czempiel and James N. Rosenau, 195-219 (Lexington, MA: Lexington Books, 1989), 195-196.

[7]Ibid., 197.

sovereignty then emerges as: "Recognition by internal and external actors that the state has the exclusive authority to intervene coercively in activities within its territory."[8]

In conjunction with sovereignty, several other terms appear throughout the ensuing discussion. As a foundation for discussion, the following definitions apply, unless otherwise expanded or elaborated upon.

Reference to the *state*, always implies *sovereign* state. Political science definitions of the state generally require it to be composed of three elements: a functioning sovereign government, a population, and territorial limits.[9] Often, a fourth element is added to a state's minimum requirements — the acceptance of sovereign status by other states which includes the ability to enter into international agreements (treaties). This appears inherent to the sovereign government rather than a separate element of the definition. The state and sovereignty are, therefore, inextricably linked but not necessarily synonymous. Since the sovereign government forms an essential element of the state, anything that affects the government's pursuit of its absolute and unlimited power may be said to have an impact on sovereignty. Constitutions exist to limit the government's use and abuse of power and prevent any individual or institution from gaining total control; this effect on sovereignty is *internal* to the state and exceeds the scope of the study at hand. It is the *external* influences on the government's pursuit and exercise of sovereignty that are of concern and interest.

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[8]Janice E. Thomson, "State Sovereignty in International Relations: Bridging the Gap Between Theory and Empirical Research," *International Studies Quarterly* 39, no. 2 (1995): 219.

[9]Joshua. S. Goldstein, *International Relations* (New York: Longman, 1999), 11.

Specific differentiation between the government and the state requires some additional refinement for the purpose of discussion and analysis. Various elements of power provide a framework by which to explain the state as it is used throughout the following chapters. The political entity defined by territory, population, and government, taken as a whole is often referred to in vernacular as the land, the nation, or the country. It represents a synergistic amalgamation of natural resources, the population and its collective individual assets, along with a combination of "hard" and "soft" power. Hard power consists of economic and military might which holds the potential to coerce, threaten, or induce cooperation by the resident population or other participants within the international system. Soft power, on the other hand, uses culture, values, and ideas convince others of the validity of or need for cooperation.[10]

Policies and responses to threats, both foreign and domestic, are developed and executed not by the geographically-defined political element as a whole, but by the government. As an actor in the international system the specific state, and the state power it exercises, represent that portion of the total power which can be extracted by decision makers and used to achieve their ends. State intentions are shaped by capabilities, but state structure limits the amount of power available to decision makers.[11] The exercise of domestic sovereignty, as a result, has internal limits determined by domestic structures, constitutions, and institutions. This study focuses on the exercise of sovereignty as manifested in the employment of state power.

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[10] Joseph S. Nye Jr., *The Paradox of American Power: Why the World's Only Superpower Can't Go It Alone* (New York: Oxford University Press, 2003), 9-10.

[11] Fareed Zakaria, *From Wealth to Power: The Unusual Origins of America's World Role* (Princeton, NJ: University Press, 1998), 9.

The term *nation* often appears in popular vernacular as synonymous with state or country. However, when used herein, the term refers only to a grouping of people with shared characteristics such as language, culture, or historical heritage.[12]

A dictionary definition adequately describes *telecommunications technology*, a rather straight forward technical term: The science and technology of transmitting information, as words, sounds, or images, *over great distances*, in the form of *electromagnetic signals*, as by telegraph, telephone, radio, or television.[13] [Italic emphasis added.]

Telecommunications technology allows the electromagnetic "connection" of geographically diverse points. That, in itself, results in little impact on any body politic. However, establishing such connections allows nearly instantaneous exchange of *information*, which also requires a working definition. In this case, information is simply: a collection of facts, data, numbers, and symbols that have meaning.[14] When considering the *movement* of information, two elements must be considered. First, the *transfer* of information from one place to another constitutes nothing more than people or institutions "learning" or becoming aware of information which originated some distance away. *Distribution*, on the other hand, represents the depth or breadth of the population becoming aware of information, akin to publication or broadcast, by way of examples.

For the purpose of investigating the validity of hypotheses, information may be viewed in its modern sense as an *abstract* commodity, traveling at nearly instantaneous

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[12]Hans J. Morgenthau, *Politics among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf, 1967), 97.

[13]*Random House Webster's Electronic Dictionary and Thesaurus,* College Edition, 1999, s.v. "Telecommunications."

[14]*Information Age Dictionary.* (Overland Park, KS: Intertec Publishing, 1992), s.v. "Information."

speeds, and over which the state often may exercise little control or supervision. As a result, state actions often become known throughout the international system instantly. Purely domestic decisions must be made with consideration for international ramifications, begging the question: Does increasing the speed, breadth, and depth of information transfer cause states to alter their behavior? If so, it could be said that states' pursuit of sovereignty has been attenuated since they find themselves obligated to consider the international system when dealing with domestic situations where sovereign power would be, theoretically, absolute.

## Purpose of Research and Importance of the Question

The foregoing discussion of sovereignty, information, and telecommunications indicates the likelihood of an interesting association between telecommunications technology and state sovereignty. Pursuit of answers to the research question, "In what ways does telecommunications technology affect state sovereignty?" promises a positive contribution to political science's common body of knowledge.

The sovereign state continues to play a significant role in the international system, but manifestation of the theory — the sovereign state — appears to be in transition. States still exist, but the sovereignty under which they operate in the international system is not identical to the concept as it emerged in 1648. Virtually all theories of international relations start with the foundation of the sovereign state as the primary element of the international system. Realism, the basis of comparison from which other theories establish their explanations of the international system, focuses on states' pursuit of power and regards states as the dominant, if not the only actors in the international

system.[15] Neo-realism concentrates on the structures and distribution of power but maintains the primary importance of sovereign states in the international system.[16] Various other theoretical approaches regard the state with less dominance or primacy, but still acknowledge its importance as an organizing element in the international system. Liberalism, in general, extends the focus of the international system beyond the state, through organizations and institutions, on to the level of individuals.[17]

Therefore, the future of sovereignty is of primary importance to the common body of knowledge — both theoretical and practical. Telecommunications technology, enabling the massive and instantaneous exchange of information, has evolved so rapidly that it is often referred to as a "revolution."[18] The potential interaction of these two subject areas, which might seem diverse and unconnected, deserves serious inquiry to examine in what ways telecommunications technology affects state sovereignty.

## Methodology

Concerted and scholarly analysis of sovereignty presents significant challenges to the researcher. Ideally, and wherever possible, the research effort would rely on statistical or experimental methods.[19] Sovereignty, as an abstract concept, does not lend itself to

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[15]Morgenthau, *Politics among Nations*, 25.

[16]Kenneth N. Waltz, *Theory of International Politics* (New York: McGraw-Hill, 1979), 95.

[17]Michael W. Doyle and G. John Ikenberry, "Introduction: The End of the Cold War, the Classical Tradition, and International Change," in *New Thinking in International Relations Theory*, ed. Michael W. Doyle and G. John Ikenberry, 1-19 (Boulder, CO: Westview, 1997), 12.

[18]Joseph S. Nye Jr., *Bound to Lead: The Changing Nature of American Power* (New York: Basic, 1991), 8.

[19]Arend Lijphart, "Comparative Politics and the Comparative Method," *American Political Science Review* 65, no. 3 (1971): 685.

empirical operationalization; there are no "units of sovereignty." As a result, comparative and case study methods offer more promising potential for analysis.

Statistical methods apply when the subject of investigation involves many cases. Case studies apply analysis to a single case with multiple embedded variables, where the comparative method involves relatively few, but at least two, cases.[20] This study's research question — In what ways does telecommunications technology affect state sovereignty? — suggests sovereignty and telecommunications as variables and incorporates many inferences to the passage of time. Further investigation, therefore, indicates a comparative method

An objective look at the history of sovereignty and the sovereign state provide several significant points of reference by which to separate different eras under study starting with sovereignty's "origins." Sovereignty did not materialize by means of spontaneous incarnation. It was the manifestation of a long process of social evolution by which feudal society gave way to sovereign states as the international system's primary organizing factor. Tied to the 1648 treaties of Osnabruck and Münster, the Peace of Westphalia marked the cessation of hostilities in the Thirty Years War and an acknowledgment among Europe's states that they were free to operate independently and without interference from each other, or more specifically, from the Roman Catholic Church.[21] The year 1648, therefore, marks a convenient point at which to specify the commencement of sovereignty and its associated system of sovereign states.

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[20]Ibid., 691.

[21]Daniel Philpott, "Sovereignty: An Introduction and Brief History," *Journal of International Affairs* 48, no. 2 (1995): 358.

Sovereignty has provided the primary organizing element to the international system for more than 350 years. Throughout much of that time, information moved at the speed humans could carry it. The telegraph emerged in 1845 and since then, a worldwide network developed to a level inconceivable even to the most fertile imaginations of previous centuries. Beginning with the telegraph, various technological advancements frequently and rapidly emerged and then receded into obsolescence when replaced by another, faster, more efficient means of information transfer. A concerted examination into the effects of telecommunications technology on sovereignty would appear particularly apropos for case study. However, the effects of various technological innovations on sovereignty over more than three centuries exceeds the appropriate time parameters of a single case study.

Systematic examination of historical data has long established foundations for theories of political science, but lessons of history often lack consistency.[22] Comparison of changes in states' practice of sovereignty necessitates an investigation with particular attention to *differences* over time. John Stewart Mill provides a starting point by which to frame the study with his presentation of comparative method of difference.[23] History can not be altered in order to study international society with and without the influence of

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[22]Alexander L. George, "Case Studies and Theory Development: The Method of Structured, Focused Comparison," in *Diplomacy: New Approaches in History, Theory, and Policy*, ed. Paul Gordon Lauren, 43-68 (New York: Free Press, 1979), 44.

[23]John Stuart Mill, *Philosophy of Scientific Method* (1881; repr., New York: Hafner Publishing, 1950), 214.

telecommunications. Therefore, some improvisation becomes necessary to maintain valid methodology through diachronic application.[24]

Application of history to political theory — especially a broad theory such as telecommunications technology's effect on state sovereignty — requires multiple historical cases in order to account for inconsistencies and anomalies. Introduction of multifarious cases necessitates a single, structured, analytical framework by which to identify conditions and variables affecting historical outcomes.

Providing structure to the research agenda requires organizing the study into distinct cases which can then be compared across time. Conscientious adherence to good research techniques further requires that each case, as a unit of observation, must be identically defined and logically connected with the research question.[25]

By separating the period under investigation into multiple eras, the dominant means of telecommunications technology provides logical definition to the structure. The comparative method allows for an analysis of the impacts on state sovereignty during each era, in direct concert with the research question.

"Structured, focused comparison," proposed by Alexander George, furnishes a framework by which to explore the research question. The procedure resembles statistical methods except for the number of cases; the population (number of case

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[24]Steve A. Yetiv, *America and the Persian Gulf: The Third Party Dimension in World Politics* (Westport, CN: Praeger, 1995), 160.

[25]Paul Pennings, Hans Keman, and Jan Kliennijenhuis, *Doing Research in Political Science: An Introduction to Comparative Methods and Statistics* (London: Sage, 1999), 10.

studies), *n*, is too small to allow correlations, but permits control for anomalies incurred when analyzing both historical and contemporary examples of state behavior.[26]

The use of structured, focused, comparison requires development of "classes of events" — periods in history identifiable by coherent characteristics — in which to study the independent variables (available telecommunications technology). Then, effects on the dependent variable (sovereignty) may be evaluated under a degree of control.[27] In this study, four periods of history emerge, each logically defined by a significant, dominant telecommunications technology.

As a starting point, a "control" era allows evaluation of sovereignty at a time when telecommunications technology was nonexistent. Transfer of information was accomplished via the physical transport of the written word, on parchment, vellum, paper or other similar substrate at the speed of human travel. Subsequent eras each center on a dominant means of telecommunications.

In succinct terms, this study examines the impact of telecommunications technology on sovereignty. It does so by comparing the dominant means of telecommunications technology with state sovereignty across four different chronological eras. A principal means of telecommunications technology dominates and defines each era, except the first which is a "control group" during which no technological advance in telecommunications was at play. Within each era, dominant mass media, primary means of telecommunications technology, the states' control of territory, cultural cross-pollination, and international finance are examined in concert with the effects of

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[26]George, "Case Studies and Theory Development," 49-50.

[27]Ibid., 50.

telecommunications technology thereon. This allows an exploration of the impact of such technological advances within one era and over time. The following four "Telecommunications Technology Eras" are used in this study:

$T_0$, "The Age of [News] Paper," 1648 - 1844, establishes a baseline for the study of sovereignty. The period defines an era predating electronic telecommunications when information transfer required physical conveyance at the speed humans could carry it. Information distribution, on the other hand, was exploiting the benefits of movable type printing manifest in the growth of newspapers. This epoch, which commences with the emergence of the concept of Westphalian states and associated sovereignty, is a "control group."

$T_1$, "The Age of Telegraph," 1845 - 1916 is defined by the nineteenth century technological environment in which the telegraph and fledgling telephone systems provided telecommunications service. During this era, the sovereign nation-state concept reached its apogee reenforcing the Concert of Europe. The era ended with the entry of radio telegraph to the telecommunications environment.

$T_2$, "The Age of Radio and Cable," 1917 - 1964 including half of the twentieth century, saw the combined capabilities of cable synergistically uniting with "wireless" radio technology to supply increasingly flexible and nearly instantaneous transfer of information. The time frame encompasses post-World War I telecommunications advances coincident with a new outlook toward sovereignty by states. It continues through the post-World War II and Cold War environments where the concepts underlying sovereignty reflected significant

changes in response to expansion of the number of states participating in the international system.

$T_3$, "The Age of Ubiquitous Communications" 1965 - the present, illustrates the technological situation when satellite communications introduced a vertical element to telecommunications and sovereignty. Connectivity among electronic devices approached universality. This period brings new expectations to the concept of sovereignty with growing influence of international organizations.

The complete study centers not on any particular state, geographic region, or issue area, although sovereignty emerged in Europe with an initial international structure which eventually evolved into the worldwide system of sovereign states. Rather, the goal is to obtain a sense of the general impact of telecommunications on state sovereignty over time. While single case studies might prove useful, this approach, with its broad time horizon, will help in the examination and explanation of broader trends. Further, the end product will provide new insight to the impact of postmodern telecommunications on the future of state sovereignty.

## Literature Review

A survey of literature related to the research question yields a vast assortment of related writings across multiple disciplines, most notably political science, technology, and history. A rich and mature body of literature surrounds the concept of sovereignty, the dependent variable. Telecommunications technology, the independent variable, was well documented throughout its development as a scientific discipline. Effects on society as a result of telecommunications enabled information, the intervening variable, have

received some scholarly attention as well, but specific attention to possible covariance between sovereignty and telecommunications technology remains inconclusive. The following sections show that much evaluation has been accomplished on both sovereignty and telecommunications technology, but very little, if any, book length work has been done on the causal link between the two.

*Sovereignty*

The theory, history, and implementation of sovereignty, as the dependent variable, all apply directly to the research question and testing of hypotheses. Various theories of international relations concentrating on the sovereign state were thoroughly addressed as early as Thucydides.[28] Hugo Grotius expanded the concept in the seventeenth century.[29] Hans J. Morgenthau anchored sovereignty to the twentieth century in *Politics among Nations: The Struggle for Power and Peace.*[30] Kenneth Waltz and the 1979 publication of the *Theory of International Politics*[31] further expanded the importance of sovereign states to the international system. Ken Booth suggested the necessity of a firm theoretical foundation based on actual states rather than textbook notions.[32] Steven Krasner's 1999

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[28]Thucydides, *The History of the Peloponnesian War*, ed. and trans. Richard Crawley (New York: Dutton, 1950).

[29]Hedley Bull, "The Importance of Grotius in the Study of International Relations," in *Hugo Grotius and International Relations*, ed. Hedley Bull, Benedict Kingsbury, and Adam Roberts, 1-65 (Oxford: Clarendon, 1990), 42.

[30]Morgenthau, *Politics among Nations.*

[31]Waltz, *Theory of International Politics.*

[32]Ken Booth, "Dare Not to Know: International Relations Theory Versus the Future," in *International Relations Theory Today*, ed. Ken Booth and Steve Smith, 328-350 (University Park, PA: Pennsylvania State University Press, 1995), 335.

*Sovereignty: Organized Hypocrisy,* continued the revision and discussion of applicability of the sovereign state to contemporary society by exploring the divergence between the theory and practice of sovereignty.[33]

The literature dedicated to sovereignty is extensive and represents a mature element of the discipline. Various authors challenge the concept's basis and continued utility, others insist it is either dead or about to expire. Of particular interest, however, is the debate on the future of sovereignty and the erosion, changes, or perhaps metamorphosis of the concept from the classic Westphalian model to its present transitional state. Reasons which might underpin reductions in sovereignty pertain to the research question even if general in nature. Jens Bartelson argued in *A Genealogy of Sovereignty* that the idea is not a solid concept rooted in cohesive theoretical doctrine. Rather, sovereignty is dependent on interpretations of cultural, political, and historical data for the specific era under consideration.[34] Bartelson's interpretation was particularly valuable as telecommunications' influence enters the discourse. Dramatic developments in technology have far reaching impacts on society, and sovereignty receives its share of repercussions.

C. E. Merriam, Jr., in *History of the Theory of Sovereignty Since Rousseau*, looked at ideas of "concurrent sovereignty" peculiar to federal societies. He made specific use of

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[33]Stephen D. Krasner, *Sovereignty: Organized Hypocrisy* (Princeton, NJ: University Press, 1999), 237-238.

[34]Jens Bartelson, *A Genealogy of Sovereignty* (Cambridge: University Press, 1995), 38.

the US model as an essential element and guiding principle for IGOs which develop supranational identities such as the European Union (EU).[35]

John Hoffman, in *Beyond the State*, attempted to define the sovereign state with regard to its development and look toward an evolutionary end point.[36] Later, in *Sovereignty*, he challenged the generally accepted inextricability of the link between sovereignty and the state. He suggested that severing the link would allow the concept of sovereignty to be defined "properly" and reformulated.[37]

Hedley Bull, examined at the anarchical system of sovereign states in *The Anarchical Society: A Study of Order in World Politics*, and concluded that the concept system was fundamental to world order and in no danger of decline.[38] Hideaki Shinoda, in a later, similar examination, *Re-Examining Sovereignty: From Classical Theory to the Global Age*, deconstructed sovereignty's structure and emphasized culture as the focus for study rather than direct ties to the state.[39] Gidion Gottlieb, also investigated culture, specifically ethnicity, but as a possible cause for sovereignty's decline in *Nation Against State: A New Approach to Ethnic Conflicts and the Decline of Sovereignty.*[40]

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[35]Merriam, C. E. Jr., *History of the Theory of Sovereignty Since Rousseau* (New York: Columbia University Press, 1900), 185.

[36]John Hoffman, *Beyond the State: An Introductory Critique* (Cambridge, UK: Polity Press, 1995).

[37]John Hoffman, *Sovereignty* (Buckingham, UK: Open University Press, 1998).

[38]Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* (New York: Columbia University Press, 1977), 17.

[39]Hideaki Shinoda, *Re-Examining Sovereignty: From Classical Theory to the Global Age* (London: Macmillan, 2000), 153.

[40]Gidon Gottlieb, *Nation Against State: A New Approach to Ethnic Conflicts and the Decline of Sovereignty* (New York: Council on Foreign Relations Press, 1993).

A cornerstone of the international system of sovereign states establishes the equality of actors in the system as opposed to great power primacy. Robert A. Klein, in *Sovereign Equality Among States: The History of an Idea*, examines the transition from *great power primacy* to a point where he envisions states to be endowed with human-like *personality*. Similar to *legal personality* in theories of law, this (ideally) would result in a true equality of states, whether great or small.[41] The idea of equality" can extend to the availability of telecommunications assets driving similar conclusions.

Sovereignty's demise — imminent or eventual — occupied a significant position in the scholarly literature during the second half of the twentieth century. Francis H. Hinsley's, *Sovereignty*, took on a reexamination of the concept and predicted continued value and utility of the concept to the international system.[42] His idea was further developed by Alan James, *Sovereign Statehood: The Basis of International Society*. He supports the idea that sovereignty has been an organizing principle of the international system and continues to be desirable to much of the world.[43] James also edited *States in a Changing World: A Contemporary Analysis* in concert with Robert H. Jackson, wherein articles by numerous authors examined the sovereign state and pointed toward change but not demise to the concept of sovereign states,[44] which has likely parallels to the impact of telecommunications technology.

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[41]Robert A. Klein, *Sovereign Equality among States: The History of an Idea* (Toronto: University Press, 1974).

[42]Francis H. Hinsley, *Sovereignty* (London: C. A. Watts, 1966).

[43]Alan James, *Sovereign Statehood: The Basis of International Society* (London: Allen and Unwin, 1986), 278.

[44]Robert H. Jackson and Alan James ed., *States in a Changing World: A Contemporary Analysis* (Oxford: Clarendon, 1993), 28.

Maryann K. Cusimano, edited *Beyond Sovereignty: Issues for a Global Agenda*, in which ten chapter authors examined effects of globalization on sovereignty.[45] This provided new criteria for examining the future relevance of sovereignty.

One often predicted death knell to sovereignty comes from the deepening of intergovernmental organization ties which are often enhanced, or even made possible by telecommunications technology. Geir Lundestad, *"Empire" By Integration: the United States and European Integration, 1945-1997*, followed the deepening ties of the European Common Market beginning in the 1950s. Americans, generally, encouraged Europeans to surrender sovereignty to their integrated program, but the US found no sympathy in any arrangement reducing its own sovereignty.[46]

Daniel Philpott, *Revolutions in Sovereignty: How Ideas Shaped Modern International Relations*, asserts that the concept of sovereignty and its associated system of states came about as a result of the combined influence of the Protestant Reformation and ideas of nationalism and equality which brought an end to colonial empires.[47] He concluded that sovereignty, in some form, was a natural state. The idea that sovereignty occupies a place in humanity's catalog of natural rights was also explored in Hurst Hannum's, *Autonomy, Sovereignty, and Self-Determination: The Accommodation of Conflicting Rights*.[48]

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[45]Maryann K. Cusimano, ed., *Beyond Sovereignty: Issues for a Global Agenda* (Bedford, MA: St. Martin's, 2000).

[46]Geir Lundestad, *"Empire" by Integration: The United States and European Integration, 1945-1997* (Oxford: University Press, 1998), 148-149.

[47]Daniel Philpott, *Revolutions in Sovereignty: How Ideas Shaped Modern International Relations* (Princeton, NJ: University Press, 2001), 5.

[48]Hannum, *Autonomy, Sovereignty, and Self-Determination*, 15.

Cynthia Weber, in *Simulating Sovereignty: Intervention, the State and Symbolic Exchange* also attempted to reach a new view of sovereignty. She deconstructed the concept from its basic tenets, followed its historical development through to the twentieth century, and concluded that it is an abstract concept without a concrete antecedent; more of a code of state behavior than a theory explaining actions.[49]

The relevant and dominant literature surrounding sovereignty yields little consensus but provides valuable parallel examples. Neither the historical, current, nor the future sovereign state commands any agreement among international relations scholars as to its origin or evolutionary endpoint.

*Technological Revolution*

This study concentrates on telecommunications technology and its association with sovereignty. However, telecommunications is not the only technology with likely impacts on state sovereignty and the work done to consider other technological impact deserves attention in pursuit of influence, association, and causality. A century after Westphalia, the Industrial Revolution and its associated technological developments began to influence the system of sovereign states. The Industrial Revolution's development was constrained, or perhaps even stagnated, by the limited speed of human (and therefore, information) movement. A business driven desire for increased speed of information exchange among businesses in divergent sovereign states, especially financial data, was the "mother" necessity driving its "child" invention. As early as 1776, Adam

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[49]Cynthia Weber, *Simulating Sovereignty: Intervention, the State, and Symbolic Exchange* (Cambridge: University Press, 1995).

Smith in *The Wealth of Nations* attempted to evaluate and explain the economic order emerging from the fledgling years of the Industrial Revolution. He discussed the duties of "the sovereign" in protecting the society from injustice, oppression, violence and invasion by other independent societies.[50] Smith's concern focused on sovereign duties rather than on the concept of sovereignty. However, his pursuit of the free market in opposition to entrenched mercantilism developed tacit requirements for the economic community to expand beyond geographic (and therefore, sovereign) borders. Further expansion, placing more distance between centers of commerce, further drove the desire for more speed in communications. By advocating an end to national preoccupation with amassing precious metals and encouraging reliance on international trade, Smith's philosophy focused on a path toward industrial nations with interdependence surrounding export and import of raw materials as well as finished products. States lost control of some elements of their economic community. Therefore, domestic political and economic decisions required consideration of elements beyond geographic boundaries. States' absolute and unlimited authority within their borders had become, to some degree, limited. Domestic economic and political situations and repercussions crossed international borders.

Intrusion on national sovereignty by Industrial Revolution technology paled in comparison to the results of twentieth century scientific developments. Alvin Toffler examined the effects of rapid industrial and technological changes on society in general, including both the individual and the family. In particular, he emphasized the

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[50]Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776; repr., Chicago: Encyclopedia Britannica, 1952), 301.

overwhelming nature of technology. While the *Future Shock* discussion included elements of electronic communication, it was primarily addressed in its mass media guise.[51] Toffler concentrated on generic technology and society's reaction; he did not, specifically, address sovereignty. However, Toffler's work established an interesting foundation from which to launch an investigation of changes to sovereignty as specifically induced by telecommunications technology.

In a later volume, *The Third Wave*, Toffler expanded his investigation of technology-society affiliation. He forecasted society's future based on "waves" of development. The "First Wave" commenced when hunter-gatherer tribes gave way to organized agricultural production around B.C. 8000. It was the dominant foundation of society until the last half of the seventeenth century. The onset of the Industrial Revolution began the "Second Wave" which saw life in Europe and America revolutionized through industrialization. It lasted until the mid-twentieth century when white collar and service workers in the US outnumbered blue collar workers for the first time. The Second Wave subsequently arrived at other industrialized nations at differing times. The contemporary "Third Wave" represented the collision of obsolete, encrusted economies and institutions of the Second Wave with new technology.[52]

The term "Information Revolution" emerged in mass media during the 1990s to describe the expansive impacts of information on sovereignty, culture, and society in general.[53] The term describes changes brought on by a synergistic union of

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[51]Alvin Toffler, *Future Shock* (New York: Bantam, 1970), 5.

[52]Alvin Toffler, *The Third Wave: The Classic Study of Tomorrow* (New York: Bantam, 1980), 13-14.

[53]Nye, *Bound to Lead.*

communications and computing technologies which transmit and process information; the two seemingly separate disciplines have actually merged to the point where a dividing line between the two becomes indistinguishable.[54] Numerous authors, especially in the mass market press, have addressed the impact of the Information Revolution on states and their sovereignty, but not under the restraints of a structured, focused comparison.[55] Succinct, direct examination of telecommunications technology and sovereignty throughout the existence of both, while on the periphery of many discourses, remains elusive.

Information theory, as a scientific discipline, actually began with C. E. Shannon's 1948 publication of "A Mathematical Theory of Communication."[56] About the same time, the transistor and prototypes of the modern computer also came to fruition. However, information without the enabling factor of telecommunications had existed and influenced history far longer, as discussed by Daniel Headrick in *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700-1850.*[57]

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[54]Walter. B. Wriston, *The Twilight of Sovereignty: How the Information Revolution is Transforming Our World* (Bridgewater, NJ: Replica Books, 1992), 2-3.

[55]Anthony Smith, *Goodbye Gutenberg: The Newspaper Revolution of the 1980's* (New York: Oxford University Press, 1980); John B. Thompson, "The Trade in News," in *Communication in History: Technology, Culture, Society*, ed. David Crowley and Paul Heyer, 118-122 (New York: Longman, 1999); Raymond Vernon, *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises* (New York: Basic, 1971); Per Magnus Wijkman, "Managing the Global Commons," *International Organization* 36, no. 3, (1982): 511-536; Wriston, *The Twilight of Sovereignty*.

[56]C. E. Shannon, "A Mathematical Theory of Communication," *The Bell System Technical Journal* 27, no. 3 (1948): 379-656.

[57]Daniel R. Headrick, *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700-1850* (New York: Oxford University Press, 1999).

Gerald Sussman directly addressed technological impacts on society with *Communications, Technology, and Politics in the Information Age.*[58] Although not directly evaluating sovereignty, Anthony G. Wilhelm studied the problems of "cyberspace" on democratic processes in *Democracy in the Digital Age: Challenges to Political Life in Cyberspace.*[59]

Walter B. Wriston looked more closely at telecommunications technology, information, and the international system in *The Twilight of Sovereignty: How the Information Revolution is Transforming Our World.*[60] Although targeted to a mass market audience, he made a contribution to the subject's literature by addressing the influence of information and knowledge on society's development. W. Russell Neuman, Lee McKnight, and Richard J. Solomon carried a similar approach with *The Gordian Knot: Political Gridlock on the Information Highway.*[61] They studied the ever expanding access to information created by the Internet and associated technologies and evaluated impacts on political society.

In *Masters of the Wired World: Cyberspace Speaks Out*, Anne Leer compiled brief articles by notable celebrities on the world stage — Prime Minister Tony Blair, Vice President Al Gore, Arthur C. Clarke, and many more — mostly praising the new world

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[58]Gerald Sussman, *Communication, Technology, and Politics in the Information Age* (Thousand Oaks, CA: Sage, 1997).

[59]Anthony G. Wilhelm, *Democracy in the Digital Age: Challenges to Political Life in Cyberspace* (New York: Routledge, 2000).

[60]Wriston, *The Twilight of Sovereignty.*

[61]W. Russell Neuman, Lee McKnight, and Richard J. Solomon, *The Gordian Knot: Political Gridlock on the Information Highway* (Cambridge, MA: MIT Press, 1998).

order where telecommunications technology permits, and the dependent society often demands, nearly universal interconnection among all elements of world society.[62]

Technology affecting projection of national power develops military interest, of course. Under sponsorship of the National Defense University, David C. Gompert published *Right Makes Might: Freedom and Power in the Information Age.*[63] He developed information and its effective use as an essential element of power.

Carl J. Couch combined the disciplines to evaluate the social context of information and associated technologies in *Information Technologies and Social Orders.*[64] Michael Dertouzos evaluated similar subjects and made predictions about future effects in *What Will Be: How the New World of Information Will Change Our Lives.*[65] Ithiel de Sola Pool went on to challenge the territorial nature of sovereignty and technology which can not be geographically confined in *Technologies without Boundaries: On Telecommunications in a Global Age.*[66] These investigations provide an initial glimpse at alternatives to the sovereign state.

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[62]Anne Leer, ed., *Masters of the Wired World: Cyberspace Speaks Out* (London: Financial Times Management, 1999).

[63]David C. Gompert, *Right Makes Might: Freedom and Power in the Information Age* (Washington, DC: National Defense University, 1998).

[64]Carl J. Couch, *Information Technologies and Social Orders* (New York: Aldine de Gruyter, 1996).

[65]Michael Dertouzos, *What Will Be: How the New World of Information Will Change Our Lives* (San Francisco: Harper Collins, 1998).

[66]Ithiel de Sola Pool, *Technologies without Boundaries: On Telecommunications in a Global Age* (Cambridge, MA: Harvard University Press, 1990).

*Alternative Basis for the Sovereign State*

If technology, or any other source of influence, "threatens" the existence of the sovereign state, possible alternatives must be addressed. Without some means of organizing international society — currently met by sovereignty — the alternative is chaos. Theorists predicting an end to the state and its associated sovereignty, generate a question: if not the sovereign state, what? Technological impact, although not specifically telecommunications technology, on the sense of community, addressed by Toffler in *Future Shock*, entered the *Third Wave* discussion as well. Acknowledging the synergistic nature of information combined with telecommunications, Toffler developed a case for communities which are not based on geographic collocation or cultural affinity (the classic "nation" of the "nation-state"). Rather, computer networks, organized on functional lines, could give rise to "telecommunities." His proposition would not necessarily depersonalize society, as is often predicted in techno-phobic arguments. Rather, he predicted such future possibilities as telecommuting which might diminish face-to-face contact among workers, but increase direct family time available due to drastic reduction in commuting requirements.[67] The 1980 publication of *Third Wave*, as computers were still relatively new, and nearly non-existent in the home market, made predictions of such ideas as telecommuting and telecommunities somewhat revolutionary. The nation-state could find its *national* identity in danger if citizens should develop an affinity more aligned with the telecommunity than traditional ideas of the cultural nation.

The concept of telecommunities, and the effect on national sovereignty developed further after the computer and supporting telecommunications became readily available.

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[67]Toffler, *The Third Wave*, 372.

At a 1995 Conference on Communications Technology and National Sovereignty in the Global Economy, George Bugliarello presented a paper addressing technological impacts on sovereignty. Under classical evaluation, political power and economic power share the same boundaries which are normally defined by geographic borders of nation-states. Telecommunications give rise to telecommunities, similar to those proposed 15 years earlier by Toffler. Bugliarello further suggested that telecommunities are prone to foster elements of sovereignty[68] which develop at the expense of nation-states.

Telecommunities are not the only possible institutions addressed in the literature which augment, complement, or even potentially replace the nation-state. Richard Rosecrance, in *The Rise of the Trading State* proposed the impact of international trade on nation-states. Rather than geographically defined nation-states, future, state-like international organizations might be expected to emerge based on trade based blocks.[69] While not directly related to telecommunications, Rosecrance acknowledged the contribution of generic communications, especially transportation, to the interdependence generated by trade. He suggested that the combined capabilities of manufacturing, transport, and telecommunications to facilitate complex financial actions allows states to project influence which might establish a situation where sovereignty could actually expand. As states amplify their influence in the absence of conquest, interdependence is a natural outgrowth and indicates a situation germane to the reduction of sovereignty. Such a situation invites further investigation into the actual, net effects on sovereignty.

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[68]George Bugliarello, "Telecommunications, Politics, Economics, and National Sovereignty: A New Game," *Technology in Society* 18, no. 4 (1996): 404.

[69]Richard Rosecrance, *The Rise of the Trading State: Commerce and Conquest in the Modern World* (New York: Basic, 1986), 217.

An extended analogy to analyze the similar effects of telecommunications requires little inventiveness. Modern trade relationships rely on the near instantaneous nature of electronic fiscal transactions. Telecommunications' ability to penetrate the most isolated geographic regions of territorially based sovereignty extend the influence of technology beyond conventional definitions of both communications and transportation. Rosecrance further developed economics and trade as a focus for the state versus sovereignty in *The Rise of the Virtual State: Wealth and Power in the Coming Century.*[70]

Hendrik Spruyt argued in *The Sovereign State and Its Competitors* that the sovereign state was not necessarily an inevitable development following the demise of feudalism and contemporary developments may lead to different factors providing organization to the international system.[71] A particular element likely to influence future development of the international system results from requirements for states to cooperate to accomplish the tasks required in a technologically complex world. This gives rise to theories of functionalism.

*Functionalism*

Among the international influences of technology are the requirements to cooperate in application and use of equipment, programs and systems. If states desire their international mail to be delivered, they must agree to mutual mail delivery procedures. If they desire interconnection of telegraph, telephone, or computer networks,

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[70]Richard Rosecrance, *The Rise of the Virtual State: Wealth and Power in the Coming Century* (New York: Basic, 1999).

[71]Hendrik Spruyt, *The Sovereign State and Its Competitors* (Princeton, NJ: University Press, 1996).

interoperability standards must be agreed and implemented. Such functional requirements can be construed as agreements by states to surrender of some degree of their sovereignty and therefore offer a possible link in the telecommunications and sovereignty causality chain under consideration in this study. International requirements for states to coordinate and cooperate among numerous functional regimes forms the basis of functionalism. Functionalism, and the institutions it fosters, are often seen as a means by which states "surrender" sovereign control of some element under their control in the interest of international efficiency. The efficiency often relies on the underlying foundation of telecommunications infrastructure and the resultant immediate availability of information. The related literature is rich and replete with varied approaches. Ernst B. Hass evaluated the future of the nation-state from the functional perspective and projected the impact of various types of international organizations on sovereignty.[72] Written before the "revolution" in computers, data, information, and telecommunications, Hass' book developed the case for the synergy resulting from functional cooperation. Similarly, Donald A. Schön approached functionalism as the basis for evolution beyond the nation-state.[73] He credited cooperation through international organizations with the logical progression from the stability of the Westphalian nation-state to further stability of interdependence.

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[72]Ernst B. Haas, *Beyond the Nation-State: Functionalism and International Organization* (Stanford, CA: University Press, 1964), 513.

[73]Donald A. Schön, *Beyond the Stable State* (New York: Random House, 1971), 223.

Addressing the two longest enduring functional organizations, George Arthur Codding, Jr. wrote *The Universal Postal Union*,[74] and with Anthony M. Rutkowski, *The International Telecommunication Union in a Changing World*.[75] These two venerable functional organizations, to which virtually all states subscribe, require cooperation and perhaps, some forfeit of sovereign control, and form the basis for the idea behind functionalism — cooperation in essential areas drives cooperation in other international endeavors.

Less well developed, the literature on neo-functionalism accepts the premise of international cooperation in functional areas but challenges the "roll-over" benefits to be gained in other areas. Here an element of neorealism also enters the argument. Cooperation beyond functional organizations results in a voluntary surrender of sovereignty. Nation-states are unlikely to surrender sovereignty unless such a sacrifice can be shown to be in their own best interest. The institutional nature of neo-functionalism leads much of the literature toward study of the EU. As the European Parliament emerged as an institution worthy of serious consideration, the neo-functionalist nature of the EU presented a "laboratory" opportunity for political theorists. Jane P. Sweeney evaluated the initial impacts of extended functional cooperation and the benefits thereof.[76] However, the applicability of neo-functionalism to high level organizations such as the EU is not universally accepted.

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[74]George A. Codding Jr., *The Universal Postal Union: Coordinator of the International Mails* (New York: University Press, 1964).

[75]George A. Codding Jr. and Anthony M. Rutkowski, *The International Telecommunication Union in a Changing World* (Dedham, MA: Artech House, 1982).

[76]Jane P. Sweeney, *The First European Elections: Neo-Functionalism and the European Parliament* (Boulder, CO: Westview, 1984), 144.

Alexander Warleigh[77] and Simon Hix[78] both challenged neo-functionalism's power to explain the voluntary surrender of nation-state sovereignty. Further, neorealism's influence also fails to add explanatory power; while appropriate for study of integration, it do not provide adequate theoretical tools. Cooperative federalism and other emerging theoretical concepts provide better instruments for the EU's special case in international institutions.

*Institutions*

Tied closely to functional requirements for international cooperation, intergovernmental institutions and their functional processes and procedures for operation depend on telecommunications to interconnect their bureaucracies. States' participation in IGOs potentially provides opportunities for erosion of sovereignty as they agree to act according to internationally agreed norms rather than strict self-interest. Some institutions exist to augment the use of telecommunications and minimize the chaos of electronic interference, but all institutions depend on the technology for smooth operation in a complex world. As this can introduce another influence on sovereignty with subtle involvement of telecommunications, the associated literature is of interest to this study. The international relations literature extensively addresses the specific role of institutions in the international environment, but with little consensus. In a 1995 literature debate, John Mearsheimer fired the first shot with "The False Promise of International

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[77]Alexander Warleigh, "Better the Devil You Know? Synthetic and Confederal Understandings of European Unification," *West European Politics* 21, no. 3 (1998): 1.

[78]Simon Hix, "The Study of the European Community: The Challenge to Comparative Politics," *West European Politics* 17, no. 1 (1994): 1.

Institutions" in which he emphasized the inability of international organizations to *cause* peace. He stressed the lack of data and testable hypotheses by which to show any value of institutions when they are actually needed. Member nation-states participate only when it is in their best interest to do so.[79] Mearsheimer's challenge prompted responses from Robert Keohane and Lisa Martin,[80] Charles and Clifford Kupchan,[81] John Gerard Ruggie,[82] and Alexander Wendt[83] in a diverse and complex theoretical debate. The replies centered on the value of institutions and their contribution to peace and prosperity, even if they could not meet Mearsheimer's requirement to *cause* peace. The surrender, erosion, or pooling of sovereignty caused by institutional membership was in exchange for benefits which exceeded the cost.

Editing *Maastricht and Beyond: Building the European Union,* Andrew Duff, John Pinder, and Roy Pryce coordinated several articles contributing to the loss, surrender, or "pooling" of sovereignty as a result of EU membership — the newest, largest "prototype"

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[79]John J. Mearsheimer, "The False Promise of International Institutions," in *Theories of War and Peace*, ed. Michael E. Brown, Owen R. Coté, Sean M. Lynn-Jones, and Steven E. Miller, 329-383 (Cambridge, MA: MIT Press, 1998), 331.

[80]Robert O. Keohane and Lisa L. Martin, "The Promise of Institutionalist Theory," in *Theories of War and Peace*, ed. Michael E. Brown, Owen R. Coté, Sean M. Lynn-Jones, and Steven E. Miller, 384-396 (Cambridge, MA: MIT Press, 1998).

[81]Charles A. Kupchan and Clifford A. Kupchan, "The Promise of Collective Security," in *Theories of War and Peace*, ed. Michael E. Brown, Owen R. Coté, Sean M. Lynn-Jones, and Steven E. Miller, 397-406 (Cambridge, MA: MIT Press, 1998).

[82]John Gerard Ruggie, "The False Premise of Realism," in *Theories of War and Peace*, ed. Michael E. Brown, Owen R. Coté, Sean M. Lynn-Jones, and Steven E. Miller, 407-415 (Cambridge, MA: MIT Press, 1998).

[83]Alexander Wendt, "Constructing International Politics," in *Theories of War and Peace*, ed. Michael E. Brown, Owen R. Coté, Sean M. Lynn-Jones, and Steven E. Miller, 416-426 (Cambridge, MA: MIT Press, 1998).

intergovernmental organization.[84] Complex organizations, such as the EU, have expanded into nearly every area of state responsibilities, but they began with, and continue to rely on economic foundations.

Telecommunications technology combined with advances in computer systems allows entirely new methods of accomplishing economic transactions. Don Tapscott, in *Digital Economy: Promise and Peril in the Age of Networked Intelligence* evaluated the potential changes and impacts generated by new technology.[85] *The Borderless World: Power and Strategy in the Interlinked Economy*[86] and *The End of the Nation State: The Rise of Regional Economies*,[87] by Kenichi Ohmae, looked toward an international system defined more by technological connections than by geographic borders. This projected easing of the power and influence of states and control over telecommunications infrastructure seemed to suggest the possibility of chaos.

*Potential Chaos of Telecommunications*

In the industrialized world, telecommunications technology, in all of its variants, is used in ever increasing volume. As a result, the potential for users to interfere electronically with one another requires cooperation among states to minimize chaos.

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[84]Andrew Duff, John Pinder, and Roy Pryce, ed., *Maastricht and Beyond: Building the European Union* (London: Routledge, 1994).

[85]Don Tapscott, *The Digital Economy: Promise and Peril in the Age of Networked Intelligence* (New York: McGraw-Hill, 1996).

[86]Kenichi Ohmae, *The Borderless World: Power and Strategy in the Interlinked Economy* (New York: Harper Collins, 1999).

[87]Kenichi Ohmae, *The End of the Nation State: The Rise of Regional Economies* (New York: Simon and Schuster, 1995).

The necessity to work together may result in further reductions to sovereignty. Therefore the literature surrounding the potential for chaotic telecommunications and states avoidance thereof must be evaluated. Mark D. Alleyne investigated the concept of international power and the influence of international [tele]communications. He concentrated on the functionalist basis for the rise in importance of telecommunications and used long enduring international organizations to establish the foundation. He proposed a division of international communications into eight areas: Telecommunications, News, Mail, Motion Pictures and Television Programs, Intellectual Property, Books and Periodicals, Advertising, and Recorded Music. Of these areas, only three have multinational institutions or coherent regimes. The International Telecommunications Union (ITU) and the Universal Postal Union (UPU) were established in 1865 and 1874 respectively. The World Intellectual Property Organization (WIPO) was founded in 1967. These institutions provide examples for the success and failure of multilateral cooperation as opposed to laborious bilateral agreements. Further, they offer specific examples by which to evaluate the associated structure of power.[88] The functional nature of many international organizations and regimes directs any inquiry toward associated theory.

The nature of telecommunications and use of the electromagnetic spectrum would hold incredible potential for chaos if unregulated. Consequently, much of the literature centers on the many regimes, both tacit and formal, addressing the necessity of regulation, and the attempts to stave off chaos. Centering on the ITU, James G. Savage evaluated the

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[88]Mark D. Alleyne, *International Power and International Communications* (New York: St. Martin's, 1995), 21-22.

politics surrounding the functional and technical requirements involved with international, cooperative communications management.[89] As the longest enduring of functional organizations, the ITU evolved from international coordination in the cable telegraph era to contemporary satellite segment management. Communications satellites result in national extension of sovereignty into space; nation-states now claim their sovereign "share" of available segments of the geo-synchronous orbit, over the equator. By extending their sovereignty into orbit, states agree to central ITU management, again, to avoid potential chaos. But membership entails acceding to the organization's rules and a resultant loss of sovereignty.

Dan Schiller examined the impacts on international markets with *Digital Capitalism: Networking the Global Market System.*[90] Seyom Brown, *New Forces, Old Forces, and the Future of World Politics* evaluated technology's impact on the international system of states.[91] In an anthropological approach, Noam Chomsky presented *World Orders, New and Old* taking a new look at a world dominated by technology.[92]

A rich and well developed body of literature exists surrounding the multiple areas of interest which point toward answers to the research question. Despite the profusion of publications, a direct and forthright answer remains elusive. Existing literature tends to focus on the "institution" or regime of sovereignty, its manifestation or its future. When

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[89]James G. Savage, *The Politics of International Telecommunications Regulation* (Boulder, CO: Westview, 1989), 9.

[90]Dan Schiller, *Digital Capitalism: Networking the Global Market* (Cambridge, MA: MIT Press, 1999).

[91]Seyom Brown, *New Forces, Old Forces, and the Future of World Politics* (New York: Harper Collins, 1995).

[92]Noam Chomsky, *World Orders, New and Old* (London: Pluto Press, 1996).

technology is an element of investigation, investigation focuses on the impact on society and culture. Consequently, this research seeks to fill the gap by exploring the ways telecommunications technology affects state sovereignty, thereby offering an original contribution to the body of literature on international relations.

# CHAPTER II

# BACKGROUND

Two variables dominate the research question: sovereignty, the dependent variable and telecommunications technology, the independent variable. Both were introduced and discussed in Chapter I but each requires additional discussion before commencing an analysis and comparison. As presentation of information and analysis proceeds, a wide variety of related subjects, associated topics, and discipline peculiar uses of terms enter the discussion. This chapter presents foundational background information on which to build the remaining discussion by familiarizing the reader with basic aspects of sovereignty and telecommunications technology. First, sovereignty is examined — its origins, theoretical foundations, and practical manifestations. A brief introduction to the basic history and technical elements of telecommunications follows. An exhaustive body of literature surrounds both subjects and this chapter summarizes the information necessary for further discussion. Therefore, this chapter establishes a basic foundation on which to construct the detailed examination, analysis, and comparison of telecommunications and sovereignty.

## Sovereignty

The term, *sovereignty*, appears frequently in political rhetoric, mass media, and scholarly publications. External to scholarly venues, the term often invokes an imprecise, ill defined, and emotional context. Scholars, conversely, tend to over specify the word's meaning and narrowly define its use to fit the argument under discussion. However, even

in the most ambiguous of contexts, sovereignty provides the bedrock for the anarchical international system of states. Regardless of the specific context, the world consists of sovereign states. The state's role in both internal and external affairs dominates the international arena.

The anarchical international system of sovereign states reached maturity, or perhaps, achieved adolescence, in the seventeenth century following the Thirty Years War as Europe entered its "modern" era in the "Age of Discovery" following the Renaissance. Sovereignty, in the guise of a system of sovereign states, did not instantly materialize spontaneously. Rather, 1648 marks a point — a significant point, but just a point — on a social evolutionary continuum where society's organizing determinant evolved away from feudalism toward some, as yet, undefined end state. Initially, only states populated by Christians with geographical borders within Europe could qualify for admission to the "fellowship" of sovereignty. During subsequent centuries, trade, colonization, communications, and international exchange caused the concept's expansion throughout the world. By the late twentieth century, virtually all states, and many stateless nations, claimed or demanded an *inalienable* right to sovereignty.

Occupying a place of significance on the social evolutionary continuum for over three centuries, sovereignty has received due attention from scholars, but developing a means by which to structure study proves elusive. It is both a theoretical concept and a practical application thereof. As a theory, various hypotheses associated with sovereignty help to explain the actions of states. As a concept, sovereignty provides a framework by which to think about and define power. Humanity wields and submits to power, not sovereignty. Often discussed as something concrete, sovereignty remains a concept —

abstract in nature — applied to political power.[1] The concept expresses the idea that there is a final and absolute authority in the political community. Yet the sovereign state is a concrete manifestation of that power, wielding significant strength over its citizens internally, and playing a role as an actor in the international arena.

*State versus Nation-State*

In any political science discussion, the term *nation-state* enters the discipline specific lexicon. Some clarification, therefore, is required at the onset. The concept of *nation*, a group of people with shared characteristics such as language, culture, or historical heritage,[2] figures in any discussion of states as the focus of sovereignty. Some political theories maintain the nation as the most logical unit of focus for establishment of a state. Sovereign states emerged in concert with the development of national identities.[3] It is, therefore, logical to connect the two in both theory and practice. During the post-colonial era, however, numerous states — especially in Africa — emerged based on territorial borders drawn by colonial powers for their convenience with little regard to the "nations" contained therein and resulted in violent civil wars.

Many nations incorporated into larger states with diverse cultures have later demanded sovereignty on the idea of nation-state. The breakup of the former Republic of Yugoslavia provides the most telling example. Several nations which shared centuries of

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[1]Hinsley, *Sovereignty*, 1.

[2]Morgenthau, *Politics among Nations*, 97.

[3]Alexander Passerin D'Entrèves, *The Notion of the State: An Introduction to Political Theory* (Oxford: Clarendon, 1967), 174.

open hostility among themselves were forced into a single state's population. Domineering rule by Josip Broz Tito suppressed their cultural hostility, but when removed, the individual nations exerted themselves, demanding sovereignty in the guise of new states.[4] However, "single nation states" — those with only a single, identifiable racial and cultural entity — are rare in political history; Japan is among the few examples. This study pursues the issue of the sovereign state, regardless of the ethnic or cultural makeup of the associated population.

*History*

Sovereignty's origins frequently figure in ensuing chapters. Therefore, it will be of value to discuss, very briefly, how sovereignty emerged as an organizing principle in international society. Political science and history alike generally acknowledge the end of the Thirty Years War, marked by the Peace of Westphalia in 1648, as the inauguration of the modern international system of sovereign states existing in anarchy. However, delegates from the warring entities negotiating the Treaties of Munster and Osnabruk, which, synergistically became known as the Peace of Westphalia,[5] did not develop a plan for a worldwide system of sovereign states. Rather, they reached agreements by which each participating state determined its own fate free of direct influence from the others, and perhaps most importantly, the Roman Catholic Church.

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[4]M. Wesley Shoemaker, *Russia, Eurasian States, and Eastern Europe: The World Today Series* (Harpers Ferry, WV: Stryker-Post, 1994), 321.

[5]Philpott, "Sovereignty: An Introduction," 359.

Sovereign states actually existed prior to 1648. Greek city-states and the Roman Empire certainly qualified as sovereign states by the standards of both internal and external sovereignty.[6] However, there existed no international *system* of sovereign states. In medieval Europe, the Roman Catholic Church provided the only unifying political and social concepts, known at the time by the doctrine of *Corpus Christi* (Body of Christ). The spectrum of humanity stretched from peasants at one extreme with the Pope at the other. The individuals between peasant and pope had church defined roles which provided social cohesiveness and a Christian identity of shared views of laws and morals.[7] The concept of nation strained the unity provided by *Corpus Christi.* Distances between Rome and many of the components of Christendom, and especially the resultant times required for communications caused divergence in allegiance, and led many proto-nation-states to pursue their own goals without the benefit of the Pope's guiding hand.

In England, King Henry VIII dismissed the Pope's claim more than a century prior to Westphalia, establishing his state as sovereign by definition. Various German and Swiss political entities adopted the religious doctrines of Martin Luther, Huldrych Zwingli, Girolamo Savonarola, and John Calvin which renounced papal allegiance. A movement toward implementation of a concept of sovereignty was in progress, but these proto-sovereign entities still did not function within a system of mutual recognition.

The Peace of Westphalia, more accurately, marked the emergence of an international *system* of sovereign states with mutual recognition. Dominance of a central church diminished and states subsequently operated under the principle of *cujus regio, ejus*

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[6]Hinsley, *Sovereignty*, 45.

[7]Philpott, "Sovereignty: An Introduction," 357.

*religio* — whoever rules determines the religion of the subjects.[8] The system no longer recognized the monarch's mandatory allegiance to the Pope's temporal authority. Monarchs, and to some extent individuals, determined the level of ecclesiastic supremacy to be exerted by the Roman Catholic Church within territorial borders.

The Pope provided nearly immediate evidence of Westphalia's success and of the concept of sovereignty by condemning and nullifying the agreements;[9] participating states ignored his edict. As sovereign states, they were no longer bound by his claim of ecclesiastic supremacy. The state wielded its power through a government (monarch) and recognized the rights of others to do so as well. In seventeenth century Europe, the states participating in this very exclusive "club" of sovereignty were monarchies. Wresting the power of the state away from the monarch and vesting it in the citizenry took somewhat longer. The location, or focus, of sovereignty within the state varied according to the peoples' "social contract" with their rulers and would be the subject of numerous revolutions — both peaceful and violent — throughout the world as ideas of democracy grew.

The English commenced the process on a very slow course beginning the creation of a parliament to advise the monarch. Possibly, the most significant event marking the refocus of British sovereign power was the 1688 "Glorious Revolution" deposing King James II and installing Queen Mary II and King William III by act of Parliament. While the Parliament was not a democratically elected body, it represented the state's population

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[8]Daniel Philpott, " Ideas and the Evolution of Sovereignty," in *State Sovereignty: Change and Persistence in International Relations*, ed. Shohail H. Hashmi, 14-48 (University Park, PA: Pennsylvania State University Press, 1997), 29.

[9]Felix Gilbert, ed., *The Norton History of Modern Europe* (New York: W. W. Norton, 1970), 258.

(or some element thereof) rather than a ruler under divine right. The slow process of democratization continued through the nineteenth century, until Queen Victoria "ruled" over a democratically based republic, and into the twentieth century and universal suffrage.

In 1776, American colonists took more immediate action by nullifying the social contract with the English king and seizing the sovereignty in the name of humanity's inalienable rights. However, inquiry into the specific location or focus of sovereignty varies within any given state and quickly becomes a study in social constructs of the particular society. This study concentrates on sovereignty's existence at the state level and its theoretical and conceptual basis along with its actual manifestation. Theories and concepts of sovereignty center on the existence of a sovereign state. As with any theoretical situation which finds its way into practical application, reality often differs from theory.

*Theory*

This study deals, in part, with the theory of sovereignty. Therefore, it will be useful to see how theoretical debates evolved. This puts the present work into perspective because sovereignty, as a social concept, is subject to social evolution. The origins of its development through various incarnations and how scholars regarded it may prove useful to evaluate its future. Intellectual debate on theories associated with sovereignty actually predated Westphalia by nearly a century. In the sixteenth century, the King of France consolidated power over rebellious feudal lords bolstered by the writings of Jean Bodin. The social evolutionary process from feudalism to national identity and sovereignty took

a significant step as a result.[10] Machiavelli's contemplation of his monarch's power and the realities of late fifteenth and early sixteenth century politics considered interests and issues which were embraced by the concept of sovereignty when it matured a century later.[11] Contemporary with Westphalia, Hugo Grotius proposed concepts of equality among sovereign states which formed an essential element of the anarchical international system of states.[12]

Theoretical discussion explores the "ideal" form of sovereignty. As a social construct, however, it is open to subjective interpretation and analysis. The theory of sovereignty in 1648 described and explained (as theories are wont to do) the international circumstance of the era. It involved a small and very exclusive fellowship of states in Europe. Other states existed in some degree of sovereignty but did not actively participate in the international [European] "system." Would the same descriptions and explanations apply to the twenty-first century international environment? Sovereignty did not emerge in any sort of end state. With roots firmly planted in the history of political science, it evolved from the Greek city-state era and Thucydides, through the Roman Empire, feudalism, Westphalia, Machiavelli, and Grotius, to the modern system of states and Morgenthau, Booth, and Krasner.

Contemporary theories of international relations treat the issue of sovereignty with varying degrees of significance, but virtually all rely on the sovereign state as an essential

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[10]*Encyclopedia Britannica*, Multimedia Edition, 1998, s.v. "Sovereignty."

[11]R. B. J. Walker, "International Relations and the Concept of the Political," in *International Relations Theory Today*, ed. Ken Booth and Steve Smith, 306-327 (University Park, PA: Pennsylvania State University Press, 1995), 317-319.

[12]Hedley Bull, Benedict Kingsbury, and Adam Roberts, ed., *Hugo Grotius and International Relations* (Oxford: Clarendon, 1992), 222.

actor and unit of analysis for study of the international system. "Classic" realists treat the sovereign state as the only actor of significance, while liberal theorists include other actors as well — primarily the various international institutions permeating the contemporary international environment. Still, the state, and its defining concept of sovereignty, dominate.

As with any social theory, the study of sovereignty involves some degree of subjectivity. It is a human, social concept. It was thought into existence; it can be thought into a different incarnation, or even out of existence.[13] The theory of sovereignty, as with all theories, represents an abstract representation of reality. It is neither true nor false; rather its value lies in the ability to *explain* why events occurred as they did.[14] If observed phenomena indicate that the actions of sovereign states differ from theoretical norms, consideration must be given to changes in the social construct on which the theory was based. The basis of any theory requires that it helps explain observed phenomena. If the two do not match, either the theory fails to explain or the observations are inaccurate. If the theory was accurately based on archaic observations but no longer explains contemporary behavior, the theory is not necessarily defunct or discredited. It could also mean that the theory, once accurate, requires modification to maintain validity as societal constructs evolve. Differences might indicate erosion, increase, or simply changes to the level of sovereignty. Since it does not lend itself to absolute quantification, evaluation requires more subtle means of analysis. The most promising means of weighing "levels"

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[13]Klein, *Sovereign Equality among States*, 14.

[14]Tobjørn L. Knutsen, *A History of International Relations Theory* (Manchester, UK: University Press, 1997), 2.

or "degrees" of sovereignty necessitates a comparison of what "was" (in multiple iterations) against what "is."

*Practice Versus Theory*

Sovereignty was never absolute. The anarchical, international system existed and states functioned therein, free of allegiance to any other entity. The reality of sovereignty, however, often failed to achieve the objective. The Holy Roman Empire remained on the European landscape but without many elements of sovereignty. Some princes continued to acknowledge allegiance, but also exercised other sovereign rights such as the freedom to form alliances strictly in their own self-interest. Outside Europe, other states with functioning governments, populations, and territory were actually considered *terra incognita* and available for colonization and domination but not mutual recognition.[15]

Even in the non-interdependent world (by contemporary, twenty-first century standards) of the seventeenth century, state isolation was not an option. Mercantilism and its preoccupation with import of gold dominated economies; but bringing precious metal into the state treasury required trade. Trade nearly always leads to some degree of interdependence.

*Erosion, Reductions, and Changes to Sovereignty*

Differences appear intuitive between the behavior of states within a small, European centered "international system" and the twenty-first century structure with nearly 200

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[15]Yale H. Ferguson and Richard W. Mansbach, "The Past as Prelude to the Future: Identities and Loyalties in Global Politics," in *The Return of Culture and Identity in IR Theory*, ed. Yosef Lapid and Friedrich Kratochwil, 21-44 (London: Lynne Rienner, 1996), 38.

sovereign actors. Of interest to any scholarly inquiry concerning sovereignty are both changes over time as well as underlying causes. Did some external variables provide an "abrasive" by which to "erode" the sovereignty? Did "erosion" result in reduced levels of states' ability to exercise their exclusive authority to intervene coercively in activities within their territory? If not by erosion, what changes took place and why? This study, of course, delves into the role of telecommunications technology as an external element causing changes in sovereignty, but other "abrasives" — sources or causes of change — also exist.

State-centric international relations theories, such as realism in any of its variants, assume sovereignty of states as an essential element. Various, liberal, non-state-centric theories tend to accept sovereignty as a significant and valid principle in the international system, but not necessarily the exclusive or dominant element. Differences between the two approaches rest in accepting an evolutionary reduction, erosion, or even the possible eventual demise of sovereignty.[16]

Territory always provided a critical, defining element to sovereignty. States occasionally, perhaps often, disagreed about ownership of specific areas under situations of irredenta, but tacit if not specific acknowledgment of borders accompanied mutual recognition. Little opposition existed to any state's control of cross-border movement of any commodity and border security became a primary element of state behavior as international law developed to codify such norms. Economic evolution, combined with technological advances of all types, created situations making state border control ever

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[16]Charles Burton Marshall, *The Exercise of Sovereignty: Papers on Foreign Policy* (Baltimore: Johns Hopkins University Press, 1965), 3.

increasingly difficult. Pursuit of favorable international trade situations often required states to relax their never complete attempts to control imports and exports to accommodate expeditious industrial movement of goods. Where trade took place, financial data accompanied it. Telecommunications technology, in particular, provided a dilemma; it was the means by which information crossed state borders. The information might well contain data of benefit to the state's international trade transactions, but it might just as well carry alien cultural concepts or other ideas considered subversive.[17]

States had the "right" to attempt to "seal" their borders and inspect all people and shipments crossing frontiers. Smuggling always took place, but suppression of illegal importation was a domestic police matter and fully within states' sovereign authority. Illicit transport of goods could be accomplished in small quantities carried on the backs of people or their pack animals. Larger shipments required carts and roads. Historically, states tended to organize their border defenses against invasion rather than smuggling. Defense against the illegal movement of goods was a matter for tax laws and enforcement tended to be based more on fear of revenue lost to smuggling than security threats.

Concerted efforts toward crossing borders with illicit goods was, in all probability, economically beneficial despite the risks. However, the movement of information was very likely never difficult. Books hidden within personal baggage, letters on the person of a traveler, or most dangerous of all, ideas within the brain of an immigrant were indefensible. In later eras, information in quantities comparable to entire libraries could be transferred in an instant via the combined capabilities of computer and telecommunications networks. International frontiers were, in all likelihood, always

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[17]Thomson, "State Sovereignty in International Relations," 215.

incredibility permeable to small groups moving limited quantities of any commodity, even if those borders were well defended against military invasion. Still, many states relied upon revenue from imports for their operating funds.

However, as levels of trade increased, draconian inspections would introduce unacceptable delays with cumulative effects on business and domestic economy. Letters of credit, documents, or other "subversive" information might be smuggled in the form of books or letters on the persons of travelers, and some would (and will) always get through despite the state's attempt to exert control. The introduction of electronic transfer of information makes detection and interception more difficult by orders of magnitude. While border control, and its potential limits, might seem to dominate a loss of sovereignty, other more subtle forces influence state pursuit and practice of sovereignty.

International organization membership also contributes to erosion of "traditional" sovereignty. States always maintained a nearly unlimited right to go to war when in the national interest to do so. The formation of the United Nations (UN) made a significant alteration in the application, if not the concept, of sovereignty. Member states accept restrictions on the right and endorse punitive sanctions on violators of the organizational norm.[18] Although free to join or not to join various IGOs such as the UN, states — especially smaller states — often find membership critical to prosperity, if not survival. Joining IGOs might be seen as a threat to absolute sovereignty, but sovereignty was never absolute. The norms of state actions under anarchy still acknowledge some form of universally accepted behavior — the fundamental basis of international law. Functioning

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[18]Mihali Simai, *The Future of Global Governance: Managing Risk and Change in the International System* (Washington, DC: United States Institute of Peace Press, 1994), 255.

in the international environment while adhering to norms reduces the practice from the absolute, ideal concept to something less.

States might "forfeit" some degree of their sovereignty through other ways as well:

*Conventions*: agreements (human rights accords, for example) do not require the states to behave contingent on the actions of others. Rather, actions should follow some internationally accepted norm. Instead of national interest or benefit, actions are expected because they represent "the right thing to do."

*Contracting:* states voluntarily forfeit some degree of sovereignty in *quid pro quo* for benefits, such as a international loans or benefits of institutional membership. In many cases, such as international postal exchanges or radio spectrum utilization, international membership and cooperation benefits both domestic and foreign efficiency — the basis of functionalism.

*Coercion*: rulers of stronger states compel actions through threats.

*Imposition*: weak states have no option but to agree to the wishes of a stronger state.[19]

The idea of sovereignty is so ingrained in the current international environment's collective thinking that it does not allow for open acknowledgment of any surrender of independence and therefore, sovereignty. Still, states make concerted decisions to enter into contracts and conventions because it is in their best national interest, and the idea of "pooling" versus surrender of sovereignty emerges. Early manifestations of the European Union (EU, neé European Economic Community — EEC) were little more than an experimental IGO, but it has since evolved into an entity in possession of some elements of sovereignty. It has defined territory, a European population, and a functioning

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[19] Stephen D. Krasner, "Compromising Westphalia," *International Security* 20, no. 3 (1995): 117.

government with some, but by no means all, elements of sovereignty to which members pledge fidelity. It would appear to be a combination of contract and convention augmented by some degree of subtle tacit coercion in the background. The limited sovereignty exercised by the EU over its member states originated at the members' expense. Rather than admit to a loss or surrender of sovereignty, members view the arrangement as "pooling" of sovereignty,[20] with hopes that the pool will develop some degree of synergy where the cumulative sovereignty will exceed the sum contributed. While the concept of pooling sovereignty might provide a face saving means to placate residual nationalism, it still constitutes member states ceding some finite degree of their inherent sovereignty to a "higher authority."

International organizations cause further alterations in state behavior which, in turn, might alter theoretical description of observed phenomena. Accepted behavior of states — norms — forms one element in the foundations of international law.[21] Such behavior usually forms the basis of natural law, or simplistically: "the right thing to do." By joining an IGO, a state accepts — and at least gives "lip service" to — the norms proscribed by the founding treaty or charter. If the norms under which states act have changed since Westphalia, sovereignty in the twenty-first century, logically differs as well. It begs the question: Is sovereignty eroding away from some original concept? Is the sovereign state still a valid organizing feature to the international system, but operating under different norms? Are changes necessarily bad?

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[20]Philpott, "Sovereignty: An Introduction," 364.

[21]Peter Malanczuk, *Akehurst's Modern Introduction to International Law* (London: Routledge, 1997), 57.

This simplistic approach ignores the social nature of the theory and concept. They describe and explain why states act as they do. A better approach might be: If the nature of the international system has changed, the theory describing and explaining it requires revision. Some theorists postulate that revising the theories explaining state behavior indicates the end of sovereignty and the associated sovereign state in the near future.[22] One particular way to emphasize potential sources of change revolves around the organization of the state itself. Traditionally a territorial entity, new primary organizing foci have been proposed in the form of telecommunications for "telecommunities"[23] and economic interdependence driving "trading states."[24]

As the post-Cold War "world order" continues to evolve, or organize itself around new norms, the entire international system has taken on an altered nature. Intervention, under the legitimacy of the UN or other IGOs, has been used to suppress horrors such as "ethnic cleansing." A next, possibly logical step might result in stronger states and organization intervening before the fact — which might be used as an explanation or justification for US intervention in Iraq. Such actions shift foreign policy from actions among states to politics within states. Regardless of the humanitarian basis generating sovereignty-violating intervention, smaller states are likely to develop suspicions of more drastic motives and reiterate their claims to sovereignty and freedom from international interference. If world politics evolve toward the same status as international economics, continuous interactions will blur the differences between foreign and domestic affairs.

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[22]Philpott, *Revolutions in Sovereignty*, 8.

[23]George Bugliarello, "Telecommunities: The Next Civilization," *The Futurist* 31, no. 5 (1997): 24.

[24]Rosecrance, *The Rise of the Trading State*, 190.

States — governments — cannot be expected to surrender their sovereignty — their very existence — lightly. If for no other reason, the process of maintaining domestic order will extend the life of sovereignty.[25]

While these prospects open numerous arguments regarding the future of anarchy, it also importunes a discussion of: If not the sovereign state, what? How could the international system organize itself without the bedrock sovereign state?

*Alternatives to "Traditional" Sovereignty*

The sovereign state has always been based on the territorial limits within which the state exerted its control. As IGOs begin to exercise some elements of sovereignty, they may not reach a realist's threshold for relevance, but must be take seriously as actors in the international system. Territory alone does not limit the extent of a state's sovereign influence.

"Metaterritorial" activities enter the study of sovereignty and necessitate redefining the actors participating in the international system. The classic territorial state, firmly bounded by its borders, includes many common activities — agriculture, physical infrastructure, military, and police organizations. Metaterritorial elements, are far more abstract without the confining limits of geographical borders. Scientific knowledge, information, electronic transactions, or satellites in orbit can not be contained within national boundaries.[26] Any consideration of the future of, or alternatives to, sovereignty must include metaterritorial considerations.

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[25]John Stremlan, "Antidote to Anarchy," *The Washington Quarterly* 18, no. 1 (1995): 43.

[26]Bugliarello, "Telecommunications, Politics, Economics," 407.

The examples provided by the United States, where sovereign entities coalesced into a single federal state, and the EU, possibly on a similar course, lead many theorists to predict some sort of global governance. A mythological idea belonging to the genre of science fiction, it may lie in the far distant evolutionary future of humanity, but it rests far beyond the reality of even the most liberal of visions. More likely, redefinition of actors in the international system, their roles, and their behavior define more probable alternatives.

As developed by Richard Rosecrance, the concept of "trading states" projects industrial production and trade replacing territorial expansion in virtually all states' pursuit of national interest. Associated blocks of states based on trade could provide a central unit of study to replace absolute focus on the territorial state.[27]

Similarly, George Bugliarello explored the metaterritorial aspects of telecommunications and posited the emergence of "telecommunities" as international actors with some elements of sovereignty. The influence of geographically dispersed organizations linked primarily by telecommunications technology, particularly fax, Internet, and e-mail as dominant media during the 1980s and 1990s, has been demonstrated by several precise examples: The Ayatollah Khomeini's rise to power in Iran while in exile in France; the international influence on public opinion developed by insurgents in the Mexican state of Chiapas; and more recently, al Qaeda's coordinated terrorism. Such entities hold potential to evolve into state-like telecommunities. Although they do not possess inherent military power, they have the ability to empower militia or rebel groups through the sharing of information and electronic transfer of funds.

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[27]Rosecrance, *The Rise of the Trading State*, 190.

Providing fertile ground for new varieties of crime, telecommunities might be induced to develop means by which to regulate access to their valuable data bases and thereby creating a type of "police;" further enhancing their own *illusion* of "sovereignty."[28]

As the EU approaches supra-national status, the "member-state" materializes as a possible alternative to the sovereign state. Surrendering some elements of their sovereignty to an IGO, states could be defined less by their territory and populace than by the organization of which they are members.

*Summary – Sovereignty*

In 1648, all of the actors in the international system were sovereign states, with the possible exception of the Roman Catholic Church's attempts to maintain some vestigial degree of sovereignty despite exclusion from the "club." The modern world must include some consideration of others. While trading blocks or IGOs might cultivate some elements of sovereignty, they would not meet the basic requisites of territory, population, and government. Even if the definition of sovereignty were revised to exclude the requirements for territorial control, another basic question emerges: Would such non-territorial entities accept the "housekeeping" duties required of territorially-based states? With sovereignty comes a necessity to respond to demands of the citizenry.

A telecommunity or trading block might wield military or police powers, but would they build roads beyond those required for trade or military access? How would they respond to citizens' needs for schools, social justice programs, and other prerogatives of citizenship which have come to approach the status of "natural rights?" As

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[28]Bugliarello, "Telecommunities: The Next Civilization," 24.

telecommunications enable the easy receipt of information on a worldwide basis and the "have-nots" discover how much they do not possess by comparison with the "haves," citizens' demands may be expected to increase. The sovereign state has a place in the future, but telecommunications technology has a role in determining the exact nature of that position.

## Telecommunications

The foregoing discussion addressed the origins, theoretical basis, and practical applications of sovereignty, the dependent variable. Telecommunications technology, the independent variable, also requires a foundation on which the reader may rely in pursuit of the analysis in the following chapters. It is a specialized discipline tied closely to engineering and mathematics. The following discussion presents a minimal level of background information on telecommunications technology which is necessary for effective analysis and comparison.

### *Introduction*

The root of *telecommunications*, is of course, *communication*. In current usage, the addition of *tele* to the root carries with it the addition of electromagnetic technology. However, any investigation into the history and effects must acknowledge a "control era" prior to the developments of modern science.

Regardless of a message's means of transmission, it follows a basic process. The "sender" possesses information and wishes to pass it to another. It must be put into forms (media) suitable for transfer to another location. It might be spoken directly, but if the

recipient is not within earshot, the information might be consigned to written words on paper in the form of a letter, picture, diagram, chart, or in the case of fiction, philosophy, or scientific advance, result in production of a book. For secrecy, a messenger could be required to memorize information — a process often used in societies without written language. In pursuit of privacy, cryptography was often used to conceal the information contained within the written material. Then, the information must be delivered by the most appropriate means. Historically, it would be carried by a human being. Today, the Internet, facsimile, e-mail and other high-technology means provides nearly instantaneous delivery with little regard to the distance between sender and recipient. When received, the receiver reads or processes the information appropriately. Of special note, the "message" might be a hand-written letter, a book, or a massive computer database. All contain information, and much — especially financial information — can have severe, time sensitive implications.

The earliest form of transmission of information over long distances required word-of-mouth. Many epic poems, such as the works later codified by Homer, began as ballads committed to memory to preserve and extend the range of "historical" and cultural legacies. For the purpose of this study, however, the starting point assumes the development of written documents and a desire to transfer the contents over long distances.

*Length of Time Historically Required for Information Transit*

The primary benefit to transmission of information via telecommunications technology results from the drastic reduction in elapsed time between the sender's

dispatch and receiver's receipt. Therefore, a brief look at the time necessary for delivery of information before technology entered the environment would be appropriate. Throughout history, senders could consign information to letters and send them via courier to recipients elsewhere. Messengers could also commit information to memory, but that reduced the flexibility of delivery; only the original courier could deliver the information without a laborious effort to have another memorize the same message. Where privacy was desired or required, various means were often employed to hide the existence or contents of the communications. Letters hidden on the person or among innocuous possessions of the courier disappear to the casual observer. Messengers with memorized information could easily conceal their true intentions with viable cover stories. Cryptography could conceal the contents of a documents. However, the speed of transport still relied on existent means of ground or sea transport.

*Methods of Transmission Prior to Telecommunications*

Several examples exist where various civilizations developed means to transmit information to critical decision-makers via more "rapid" means. Greek signal fires relayed brief messages from hilltop to hilltop. Native Americans, similarly, are credited with the use of "smoke signals."[29] Some historical evidence, dating to the twelfth century and Genghis Kahn, points to use of carrier pigeons to transport written messages tied to the bird's leg. The "throughput" (to use modern vernacular) — the amount of information transferred — was unreliable, extremely limited, and time consuming.

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[29]Laszlo Solymar, *Getting the Message: A History of Communications* (Oxford: University Press, 1999), 19.

In eighteenth century Europe, semaphore stations relayed information around the continent using "mechanical telegraphy." Hilltop towers were equipped with "arms" which could "wave" to a visible, distant hilltop. A code of arm positions permitted transmission of text messages. While these "communications systems" represented a drastic improvement to the speed of information distribution, they were still very slow; transmission speeds could be measured in single-digit words per minute, at best. Further, reliability was often dubious All relied on visual observation which limited the length of any individual "leg" of the relay chain. Weather conditions or operator inattention might restrict accurate observation and every relay point in the long chain of the network increased the likelihood of introducing errors. Alexandre Dumas exploited this possibility in *The Count of Monte Cristo* by arranging for a "misinterpretation" in semaphore signals to report a "revolution in Spain" to Paris, resulting in banking chaos for the Count's adversaries. A fictional example, of course, but it demonstrated the potential impact of information — albeit misinformation due to technology — on international financial transactions.[30]

*Distribution of Received Information*

Distribution of information, once received, must also be considered. In the case of semaphore, at the hilltop nearest the person receiving the transmitted information, the message had to be either written down or committed to memory and physically delivered. In the case of general information such as news, philosophical discourse, or scientific breakthrough, wide-spread dissemination after physical delivery to the recipient, required

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[30]Alexandre Dumas, *The Count of Monte Cristo,* Vol. II (1845; repr., New York: Collier, 1910), 108.

publication. For uncounted centuries, "publication" necessitated laborious hand-copying of texts. Introduction of moveable-type printing made drastic increases in levels of distribution, but still did nothing for the speed of transfer.

*The Telegraph*

Except for the few attempts at visual signaling, which by their nature could not cross extended expanses of water, the first quantum leap in transmission of information emerged in the nineteenth century with electric telegraphy. The telegraph, well known for its inventor, Samuel Morse, and his associated Morse Code, introduced rapid transmission of information. "Processing" of the information required the originator to write it down (and if necessary for protection of the contents, introducing cryptographic privacy) and delivering it to "Point A" of the telegraphy system. The telegraph operator then transmitted the data to "Point B" at a maximum speed of 20 to 30 words per minute. An operator at Point B wrote the message and initiated the process of delivering it to its intended recipient(s).

Telegraphic transmission over longer distances developed rapidly through the introduction of relays. Relays involved operators at the extremis of telegraph line who copied the message and turned to the origin of another line and resent the message. The effective distance increased, but so did the concomitant likelihood of errors. That problem, as a technological issue, was reduced by improved cables and potential distances expanded through the extensive technological developments taking place throughout the nineteenth century. The telegraph was introduced for practical use in

1845; by 1866, North America and Great Britain were linked by an undersea telegraph cable.

Technology did not remove all requirements for relays, and state sovereignty entered the domain of "modern" telecommunications. When information transport involved crossing international frontiers, states often exercised a right to restrict or supervise its entry into or departure from sovereign territory much as they might for "physical" goods and merchandise. The reasons might be based on national security, economic viability, or some less defined purpose such as cultural purity or even blatant censorship. During non-electronic eras of information transfer, states' control of borders included attempts to intercept information of interest and prevent passage of data which might represent potential danger or undesired influence. States always pursued such information. Decision makers require knowledge of actions and intentions — actual or expected — by an enemy, adversary, competitor, or even "friend," in normal pursuit of diplomacy, statecraft, and economic transactions. In 1324, King Edward II of England ordered the interception and review of all letters coming from or going to "parts beyond the seas." By the sixteenth century, the British were famous for their interception of all diplomatic dispatches.[31] Spies, informants, and agents, throughout history, provided their leaders with information, but transport of the data unearthed by them still depended on available means of surface transportation. Many and variable methods of conveyance existed, but their speed depended primarily on surface transportation. Basically, information moved only as fast as human beings could carry it.

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[31]Michael Smith, *Station X: Decoding Nazi Secrets* (London: Channel 4 Books, 1999), 8.

Searching shipments or possessions of travelers crossing borders poses many problems, but when the target is information in electronic form, the task becomes more difficult. In the mid-nineteenth century, technology allowed direct telegraphic transmission of messages from Paris to Berlin. However, when initially installed, both France and Prussia refused to allow messages to cross their borders without national supervision. Telegraph operators at the border transcribed messages and passed them to national agents for review. The paper copies of the examined and approved messages were then passed "across the border" — which was actually accomplished by passing them across a desk within the same room — to the other state's operators.[32]

The content of messages frequently involved time-sensitive economic data. As business and industry began to realize and exploit the benefits of rapidly transmitted (and received) data, the delay and backlog introduced by state supervision became untenable. States were faced with a choice between sovereign rights of border supervision and benefits to their economy gained by efficient communications. In the above example, state control over all traffic between Paris and Berlin was removed in the interest of international and economic efficiency. As a result of telecommunications technology, states had exchanged some degree of sovereignty in response to demands by international business concerns and economic benefits.

Availability of "instant" communications expanded, but loss of privacy was often included in the cost. Few, if any, of the people desiring the telegraphic transmission of information possessed the skill necessary to use Morse Code. The nature of the telegraph involved numerous people with access to the information contained within messages. The

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[32]Solymar, *Getting the Message,* 5.

"sender" committed information to paper and passed to a series of clerks and operators for processing, billing, and transmission. At the "distant end," the process was reversed. Numerous "pairs of eyes" — normally, but not always, disinterested — had the opportunity to view and make note of information of interest. Agents of states, business rivals, or other interested parties could develop numerous opportunities to intercept and read any and all messages passing through the telegraph system — especially in states where the communications systems were government-owned.

Telegraph operators sending "plain text" (words in coherent sentences) were far more efficient and accurate than when sending a series of nonsensical letters and numbers. They had to transmit at a slower speeds to ensure accuracy which tied-up the circuit longer. In the nineteenth century, US Secretary of State William Seward fully acknowledged the need for cryptographic protection of diplomatic messages. However, the increased cost — which could approach ten times the charge for "plain text" transmission — proved to be prohibitive. As a result, decisions to risk possible "compromise" of diplomatic information by sending messages "in the clear" tended to be made based on cost rather than the security threat. The increased cost of transmitting encrypted messages proved to be prohibitive and Seward's budget could not withstand the strain.[33] Little privacy existed in nineteenth century US Department of State communications.

Well into the twentieth century, diplomatic messages were carried by public telegraph networks. Telegraph systems in the United States were commercial enterprises except for

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[33]Ralph E. Weber, "Seward's Other Folly: The Fight Over America's First Encrypted Cable," *Cryptologia* 19, no. 4 (1995): 326.

a few private or dedicated military systems. Throughout much of the world, however, national postal systems owned and operated every aspect of the telegraph network. Senders (whether they were state agencies, commercial enterprises, or individuals) who desired "privacy" for their information exchanges over public telegraph could "cover" the message with cryptography — cipher systems. This resulted in transmission of a message which, rather than a sensible combination of words and phrases, contained [apparently] nonsensical, pattern-less letters and numbers. The lack of "plain text" made transmission and reception far more difficult for operators, and therefore, slower. Telegraph companies charged a high premium for transmission of encrypted messages.

Originators and receiving operators still consigned the messages to paper. States — especially those whose telegraph networks were government-owned — could easily intercept the content of transmission. During World War I, United States government code breaking operations had agreements with telegraph stations for daily receipt of copies of all international diplomatic message traffic. Although protected by cryptography, copies were obtained and subjected to intensive code-breaking efforts to investigate the information leaving and entering sovereign territory.[34]

Although the US required special agreements, and often court orders, to obtain copies of messages from the commercial telegraph operators, many other states had few such restrictions. Since the communication system was government owned, government interception was assumed by all involved. Some state sovereignty had been surrendered in exchange for international efficiency — largely in the business arena. However, sovereign actions still attempted to investigate the information crossing borders.

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[34]Herbert O. Yardley, *The American Black Chamber* (Laguna Hills, CA, Aegean Park Press, 1931).

*Enter the Telephone*

Telephone communications entered the communications arena in the final quarter of the nineteenth century. Once again, states could — technically — supervise conversations crossing their borders. However, where telegraphic messages required consignment to paper, telephone conversations were transient and left no residual trail. Supervision of cross-border telephone conversations would require an operator to listen to every international call — one government agent per call. As with early attempts to control telegraphic messages, the sheer enormity of the task required that states forego universal supervision in the interest of communications efficiency. States could still selectively or randomly eavesdrop on telephone calls but control — short of severely restricting or not allowing international telephone connections — was lost.

*Wire Versus Wireless*

Both telegraph and early telephone networks required physical connection between points by wire. Early in the twentieth century, nearly worldwide "wireless" connections via radio became feasible. Telegraph and telephone systems required physical construction of cable systems between points. Radio, on the other hand, operated with transmitters at one location and receivers at another. Laws of physics with further dependency on atmospheric phenomena determined maximum distances. Initially, radio could only support the transmission of telegraphic messages, but later advances allowed for voice, and later, much more rapid transfer of data. Where Morse Code (whether by wire or radio) allowed transmission at rates of approximately 30 words per minute, early radio teletypewriters more than doubled that speed.

The possible distances traversed by radio waves made it attractive to many long-distance applications. Terrestrial telegraph wires presented a physical presence over which states had some control. Installation of the wires could always be forbidden or severed at the border if they became undesirable. Radio waves, however, fall where they are directed. A state has no ability to prevent a radio wave from crossing its borders and must invest in appropriate technology in order to learn that waves have crossed its frontiers.

Laws of physics determine how radio waves travel. Depending on electromagnetic characteristics of the transmitter and its associated antenna, waves might "hug" the earth for maximum "line-of-sight" distances of around 30 miles, bounce off of the ionosphere for possible, but sporadic, communications worldwide, or travel in straight lines from point-to-point in terrestrial applications or into outer space. In the latter case, orbiting satellites receive the signals and relay them back to earth. But states are powerless to stop the radio waves (and the information carried thereon) from entering their sovereign territory. The signals are present and require only the appropriate equipment to detect their presence and extract the information component. The state's only option to prevent the reception of these unwanted signals requires the generation and transmission of technically similar, but more powerful signals — normally referred to as "jamming."

*Copper, Glass, and Gutta-Percha*

Both "wireless" radio and cable have evolved technologically. The telegraph cable of the nineteenth century consisted of a copper wire protected from the elements by rubber or gutta-percha — a rubber-like substance, more durable and less flexible, particularly

well-suited for underwater electric insulation. One wire allowed the transmission of one message at maximum speeds of approximately 30 five-letter words per minute (five-letter words were used as a quantified measure of transmission speed; shorter and longer words were, of course, routinely used in actual message texts). Early telephone connections suffered from the same limitations — one wire (or pair of wires) for each conversation. Contemporary cables contain various configurations of metal or minuscule strands of glass — fiber optics — which can simultaneously accommodate the equivalent of thousands of single-wire circuits. Similarly, modern radio systems, often reliant on satellites to relay signals back to earth, carry thousands of telephone calls simultaneously in concert with the transfer of television signals and huge quantities of computer data. Rather than telegraphic or electronic communications, these technologies are best described by the term *telecommunications*: The science and technology of transmitting information, as words, sounds, or images, over great distances, in the form of electromagnetic signals, as by telegraph, telephone, radio, or television.

*Satellites and Sovereignty*

Telecommunications technology also introduced a "vertical" element to sovereignty far beyond the altitude of aircraft entering or traversing a state's territory. Communications relay satellites generated the question: How far "up" into the atmosphere, stratosphere, ionosphere, and beyond, does a state's sovereignty extend? While this might appear, at first, to rank in importance with the number of dancing angels accommodated on the head of a pin, the question actually has significant import to the joint and interrelated issues of telecommunications and sovereignty.

Development of aircraft first introduced the vertical element to sovereignty. States claimed and continue to maintain sovereign rights to control air traffic above their territory. But at what altitude does sovereignty attenuate?

In the late 1950s and until 1960, the US flew recurring U-2 aircraft reconnaissance missions over the Soviet Union. Operating altitudes in excess of 80,000 feet, they were considered "safe" since Soviet air defense capability could not extend higher than 60,000 feet. No international law precedent existed or developed as a result, but a *de facto* interpretation limited vertical sovereignty to the operational limits of air defense technology. As that technology developed, the operational "reach" extended, theoretically, into the range of satellite orbits. Contemporary satellites of all types, space stations, and shuttles continuously pass over the "sovereign" territory of many of the world's states, some of which could conceivably develop an anti-satellite capability (although such development has been limited by treaty). No outcry ensues claiming sovereignty violations. However, satellites dedicated to telecommunications (as opposed to those intended for espionage, weather, or scientific exploration) provided a forum for the world's states to determine the status of sovereignty and orbiting platforms.

In practical application, long distance, high-capacity telecommunications technology requires satellites to act as a relay for electromagnetic communications beyond "line-of-site."[35] Satellites in "low earth orbit" rotate around the planet at a rate dependent on their

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[35]High frequency communications in the 3 to 30 hertz range also provide over-the-horizon electromagnetic communications. However, the information carrying capacity is severely limited to the vicinity of 1.2 *kilo*bytes per second where "high capacity" requirements are measured in the *mega*byte (and higher) range. Cables, especially those based on fiber-optic technology also provide high capacity information transfer, but the cable has a clearly identifiable physical presence, unlike electromagnetic waves which require equipment to detect their presence.

altitude above the surface. Typically, a satellite in a low-earth orbit of approximately 100 miles completes circle of the earth in about 90 minutes.

Antennas for use in satellite communications are highly directional and must be "aimed" at the satellite within a tolerance of a few degrees. Consequently, a low-orbit satellite is "visible" for only a short time, and further, must be "tracked" as it passes across the sky from horizon to horizon.

The orbiting satellite's orbital "period" increases in direct proportion to its distance from the earth. Again, dependent upon of laws of physics, a platform placed in orbit, directly over the equator, at 22,300 miles above the earth's surface has a period of 24 hours. As the earth beneath it rotates at the same rate, the satellite appears to remain permanently in the same spot in the sky. Antennas may, therefore, be aimed at a satellite and remain virtually fixed, except for minor "fine tuning."

Relay satellites' positions over the equator are critical to the telecommunications-dependent government, business, and industrial operations of the world. In 1978, several equatorial states presented the World Radio Conference (WRC), under the auspices of the ITU, with demands for sovereignty over the satellite "slots" 22,300 miles above their territory. The situation was resolved not by acknowledging equatorial states' sovereignty over spots in space 22,300 miles above their territory. Rather, the various "slots" were allocated to all of the world's states participating in the WRC.

The specific vertical limit of sovereignty remains unresolved under international law. However, platforms in orbit have been limited by treaty (the Outer Space Treaty, 1972) and other agreements within the WRC.

*The Internet — Synergistic Amalgamation of All Transmission Media*

The Internet uses pieces of virtually every type of telecommunications. The "user" at a home or office computer connects to an Internet server via telephone, television cable, or special dedicated circuit over a pair of wires or strand of fiber optics. Connections between the servers and Internet nodes might be accomplished by terrestrial based cable and radio, or by satellite radio systems, or any combination thereof. The volume of information transferred, when compared to early telegraph capabilities, becomes staggering. No longer measured in "words per minute," "bits per second" (bps) now quantify information transfer. Manual, 30 words-per-minute telegraph might be expected to transfer information at a few bps. The typical home computer with a dial-up Internet connection operates at 56,000 bps. Fiber optic cables and high capacity radio systems measure information transfer in the millions (mega) and billions (giga) bps range, with much higher rates on the technological horizon.

*Radio Waves Without Respect for Territorial Borders*

The contemporary result of a century and a half of technological evolution in telecommunications since the introduction of the telegraph is that information-carrying telecommunications media cross international borders with near-impunity. States can, through parallel technical development, attempt to monitor communications and decipher the contents, but any ability to influence or control the content of information reaching their citizens is negligible, at best, without draconian measures. China, for example, attempts to control all Internet traffic entering and leaving the country by requiring all exchanges to transit government-controlled servers. However, satellite telephones, which

connect directly to worldwide telephone systems, allow Internet connections which circumvent state-sponsored supervision. The only sure means of preventing Internet data from reaching Chinese users would require a ban on all computers and non-state controlled telephones. Such measures might virtually eliminate the state's much sought after foreign investment.

North Korea pursues even more extreme measures to isolate itself from the adverse effects of information. The state strictly controls television and radio transmissions, the Internet is virtually non-existent and where it does exist, its use is closely monitored, and international telephone calls are priced by state-owned utilities beyond the means of most citizens. However, refugees frequently brave the borders to cross into China where they purchase and often return with cellular telephones. Near borders, the smuggled equipment can make use of Chinese cellular service which allows information exchange far beyond that desired by the state.[36]

Summary: Telecommunications, Information, and Sovereignty

In the modern telecommunications environment, states find that their sovereign control over cross-border data flows are severely limited. That data may contain cultural material (radio, television, motion pictures, music or any imaginable type of entertainment media), include large or small financial transactions, or disguise multifarious exchanges among dispersed people. The alternative, withdrawal from participation in the international economic environment, causes states to accept a surrender, reduction, or change in the nature of sovereignty.

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[36]Young Howard, "The Real Threat to Kim," *International Herald Tribune,* February 25, 2005.

The discussion thus far, leads back to the original research question: In what ways does telecommunications technology affect state sovereignty? In pursuit of answers, a series of hypotheses were proposed in Chapter I:

The more telecommunications technology developed, the less states could:

a. Control the passage of information across their borders.

b. Influence the inflow and outflow of funds.

c. Limit cultural penetration through foreign influence.

After more detailed discussion of both sovereignty and telecommunications, it appears that further analysis will result in rejection of the null hypothesis. However, an arbitrary decision about acceptance or rejection of hypotheses requires structured consideration as proposed in the methodology section. The subsequent four chapters each address sovereignty during historical eras dominated by particular telecommunications technology.

# CHAPTER III

## AGE OF [NEWS] PAPER — 1648-1844

The previous two chapters developed the process and provided background on sovereignty (the dependent variable) and telecommunications (the independent variable). This chapter begins analysis of the two variables at a time when the value of the independent variable was, effectively, *zero*. Sovereignty, and the associated system of sovereign states existed; telecommunications did not. This chapter, therefore, serves as a "control era" to investigate sovereignty when information transfer existed in its peculiar "state-of-nature" and moved only at the speed humans could carry it. Establishing and evaluating a baseline situation also lays the groundwork for a foundation and format for follow-on eras when new elements of telecommunications technology dominated information transfer.

This era commences with the emergence of an international system of sovereign states in the seventeenth century when no telecommunications technology could accelerate the speed of information transfer. Three and a half centuries later, as a result of telecommunications technology, information routinely shifted throughout the world at the speed of light. To restate the research question: In what ways does telecommunications technology affect state sovereignty? This and subsequent chapters explore how sovereign states differ across the time included in the four eras and what role telecommunications technology played in creating those differences.

## Introduction

The methodology presented in Chapter I stipulates a structure consisting of four chronological eras, each of which was dominated by a characteristic technology for transfer and distribution of information. The eras provide a framework for analysis of effects on sovereignty as telecommunications technology developed and the speed of information transfer escalated. This chapter begins at a time when the international system of sovereign states was a new phenomenon and information transfer was in its "state-of-nature" and not accelerated or augmented by any electronic means. Historically, information moved by cumbersome processes. Data, facts, ideas, or any other form of knowledge or intelligence was consigned to the written word on papyrus, paper, parchment, or some similar substrate. (Paper was a relatively late development in the history of humanity, but it is used here as a generic term for any of the lightweight substrates to which the written word was consigned. Heavier material such as pottery or stone was also used but more for preservation and presentation of information than transfer.[1]) Of course, information could also be memorized and transported "in the brain" of a messenger, but quantity, and perhaps quality, of the delivered information might be in question. Transport of the paper was the most viable means of information transfer for multiple millennia subsequent to the development of writing and until the development of the telegraph. In research methods terms, the Age of [News] Paper, therefore, serves as a "control" era for subsequent comparison. Ensuing chapters explore sovereignty under the

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[1]Dard Hunter, *Papermaking: The History and Technique of an Ancient Craft* (New York: Dover Publications, 1947), 8.

influence of technology which accelerated information transfer and permitted wider distribution and availability.

The mid-seventeenth century provides a particularly appropriate time to begin a study of sovereignty. Political scientists and historians generally agree that the first international system of sovereign states reached fruition in 1648 following the Peace of Westphalia at the conclusion of the Thirty Years War.[2] The manifestation of sovereign states alone marks a pertinent point at which to begin discussion and analysis. However, other events during the same era also emphasize the appropriateness of beginning evaluation at that point. In particular, banking and monetary transactions made evolutionary surges and newspapers entered the public domain as the first incarnation of "mass media."

During the seventeenth century, the fledgling international monetary system approached a level of sophistication permitting various forms of paper notes to be exchanged in lieu of long enduring processes requiring the physical transfer of precious metal coin. This development depended upon sophisticated merchants who saw the advantage of storing their money in locations other than their homes. Growth and success in monetary systems required trust in the stability of both governments and the banking.[3] Additionally, moveable type printing matured to a point where increased literacy and concomitant public hunger for news resulted in the emergence of periodic broadsheets, pamphlets, and written propaganda of all types. Spurred on by public demand for

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[2]Bull, *The Anarchical Society,* 9.

[3]Steven Horwitz, *Monetary Evolution, Free Banking, and Economic Order* (Boulder, CO: Westview, 1992), 115.

information about the Thirty Years War, the newspaper entered European society where it became the first "mass media."[4] Post-Renaissance European society and culture were poised for transformation and very susceptible to change. Society was in a state of flux and even the newly acknowledged sovereignty of states, despite the immaturity of their "system" as primary international organizing factor, were among the targets for change. Trade among sovereign states necessitated international financial transactions and the ease of funds transfer made possible by the emergence of international banking cooperation. States were moving toward mercantilism with its inherent emphasis on maximizing exports while minimizing imports. Easing border restraints encouraged trade and related activities but came at the cost of some sovereign control.[5] Cultural interaction and exchange, as it had taken place throughout history, continued. Where borders are opened for one purpose, they become permeable; the easing of migration or trade restrictions allowed the passage of ideas as well.

This process continued with little change until the nineteenth century when the steam engine increased the speed of human movement over water and land, and in 1845, Samuel Morse opened his first telegraph line. For the first time, the information transfer exceeded the speed at which humans could carry it. Therefore, 18454marks the appropriate point at which to end the Age of [News] Paper.

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[4]R. A. Houston, *Literacy in Early Modern Europe: Culture and Education, 1500-1800* (London: Longman, 1988), 167.

[5]Henri Pirenne, *Economic and Social History of Medieval Europe* (New York: Harcourt Brace, 1937), 217.

*Role of Information*

As introduced and discussed in Chapter I, any relationship between state sovereignty and telecommunications appears superficially esoteric, at best. With the introduction of an intervening variable — information — the association begins to solidify and become somewhat more intuitive. Still, information's role, its speed of transfer and distribution, and any resultant effect on sovereignty remains elusive. The very basis of the sovereign state establishes the foundations for analysis. Theories of international relations, developed in pursuit of explanations for the international system, differ as to the exact role of states. However, regardless of the theoretical platform on which behavioral explanations are based, states, in the exercise and pursuit of their sovereignty, are most likely to act in their own best interest. In doing so, timely knowledge about the actions of competitors, adversaries, enemies, or even friends across the international system influence a state's decision making processes and development of responses to other states' actions. In straight forward terms, the rapidity of information transfer often determines its impact on states and their actions. "Rapidity," in this context falls into a particularly pertinent trap of relativity. Routine news historically traveled across the breadth of Europe in terms of months as travelers, traders, or migrants moved. However, a dedicated dispatch rider might complete the journey in a matter of weeks, but at great expense. In the sixteenth century, for example, letters containing "news" traveled faster than any other commodity. Mail at its most efficient employed private postal firms which promised, but rarely accomplished, mail delivery from Rome to Madrid in 24 days — 26

days during winter.[6] More typically, during the same era, the Venetian ambassador in Madrid was known to complain of two months passing without news and instructions from his home government.[7] Timely letters were the purview only of the very rich who could purchase rapid transport; maximum speed and minimum time eluded most correspondents. In this case, the best possible time lapse between event and receipt of news resulted in aging of "new" information. Often, the latest "news" received was not far separated from "history."

The role of information deserves additional discussion with particular attention to its working definition. As noted in Chapter I, information is a collection of facts, data, numbers, and symbols that have meaning. *Information* can also assume complex meanings. The field of information theory delves into mathematical optimization of transfer of data over electronic channels.[8] In a social science environment, the mathematics of data transfer plays virtually no role as information simply represents the application of knowledge to work in pursuit of "wealth." For example, facts about the existence of game running free in a forest provide little value. Adding information to the facts about game increases its worth. The hunter has information about where to find game, how to stalk it, how to kill it, and how to dress and cook the meat.[9] Beginning with the simplistic nature of basic information, the path toward an information based society

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[6]Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, Vol. I (New York: William Collins, 1972), 368.

[7]Ibid., 357.

[8]Shannon, "A Mathematical Theory of Communication," 380.

[9]Wriston, *The Twilight of Sovereignty*, 3.

seems long and somewhat esoteric. In simple steps, the importance of information rose steadily, if somewhat slowly, throughout history.

As society evolved from hunter-gatherers to become more complex, the information of value to society also increased in volume and complexity. Facts and the application of information continued to include practical applications necessary for day to day life and continued survival, but expanded into philosophical and esoteric areas. The Romans introduced the manufacturing "high technology" of the era, the potters' wheel, throughout its European domain along with their Latin language, distinctive ways of dress, housing, and governance. The synergistic influence of technology, culture, and knowledge — all based on information — influenced future development of European society long after Roman withdrawal. However, without continued "real time" influence, potters' wheels disappeared throughout the middle ages and reappeared only as the continent awakened and embarked into the renaissance.[10] Types and categories of information could be dissected and subjected to infinite levels of scrutiny, but for purposes of this study, information is best approached using a more subtle, even simplistic definition: Knowledge communicated or received concerning a particular fact or circumstance; [11] in modern vernacular, it is little different from news.

In this context, information represents a "commodity." It exists as a result of the occurrence of an event, creation of an idea, or virtually anything happening. Information's value particularly materializes after transfer to another location and

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[10]J. D. Van der Waals, "Early Ceramics in the Netherlands: Two Problems," in *Ceramics and Man*, ed. Frederick R. Matson, 124-139 (Chicago: Aldine Publishing, 1965), 124.

[11]*Random House Webster's Electronic Dictionary and Thesaurus,* College Edition, s.v. "Information."

distribution to "consumers." Throughout history, information traveled in concert with human movement. Eventual introduction of telecommunications technology would propel information at previously unimagined speeds, allowing it to be received [nearly] instantaneously at great distances and rendering distance irrelevant; as a result, it is telecommunications technology that provides a basis for the trite adage about "the world growing smaller."

Remaining, for the moment, with that trite idea, if the world grew "smaller," how big had it been? In other words, what was the nature of information transfer before telecommunications? Ergo, the reason for a "control era;" the Age of [News] Paper establishes the "state-of-nature" for information transfer.

*State-of-Nature*

Social scientists and political philosophers postulated on the basic makeup of humanity throughout history (and continue to do so). The concept of "state-of-nature," provides an analytical tool for imaginative projection of humanity and interpersonal relations before the creation of organized political society.[12] A liberal interpretation of the political science term, with only slight expansion to its classic definition, offers a similar analytical tool for the study of telecommunications development and concomitant influence of information. Prior to the development and introduction of telecommunications, information existed and traveled in its peculiar state-of-nature. In its "natural" state, information travels at the speed of human movement.

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[12]David Robertson, ed., *Dictionary of Politics* (London: Penguin Books, 1993), s.v. "State of Nature."

Similarly, intercultural influence and other natural processes of social evolution — to include evolution of sovereignty — occurred at their peculiar state-of-nature, dependent on migration, trade, or conquest and general human interaction where they cross-pollinated through exchange of food, music, language, religion, and ideas. "Dominant" cultures sometimes engulfed and subsumed others throughout history, but at a velocity appropriate to the speed at which cultural influence spread. The faster information moves across state or cultural boundaries, the faster social evolutionary changes might be expected. In the end, over extended periods, anything approaching "cultural purity" has, probably, always been something of a myth. In the early twentieth century, Ralph Linton, in *The Study of Man: An Introduction*, suggested: "There is probably no culture extant to-day (sic) which owes more than 10 percent of its total elements to inventions made by members of its own society."[13]

*Information*, in any of its forms, at some point loses its vitality as *news* and precedes through an esoteric metamorphosis to become *history*. In the seventeenth century, by the time news of a financial crisis, invasion of one state by another, or even natural disasters, traversed Europe, states' reactions would likely be to a *fait accompli* rather than a situation in progress. By comparison (and to set the stage for an eventual end point in later chapters) in the modern world, events unfold under the watchful eyes of the world. The worldwide telephone network with its inherent facsimile machines, computers, video phones, and a plethora of other devices; massive electronic data bases; and nearly ubiquitous broadcast news teams linked by satellite provided instant access to the world's financial specialists and government decision makers. The participants in this cornucopia

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[13]Ralph Linton, *The Study of Man: An Introduction* (New York: D. Appleton-Century, 1936), 325.

of interpersonal communications spent money and voted. Potentially, ideas leading to democracy, free markets, and free expression transfer among cultures as well as traditional exchanges of music, food, language, and sports competition. A remark, attributed to Indira Gandhi, once speculated that a revolution could result from a peasant seeing a modern refrigerator while watching a foreign television sitcom.[14] Faced with a constant barrage of information which reaches the populace as readily as it reaches state decision makers, states had to deal with their exclusive authority within their territory as well as their participation in the international system. Not only do they have access to global actions of MNCs, individuals, and other states, the rest of the world has access to their domestic actions. Secrets, state or other, prove difficult to keep. In the information transfer state-of-nature, sovereign states need have little concern for drastic and immediate influence of "alien" concepts. Information moved slower. It was subject to some (but never absolute) control or even censorship. Ideas might be exchanged, but at a slower pace.

Some interaction between state sovereignty and telecommunications technology appears to exists. Of course, scholarly analysis requires a structured comparison allowing valid conclusions rather than intuitive or anecdotal inference. The nature of the situation suggests comparison across time beginning with a "control" or state-of-nature period when transfer of information, in the form of words, sounds, or images, over great distances did not exist, and concluding with the early twenty-first century, where ubiquitous communications have made distance nearly irrelevant to the immediate transfer of information. Electromagnetic means of information transfer (telegraph,

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[14]Wriston, *The Twilight of Sovereignty*, 46-47.

telephone, radio, television, computer networks, and all the associated means of communications) first entered the equation in the nineteenth century and expanded steadily thereafter. The existence, availability, and use telecommunications and concomitant changes to sovereignty indicate a covariant relationship. However, an *indication* does not constitute empirical evidence.

This study particularly lends itself to analysis based on a structured, focused comparison. The nature of telecommunications development suggests a study thereof in four "eras," each defined by a dominant means of information transfer. The first era — the focus of this chapter — establishes a period for "control" when information transfer in its state-of-nature lacked any enabling factor of telecommunications technology and transfer and distribution was at the "state-of-nature." The telegraph dominated the next era, followed by another where continued use of cable connected telegraph was augmented by "wireless" radio. The final era examines a time when communications approach truly ubiquitous.

Sovereignty, as the dependent variable, provides an essential element of this investigation. However, sovereignty did not materialize in 1648 out of proverbial thin air. It was the product of extended social evolution which did not then abruptly halt at its inception. Gradually, states, their leaders (princes), and political systems flexed their cognitive wings, freed themselves of feudalism's fetters, and set their sights on the freedom of state actions which manifested in sovereignty.

This and each of the succeeding chapters focuses on one of the eras under study. Each analysis begins with an examination of how sovereignty manifested itself during that time frame and how it met the needs of the era's society. The dominant means of

telecommunications technology and how it affects the sovereignty of the era provide a framework under which to identify the mass media present as the most prevalent means of information distribution; telecommunications infrastructure, territorial control, cultural cross-pollination, and international finance.

Sovereignty and Society in the Age of [News] Paper

Seventeenth century European society was poised for an Hegelian synthesis like sovereignty. The Renaissance neared its terminus, the Age of Discovery approached its zenith, and the Industrial Revolution balanced in waiting on the event horizon of the space-time continuum. Society had evolved to a point where proto-industrialization and the business infrastructure provided organization to society. Residual elements of feudalism no longer offered any structural stability to communities.[15] The Middle Ages had been socially and technically stagnant; spanning nearly a millennium beginning with the fifth century fall of the Roman Empire, neither sovereignty nor communications saw any development. Feudalism dominated society and information distribution continued as it had since conception of the written word.[16] Scribes laboriously hand copied text which then moved, if at all, only as fast as humans carried it. Distribution of information, at best, happened when a town crier or other official read "news" or other announcements to an assembled, and largely illiterate, populace.

The Eurocentric nature of the origins of sovereignty bear repeating at this point. Although sovereign states dominated the entire world's international system in the

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[15]Philpott, "Ideas and the Evolution of Sovereignty," 29.

[16]Bartleson, *A Genealogy of Sovereignty*, 244-245.

twentieth and into twenty-first centuries, sovereignty was originally a phenomenon peculiar to Europe. It was a "closed club" of Christian, Caucasian, European states which extended "membership" very begrudgingly. Not until the aftermath of the twentieth century and its two world wars did the "system" expand to encompass the entire planet.[17]

As Europe crept out of the Middle ages, the release of restraints on thinking combined with the maturity of movable type printing to spark an increase in the texts available for distribution. As logic and reason crawled into cognitive processes previously overpowered by religious dogma, the social and economic environment was set to exploit non-religious use of the printing press. Gutenberg's initial success was based on production of sacred books, but entrepreneurial developments soon saturated the market for religious texts and the new printing industry expanded into the secular domain.

The church dominated feudal world allowed no conception of secular based states. Governments owing no allegiance to the Pope were unthinkable. Free thinking encouraged by the Renaissance and the Protestant Reformation combined with widespread distribution of printed material and allowed the "Princes" of Europe (and their sycophantic court philosophers) enough freedom of thought to conceive of an international system without church restraint. The causes of the Thirty Years War, 1618 – 1648, included a prince's right to determine his state's religion free of external (as in "papal") influence. The war's conclusion, marked by the Peace of Westphalia (see Chapter II) and emergence of the sovereign state, acknowledged the princes' rights to determine how their citizenry would worship.[18] Freedom from the pope's influence left

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[17]Bull, *The Anarchical Society*, 13.

[18]Philpott, "Ideas and the Evolution of Sovereignty," 29.

state governments as the ultimate authority within their territory. The international system of sovereign states was in existence despite the pope's "nullification" of the Westphalia agreements. The states involved exploited the validity, strength, and vitality of their sovereignty.[19]

This was the [European] "world"of the seventeenth century. States had been to war over how their realms would worship. Philosophers thought and wrote without church imposed, dogmatic restraints on their range of ideas — or at least, far fewer restraints than suffered by previous generations of thinkers. States might attempt to exert influence on appropriate subjects for intellectual investigation, but foreign church influence had been removed. Books emerged from presses and the literate public's thirst for information gave rise to the first newspapers as the prototype mass media.[20]

The very ground so fertile to the germination of the sovereign state, at the same time, also contained the sown seeds of threats to the states' unlimited domestic power. Sovereignty rested with the princes. The sovereign state was a product of free thinking and the wide distribution of information about "other" ways to live, govern, and be governed. Free thinking would eventually lead to demands in many states for a shift in the focus of sovereignty from the prince to a governing legislature and eventually to the populace. Absolute and unlimited power were always theoretical; state sovereignty was neither absolute nor static. It always had limits and as a social concept, it was subject to changes brought about by social evolution.

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[19]Gilbert, *The Norton History of Modern Europe*, 258.

[20]Harold Herd, *The March of Journalism: The Story of the British Press from 1622 to the Present Day* (London: Allen and Unwin, 1952), 12.

Telecommunications and Sovereignty During the Age of [News] Paper

The "Age of [News] Paper" sets the stage for diachronic comparison of the ensuing three "ages." It establishes the "norm," as it were, when mass media, state control of territory, cultural development, international finance, and sovereignty as a whole functioned in their "state-of-nature" without the external influence of telecommunications technology. Although some mechanical means existed for "long distance" communications such as Europe's mechanical telegraph or semaphore system,[21] their information throughput was so low that they played little role in technologically stimulated social evolution. Not until the introduction of the electro mechanical telegraph in 1845 did an effective means of information transfer evolve.

*Dominant Mass Media*

As the chapter title implies, the newspaper monopolized mass media during this era. For uncounted generations, news had passed among the worlds' populations via word of mouth, or in formal procedures, by public criers or assemblies. With increased literacy — even if largely confined to middle and upper classes — the public demanded more information. Periodic (daily and weekly) broadsides arose during the Thirty Years War — the same war that gave rise to sovereignty.

Newspapers were printed in massive quantity and distributed in the same manner as all other information of the era, at the speed humans could carry it. Items for inclusion within the printed material (information) had to travel to press at the same speed at which the end product printed material was distributed.

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[21]Solymar, *Getting the Message*, 23.

*[Tele]-Communications*

Throughout the Control Era, no means existed for the transmission of words, sounds, or images over great distances except physical transport. Movable type printing technology evolved to a point where the first "mass media" emerged in the form of newspapers early in the seventeenth century. The readily available printed news provided extensive distribution to large numbers of people. The movement of information, its *transfer*, however many copies might have been quickly and easily printed, still relied on the speed of the era's contemporary ground transport. No telecommunications existed to provide augmentation to information transfer.

*Territorial Control*

The sovereign state was born a territorial entity.[22] Classic political science definitions of the state require a functioning government capable of external recognition and negotiation, a population identified with the state, and defined territory. In its early days, the sovereign state met that definition better than it ever would again. The borders of the first European states also encompassed ill defined "nations" (people with a shared cultural heritage) giving rise to the idea of "nation-state."

The nature of transportation required the use of paths or roads as most people or goods crossed state frontiers. Smugglers, of course, could avail themselves of less traveled (and less guarded) border crossings. Piracy, smuggling, and other criminal activities sought to circumvent border controls. Still, states were able to exert positive supervision over much of what crossed their borders. In an age of mercantilism, states

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[22]Krasner, *Sovereignty: Organized Hypocrisy*, 20.

tried to minimize the export of precious metals and supervise any funds entering or leaving their territory. Information, however, was another matter. The state might try to intercept books, letters, or other media, but ideas can be committed to memory and regurgitated once through border control points; books are relatively small and easily concealed; letters, more so. Borders might be guarded but where information was concerned, they were always somewhat permeable. In later eras, as money became less possession of specie and more inseparable from *information*, its control became more difficult.

*Cultural Cross-Pollination*

As long as human beings clustered together and formed something approaching a "culture," they interacted with other, similar groupings. It was a slow process. Contact with other cultures resulted from trade, migration, and warfare often leading to conquest. Travel between cultures was on foot (either human or animal) and cross-pollination between and among cultures was an active but belated response. Intercultural contact left its mark on affected societies, but it took time.

The existence of books, newspapers, pamphlets, and other printed material emerging from the new technology of moveable type printing, perhaps, exerted some degree of acceleration to the state-of-nature level of cultural exchange. Literate elements of the populace had more information than ever before about other cultures, but censorship was nearly universal. "Illegal" books and other material could be obtained, however, state restrictions put severe limits on many classes of literature.[23]

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[23]Houston, *Literacy in Early Modern Europe*, 167.

The territory defining early states tended to surround a "nation." Difficult to define precisely, a *nation* simply describes a group of people with a shared or common cultural heritage including identity and language.[24] Therefore, the territorial states tended toward the concept of *nation*-states. The *nation* element of the nation-state, was constantly under "attack" as the recipients of cultural cross-pollination. No culture remains static unless it is totally isolated from any outside contact. It is difficult to imagine any culture prevailing in total isolation; even remote Pacific Island tribes have been shown to have experienced some cross-fertilization via ocean migration.

Throughout history, people moved among population centers for purposes of migration, trade, or conquest and as they did, their cultural heritage traveled with them and some of it shed influence on other societies.[25] This represents the "state-of-nature" under which cultural development takes place; intermingling, cross-fertilization, and transcultural assimilation takes place as an entirely "natural" element of social evolution.

This state-of-nature, without the influence of telecommunications technology, becomes another essential starting point for evaluation. As speed of travel and information transfer developed, it was not a direct influence on social and cultural evolution, but rather, a catalyst which accelerated the natural processes. Cross-pollination of cultures, intermingling of heritage, or any other descriptive term, was a natural process in the development of humanity.

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[24]Iain McLean, ed., *Oxford Concise Dictionary of Politics* (Oxford: University Press, 1996), s.v. "Nation-state."

[25]"Cultures: Millennium in Maps," *National Geographic*, August, 1999, Map Supplement.

*International Finance*

Yet another "revolution" in social evolution was taking place and coming into its own during this era. A banking system supporting the use of paper money in lieu of classic cash, approached maturity.[26] The history of money includes the use of many substances of value including foodstuffs, salt, gems, and most well known, precious metals – predominantly gold and sliver. The use of precious metal coins emerged in Asia Minor, specifically Lydia, during the sixth century B.C. at which time it replaced exchange of commodities as a means of trade.[27] By the seventeenth century and the era under study, gold and silver dominated national coin. Trade, even at the prevailing speed of ground transport, was a fact of life and required payment for goods received and services rendered. Valuations of trade using various precious metal coin remained the dominant means of exchange until banking systems emerged with the adequate public trust to permit the use of paper abstractions of the specie. The need to make payments across borders gave birth to international banking and exchange of paper instruments in lieu of payment in gold or silver, but without the physical movement of metal by the trader.

States' rights to determine their "coin of the realm" predated the manifestation of sovereignty. As an essential element of state function, it remained unchanged. If far off bankers in Amsterdam analyzed and assessed their coin and determined its value to be

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[26]Niall Ferguson, *The Cash Nexus: Money and Power in the Modern World, 1700-2000* (New York: Basic, 2001), 109.

[27]Jack Weatherford, *The History of Money: From Sandstone to Cyberspace* (New York: Three Rivers Press, 1997), 31.

less than the state's declared worth, news of the transaction was so slow in arriving that challenges might well have been moot.

In a world economy dominated by mercantilism, states' ability to exert positive control over their borders, and the time delay in learning of distant transactions all merged to give the state essential control over its domestic finances relatively free of external influence. Funds crossing borders either had to be in specie or letters of credit. Letters of credit were of primary value when redeemed through banks which were, further, under state scrutiny if not control. The international use of generic "money" reached a degree of maturity in this era as the associated development of banks and "paper money" entered the world's markets.[28]

*Sovereignty as a Whole*

Sovereign states, as the "Control Era" commenced, were as independent of other states as they would ever be. A century and a half later, but still within the control era, at the 1815 Congress of Vienna and the through the resultant Concert of Europe, the sovereign state reached genuine maturity.[29] Still a European, Christian, Caucasian phenomenon, the states approached (but never reached) *absolute* sovereignty. However, as soon as they were established, "threats" to sovereignty began as well. Within half a century of Westphalia, the Industrial Revolution eased its way into existence with

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[28]Ibid., 132.

[29]Beatrice Heuser, "Sovereignty, Self-Determination, and Security: New World Orders in the Twentieth Century," in *State Sovereignty: Change and Persistence in International Relations*, ed. Sohail H. Hashmi, 81-104 (University Park, PA: Pennsylvania State University Press, 1997), 83.

explosive results. Bloodless — with the exception of many "expendable" workers — the Industrial Revolution began to chip away at the solidity of state borders.

No state, however diverse, had the natural resources to support industrial development and production without international trade. Little argument challenged a state's absolute right to guard its borders. Every shipment across international frontiers could — legally — be inspected by the agents of the affected governments on both sides of any border, but shipping time had already been limited by the contemporary speed of transport. Imposition of additional delay in delivery due to government bureaucracy would very likely result in increased costs leading to the true bottom line of lower profits. Lower profits would result in lower taxes paid to the state, so it could be said that "surrender" of some element of sovereignty was actually self-preservation. The same situation would emerge in later eras under the influence of technology when states had to make decisions as to the "free" or unrestricted passage of electronic messages, first through telegraph wires and later via more sophisticated information transfer means.

For strictly economic reasons, governments relaxed border oversight. Information might well fall into the category of "goods" when in the form of books, newspapers, or other printed material. In the Industrial Revolution, the seeds of the Information Revolution were, perhaps, sown more than two centuries before the name was applied to the process.

Markets in various cities which were centers of economic commerce operated in independent isolation. By the time news was received in reaction to occurrences in one market, so many other transactions had taken place that any reaction would be attenuated. Markets could only react long after the fact to news of actions by other markets. Stimulus

and response financial transactions were limited by the intervening variable of information and the time it took to reach its consumer. State influence beyond its borders was also subject to the speed of ground transport. News of domestic decisions to tax imports, which might have serious implications to other states' economy, could take days or weeks, by the fastest horse mounted courier, to reach other affected governments.

Summary

The sovereign state existed in the international system of the Control Era it its peculiar *state-of-nature*. Information of all types concerned the state — as it had and would continue to do throughout history. New ideas might cross borders in the form of books, newspapers, or intellectual correspondence, but they did so at a pace commensurate with the speed at which the rest of society moved. News took days, weeks, or months to circulate among various world capitals, seats of government, and market centers.

The international system of sovereign states reached a functional level of fruition in 1648. States' power approached absolute. Sovereign states existed in a mutually nurturing environment where the strength of one increased the strength of all. Little challenged the sovereignty of a state and its absolute and unlimited power within geographic borders.

Between 1648 and 1844 (the inclusive dates of this era), the [relative] efficiency of international trade, maturity of banking, and increasing literacy of the middle class presented an ideal environment for revolution. The population of Britain's American colonies and the people of France wrested sovereignty away from the monarch to bestow

it on the people. At the same time, the Industrial Revolution emerged and capitalism dislodged mercantilism; its continued expansion required new markets. New markets, in turn, required new and faster means of transport. If the old adage is true, and necessity is the mother of invention, then capitalism's necessities gave birth to railroad technology to transport goods, and telecommunications to transport the information necessary for business operations.

As business and the associated financial transactions began to dominate the international environment, states provided the financial and legal systems under which commerce took place. Logic would dictate that the sovereignty of states of 1648, when virtually everything in the world moved no faster than the speed of human travel, must be different when information moved at the speed of light. Subsequent chapters examine the differences.

# CHAPTER IV

## AGE OF TELEGRAPH — 1845-1916

This chapter examines sovereignty in an era when the telegraph enhanced the speed of information transfer. Chapter III established a "Control Era" by presenting the "state-of-nature" for sovereignty where telecommunications did not exist and information traveled at the speed humans could carry it. Physical distance provided states with a degree of separation and independence. It required time for news of their actions to reach distant states and as a result, markets operated as independent national entities. Introduction of the telegraph, however, provided rapid and reliable transfer of information across extended distances and allowed governments and businesses to react quickly to actions of others as well as to coordinate activities among widely dispersed locations. At the same time, advances in other technologies, especially ground and sea transport utilizing steam, increased the speed at which humans travel — the original and long standing standard for movement of information.

The Industrial Revolution was in full force along with associated benefits, disadvantages, and technological developments. At the same time, the sovereign state was a strong organizing element throughout Europe and beginning to expand to other continents as well. Business and governments alike incorporated the new developments in telecommunications technology — beginning with the telegraph and expanding to include telephone and radio in turn — into their normal operating procedures. Initial effects on sovereignty resulted from the loss of practical means by which a state could supervise the content of information crossing its borders. As the era neared its close early

in the twentieth century, the synergistic union of telegraph, telephone, and radio would see telecommunications technology approach maturity and begin to require states to function in an environment where the world begins to know of events nearly as they happen.

## Introduction

Any means of communications, to include postal systems, books, trade, and international banking allow people to reach beyond state frontiers for political or economic activities. That has an impact on state sovereignty by enabling citizens to extend reach and influence beyond their own and into foreign territorial boundaries. When telecommunications enter the equation, that impact becomes more dramatic due to the speed of information transfer.[1] Introduction of the telegraph allowed information to travel across vast distances at previously unheard of speeds. Although available to individual members of society, it was expensive and became a tool primarily used by governments and large businesses. Later in this era, the telephone became the first instrument of telecommunications technology directly available to, and used by the generic consumer. However, "long distance" transfer of voices over wire, versus the transmission of Morse code's dots and dashes, required amplification which did not reach fruition until near the end of the era. Similarly, "wireless" radio also made its debut during this era, but as an effective means of information transfer, its impact did not approach inherent potential until later eras. In terms of telecommunications, this was the Age of Telegraph; therefore, the 1845 introduction of telegraph provides an apt point to

[1]Bugliarello, "Telecommunications, Politics, Economics," 407.

end an Age of [News] Paper and begin analysis of impacts on sovereignty as the movement of information drastically increased.

Since the mid-eighteenth century, scientists and experimenters pursued a practical application for electricity as the means of rapid information transfer.[2] A viable manifestation did not appear until 1845 when Samuel Morse introduced the telegraph. Prior to this time, some primitive "mechanical" or non-electrical (as opposed to "electromagnetic" means as included in the definition of telecommunications) systems achieved some success in passing information across extended distances; signal fires date to antiquity; pigeons may have been used as early as the twelfth century, and mechanical semaphore stations relayed messages around eighteenth century Europe in a few hours versus the multiple days actual travel might require. The amount of information actually passed, *throughput* in postmodern vernacular, was very low and subject to a high degree of inaccuracy (see Chapter II).

Early nineteenth century civilization, in general, developed a desire to move faster as the Industrial Revolution grew in intensity to dominate the "civilized" world. An international system of sovereign states, advances in science and technology, and the introduction of steam power synergistically conjoined to drive requirements for rapid exchange of information. Raw material had to reach production facilities. Growth of a middle class created consumers who desired and had cash to spend on manufactured goods. International commerce needed to exchange funds. In response to the quest for speed, steam powered ships and railroads materialized as the first major changes to surface transport speed since the wheel. Information transfer also increased as a result of

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[2]Solymar, *Getting the Message*, 51.

accelerated ground travel; information, especially in the form of printed material, still traveled at the speed at which humans could carry it but steam provided humans with a means of carrying the information faster and farther.

Samuel Morse's telegraph, combined with his associated Morse Code for adapting information to facilitate electronic transmission, set the stage for a new era. For the first time, information could be transferred from one point to another far distant point in minutes. The "vastness" of the distance increased rapidly. Samuel Morse's first telegraph line, opened in 1845,[3] extended only from Baltimore to Washington, D.C. By 1866, just 22 years later, a single, unbroken telegraph line extended from North America to Great Britain. (See Chapter II).

Steam power decreased Atlantic crossing time by ship to only a few days as opposed to a few weeks under sail, but the telegraph passed information in minutes. Various markets' traditional independence and isolation virtually dissolved. Trades in London, Paris, or Berlin could be known in New York only moments after they occurred. Notwithstanding the advance in telecommunications, the nineteenth century still moved much slower than later epochs. Despite railroads, steam powered ships, and the telegraph, actions in New York or San Francisco might not be known or acted upon immediately upon receipt of information by European markets and associated decision makers. Time zone differences could still delay influence until at least the next business day. Further, information normally traveled in the form of telegrams which were committed to paper and entered the bureaucratic paperwork process. Information of vital importance might reside in a queue waiting to be read.

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[3]Ibid., 54.

To extend any distance approaching "vast," telegraph lines required the crossing of state frontiers, especially in Europe where territorially defined states were relatively small. Technology allowed states to intercept all telegraph messages transiting their borders, but at the cost of time and investment in personnel. A bureaucratic delay in information might be acceptable to the states' interest in security, but unacceptable to both domestic and international business interests. Telecommunications now presented a high technology version of border inspection dilemma. In the control era (Chapter III), states might have wished for a border control situation where every shipment of goods could be off loaded from the transporting wagon or cart and thoroughly inspected. Concerned about the information crossing into foreign hands, states might like to inspect the contents of every telegram entering and leaving its sovereign territory.[4] But at what cost? The delay to an already slow delivery, the commitment of personnel, and the logistics of the operations would combine to make full inspections of all shipments prohibitive. Inspecting all contents of horse-drawn wagons proved difficult. The increased cargo capacity of railroads made it more so. In the twenty-first century, states face the same dilemma, inflated by orders of magnitude, when trying to manage containerized cargo.

## Sovereignty and Society in the Age of Telegraph

The nineteenth century saw the system of sovereign states, still centered in Europe but expanding, come of age. The European states, with their system of colonialism, attempted

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[4]William J. Drake, "Territoriality and Intangibility: Trans Border Data Flows and National Sovereignty," in *Beyond National Sovereignty: International Communications in the 1990s*, ed. Kaarle Nordenstreng and Herbert I. Schiller, 259-313 (Norwood, NJ: Ablex Publishing, 1993), 266.

to maintain the "closed club" attitude toward sovereignty while holding out the distant goal of independence for colonial peoples "when they are ready."[5] Further, the intellectual exercises of the Renaissance's cultural success gave rise to the scientific developments which were transformed into practical applications for the Industrial Revolution. American and French independence movements interjected new elements to the sovereignty club by redefining the legitimacy upon which statehood existed; divine or dynastic rights still existed but popular and voluntary consent was forced into the equation as well.[6] By mid-nineteenth century, the sovereign state, and the international system in which it subsisted, was changing.

Raw materials and natural resources fed the insatiable appetite of Industrial Revolution production and every state had to import some portion of the required material. The colonial system, strongly rooted in the same arrogant Western Christianity that tried to maintain the closed club of sovereignty, provided some satisfaction to the revolution's hunger. The colonial powers accepted as "given," their "rights" to extract wealth from foreign holdings without regard to the indigenous population. At an 1885 Conference in Berlin, European powers divided the world into "civilized" (meaning *European*, at best, and i*ndustrialized*, at the most liberal) states and "barbarians" (all others). The so-called barbarian entities would be considered for self-determination when they had proven their ability to govern themselves.[7] Resource requirements which could

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[5]Philpott, "Sovereignty: An Introduction," 362.

[6]Ferguson and Mansbach, "The Past as Prelude to the Future," 38.

[7]Philpott, "Sovereignty: An Introduction," 362.

not be met by colonies required international trade, which in turn, necessitated both tacit and formal trade regimes.

The world was speeding up. Transoceanic movement of people and goods moved at steam power's steady, reliable speeds rather than at nature's mercy as determined by winds and tides. Well traveled ground routes moved goods via rail at speeds unimagined in previous eras. The "electric telegraph," as it was initially named to differentiate it from mechanical signaling systems, provided particular value to the scheduling, management, and control of railroads carrying supplies, raw materials, and finished goods. Information moved across telegraph cable in virtual instantaneity. With the increased speed came increased necessity to coordinate departures and arrivals, bills and payment, and imports and exports. The "high technology" means of communications such as the telegraph, followed by telephone, required coordination of technical and interconnection standards. The "absoluteness" of the sovereign state, which was always somewhat less than absolute, had to give way in the name of international efficiency. Pursuit of international efficiency contributed to the compromise of sovereignty as states abrogated their "right" to inspect commodities crossing their frontiers. In this case, the commodity was the information contained in electronic exchanges. The alternative required an investment in personnel to do the inspections and inserted a time delay into the otherwise rapid transfer of information provided by the telegraphs.

Customers of the various domestic telegraph systems desired the speed of international service and were willing to pay for it. Therefore, telegraph lines crossed borders. Each side of the border had to agree to mutually acceptable technical and operational standards, and required bilateral agreement to facilitate the installation and

continued operation of the telegraph and to determine the level of sovereign control over information entering and leaving state territory. In an area such as Europe where multiple states existed in close geographic proximity, each entity became involved in a hodgepodge of arrangements resulting in an inefficient and confusing international telegraph service.[8]

During the 1850s, Austria and various German states formed a loosely knit group to attempt standardization of international service with the Austro-German Telegraph Union. Concurrently, other states formed the West European Telegraph Union. Although some inter-organization contact was attempted, little uniformity resulted. In 1865, Napoleon III sponsored a conference in Paris to attempt international standardization. The resulting convention established Morse Code as the standard for transmitting messages and codified the obligations for message delivery service. The conference also established a functional organization, the International Telegraph Union to continue to organize the anarchy of the various domestic telegraph systems.[9] States found it necessary, once again, to alter their domestic systems to accommodate international connections. Further, growing commercial dependence on the speed of telegraph messages would not tolerate any state intervention which might interpose delays. States accepted rapid movement of information in the form of messages as more beneficial than exercise of sovereign supervision. Effective transfer of business data improved the efficiency, and hopefully the profitability, of industry. Profitable industry resulted in

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[8]Codding and Rutkowski, *The International Telecommunication Union*, 5.

[9]Ibid., 6.

benefits to economic activity which states, in turn, could regard as sources for the taxation revenue necessary for governmental survival.

## Telecommunications and Sovereignty During the Age of Telegraph

Railroads and steamship technology increased the speed at which humans could travel and carry information, but the telegraph allowed nearly immediate transfer of information over vast distances. States always had to deal with "things" crossing borders, but now they were forced to consider invisible pulses of electricity contained entirely within wires. Later, totally invisible electromagnetic (radio) waves crossing borders with impunity brought an end to the era. Telecommunications had become an essential element of the international environment.

As the speed of human activity in the world increased, states had to develop means of reacting to the new velocity. If news of a domestic action, when it reached distant shores, would have international ramifications, then states must consider the speed at which the news would travel. Does that affect sovereignty? If the absolute and unlimited power of the state must be used in a way that considers reactions by others, then limits have been put on both the "absolute" and "unlimited" elements. [10]

### *Dominant Mass Media*

Basic mass media changed little between the Age of [News] Paper and the Age of Telegraph. Passing information to the masses was still best accomplished via the

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[10]Cees J. Hamelink, "Globalism and National Sovereignty," in *Beyond National Sovereignty: International Communication in the 1990s*, ed. Kaarle Nordenstreng and Herbert I. Schiller, 371-393 (Norwood, NJ: Ablex Publishing, 1993), 385.

newspaper. The telegraph allowed news to be transferred across long distances far faster than humans could carry it, and modern presses permitted mass print runs of newspapers serving ever larger metropolitan areas. Once printed, they could travel at the steam enhanced speeds of ship and rail.

Both transfer and distribution were enhanced by technology of the era, especially advances in ground transport. Telecommunications technology, however, affected only the transfer elements of news production — getting information about newsworthy events from the point of occurrence to press locations. Still, the development of a worldwide telegraph and telephone networks was neither instantaneous nor even particularly rapid. Lines were installed between locations where projected commercial earnings justified the expense. Markets with potential received attention, but developing a "complete," worldwide network would await future and less expensive technical developments.

*Telecommunications*

Information traveled through telegraph cable at very near the speed of light, but the throughput combined with the processes necessary to prepare the data for transmission was time consuming. The specific process of telegraph transmission was discussed in Chapter II, but with apologies to the physics regime and Albert Einstein in particular, all things are relative. The time involved in drafting a message, transporting it to the nearest telegraph office, time in a queue awaiting operator action, a few minutes of actual transmission, and delivery following similar procedures at the distant end were minuscule when compared to ground (or sea) transport.

Diplomats who traditionally operated in relative independence based on infrequent dispatches from home now could request and receive specific guidance in hours rather than weeks or months. Telecommunications actually assisted governments in exerting sovereignty where the early telegraph capability existed. Where telegraph lines crossed frontiers, states faced a dilemma.

Especially during times of conflict or hostility, states would desire to supervise all messages crossing borders. Early attempts at close supervision of telegraph messages entering and leaving European countries proved debilitating to the business environment that grew and prospered in exploiting the benefits of rapid communications. This is not to say, however, that states gave up their sovereign rights to supervise cross-border communications. The last few years of this era were dominated by World War I. Government interception of telegraph messages played a role in the war's outcome.

In many cases, especially in Europe, telegraph and telephone systems were government owned and operated, usually by their respective postal authorities. Where governments controlled the telegraph offices, all users assumed that their messages were subject to government review. For that reason, diplomats using the telegraph services of their host government would encrypt their messages so that they appeared to be indecipherable. In the US, the telegraph system was privately owned. Intelligence operatives from both the State and War Departments appealed to the telegraph companies' patriotism and arranged to receive carbon copies[11] of international message traffic.[12] Early uses of long distance radio transmissions to pass international messages

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[11]"Carbon Copy:" the low-tech version of Xerox. A technology now lost to antiquity.

[12]Yardley, *The American Black Chamber*, 37.

were also subject to interception. Obtaining messages for review, especially those requiring "decryption," was always done in secret.

Businesses as well as states assumed that their messages were subject to interception by others, but the area of intelligence gathering which became know as signals intelligence (SIGINT) operated covertly. Part of the value of information obtained through SIGINT was ignorance on the part of the sender and receiver that their communications were monitored by a third party.

Issues of privacy versus sovereignty had entered the telecommunications environment. How much state supervision was acceptable before rights were violated? The question has yet to be adequately answered. The US only resolved the issue in 1976 with the passage of the Foreign Intelligence Surveillance Act. As a result, the National Security Agency was restricted to interception of data in the international arena and only in the interest of national security.[13]

*Territorial Control*

The importance of territorial borders to sovereign states changed little during the Age of Telegraph. Initial attempts to control telegraph messages crossing frontiers proved manpower, time, and resource intensive, and generally hampered both state and non-state businesses conducted over the new means of communications.

Introduction of the telegraph had no direct effect on states' ability to control their borders. A case could even be made that the telegraph, as a command and control adjunct

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[13]James Bamford, *Body of Secrets: Anatomy of the Ultra-Secret National Security Agency from the Cold War through the Dawn of a New Century* (New York: Doubleday, 2001), 440.

to weapons, allowed more positive defense of borders. Military commanders in the capital or at other headquarters had unprecedented control of border security personnel.

The Industrial Revolution was at its height and market forces had replaced mercantilism. A state with draconian border control measures would suffer in the effectiveness of its participation in the international trade regime. Sovereign enforcement of borders could be relaxed in the interest of trade and development, or attempts could be made to hold on to elusive sovereign rights to states' economic peril.

Migration brought with it economic and territorial issues as well as a significant influence on cultural development. Craftsmen crossed borders in search of work. Economic refugees left Europe (especially Ireland) to escape from famine and pursue opportunities in America. The size and speed of steam powered ships allowed transatlantic migration, while railroads empowered migration between and among land joined states.

The sovereign state could still control borders, open them — in either direction — to migrants, defend them, and determine how commerce would transit them. Electrons in telegraph cable and radio's electromagnetic waves, however, offered the state little opportunity to prevent cross-border passage of information.

*Cultural Cross-Pollination*

In terms of cultural cross-pollination, the telegraph and early uses of the telephone did not cause any quantum leaps beyond the "state-of-nature" for cultural development. Cultural expansion was more likely the result of extensive development in the speed of ground transportation. Humanity still interacted via trade and migration; conquest played

less of a role as the nineteenth century experienced a relatively peaceful era compared to previous centuries, especially in Europe. Printed news generally appeals to local populations and the increasing presence of mass media did not accelerate cultural exchange. Rates of migration and magnitude of trade grew by phenomenal extent with equally exceptional effects on cultural evolution. The enabling technology, however, was more likely steam powered presses and transport than telecommunication.

*International Finance*

The world's major markets, particularly those located in financial capitals such as London, Berlin, and New York, had traditionally operated independently. With the arrival of news from another, transactions were completed and any reactions were after the fact, at best. The fledgling telegraph network found its metaphorical wings in providing more or less immediate information among world markets and a telegraphic scion emerged in 1867 in the form of the stock market ticker tape.[14]

The ticker tape used telegraph technology dedicated to satisfying a long standing hunger in the business community for accurate and reliable, local and distant stock market information. As a case in point, one of the first stock-peculiar uses of telegraph resulted from a telegram delivery clerk who accepted payment from New York businesses to keep them informed about the content of messages which might affect their dealings. The same clerk, John J. Kiernan, formed a news agency (eventually to become the *Wall*

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[14]*Encyclopedia Britannica*, Multimedia Edition, 1998, s.v. "Ticker."

*Street Journal*)[15] dedicated to providing up to the minute news to subscribers. More than thirty years prior to the completion of the first Transatlantic cable in 1869, he routinely rowed a small boat out to meet incoming vessels to buy foreign newspapers from sailors and ask passengers for the latest information they might have picked up before sailing. The few hours he gained in collecting and distributing information from abroad gave him a particular advantage over competitors. In 1867, Kiernan began sending out his news via the newly invented ticker tape machine introduced by E. A. Calahan.[16] Ticker tape technology automatically received and printed stock symbol, number of shares, and transaction price onto narrow rolls of paper. The machines required a dedicated telegraph line which could not be used for other purposes and was impractical for most international transactions unless the specific stock trading industry was willing to accept the cost of installation and maintenance.

The quest for more and faster information on which to base business and investment decisions led to local and short distance international use of ticker tape machines. Less immediate, but still comparatively rapid, news via telegraph energized business' collective hunger for faster access to information. Sovereignty over national markets was eroding. Seeds for the world's single, collective *market* had germinated and were growing in the fertility of telecommunications. Markets had, since their inception, provided states with commercial means to encourage both domestic and international financial exchange. With instantaneous information about market actions, responses

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[15]Jerry M. Rosenberg, *Inside the Wall Street Journal: The History and the Power of Dow Jones & Company and America's Most Influential Newspaper* (New York: Macmillan, 1982), 9.

[16]Ibid., 3.

thereto, and international news of all kinds, markets took on a "life of their own." They reflected the international financial system rather than the economy of the states where they were located.

As telecommunications began to make distance an irrelevant factor in international markets and finance, the banking industry, as well as their customers, started to search for ways to exploit the new technology as well. Use of the telegraph allowed banks to speed up many transactions, verify existing credit information, and validate availability of funds, most specific transactions still had to be accomplished in person. Not until the post-World War II systems of routine check and credit card emerged would banks manage to take the best advantage of technology.[17]

With increased use the telegraph to exchange financial data, states faced a dilemma which would continue to the present. Successful businesses resulted in positive contributions to national economy. Thriving economies could be taxed for the benefit of the state. State intervention in the communications processes, even in the interest of national security, could introduce business hampering delay or deterrents to the free flow of financial data. Sovereign rights to control commodities crossing frontiers which were never absolute, were being attenuated by telecommunications technology.

*Sovereignty as a Whole*

The "absoluteness" of sovereignty began to wane during the Age of Telegraph. The "dominant" European states found it increasingly difficult to maintain their "closed club" of sovereign states as the world approached World War I. The telegraph became an

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[17]Weatherford. *The History of Money*, 233.

essential element in both business and governments. Telecommunications technology may be viewed as a threat to sovereignty, but it is not universally so. Throughout history, diplomats and military commanders received orders prior to departure or via slow surface mail. They were then "trusted" to perform duties in the best interest of their country. Consultation with national authorities required too much time to have a direct impact on day to day diplomacy or pursuit of military objectives.

With the availability of international telegraph, consultation could be reduced to a manageable length of time. Rather than await ground transport of a letter with details of the current situation and a request for instructions followed by a similar time for return travel of an answer, the elapsed time might be reduced to a matter of hours or days by transmitting the information electronically. Although the actual international transport of the information in a telegram might be accomplished in a matter of minutes, the nature of telegraphic systems imposed other time constraints. Receipt of information might necessitate a timely reply, but technology could not accelerate the bureaucratic decision making process.

Diplomats posted at foreign locations had to rely on telegraph terminals operated by the host nation, the majority of which were government owned. International telegraph wires solely for the use of diplomatic messages might have been theoretically possible, but fiscal practicality limited such dedicated systems. Further, use of the international telegraph required financial considerations. It was expensive. Therefore, composition of a message had to state all necessary information, but in as few words as possible. The nature of the telegraphic system required many clerks and operators to view the message during its transit from originator to addressee. If the information contained therein were

deemed "sensitive," cryptographic "protection" might be applied, but that increased cost. Rather than rational words arranged in sentences, the encrypted message sent through the telegraph system would often be significantly longer and consist of a series of letters and numbers, usually in five letter groups separated by a space.

Telegraph operators sending "plain text" (words in coherent sentences) were far more efficient and accurate than when sending a series of nonsensical letters and numbers. They had to transmit at a slower speeds to ensure accuracy which tied up the circuit longer. In the nineteenth century, US Secretary of State William Seward fully acknowledged the need for cryptographic protection of diplomatic messages. However, the increased cost — which could approach ten times the charge for "plain text" transmission — proved to be prohibitive. As a result, decisions to risk possible "compromise" of diplomatic information by sending messages "in the clear" tended to be made based on cost rather than the security threat[18] and little privacy existed in nineteenth century US Department of State communications.

With a "writer to reader" time measured in hours rather than weeks, states developed extensive control of far flung assets. Consultation by foreign posted diplomats and deployed military commanders became feasible if not in "real time," at least in "reasonable time." In such situations, the state, in exercise and pursuit of sovereignty, found an augmentation in the new means of telecommunications rather than a threat.

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[18]Weber, "Seward's Other Folly," 326.

Summary

Introduction of the telegraph created little immediate effect on sovereign states. As international telegraph connections expanded, largely in support of commercial requirements, states capitalized on the new technology to their advantage. Telegraph links, where they existed, could be exploited by states to receive information and provide guidance to diplomats or other national agents. As the world's telegraph network interconnected continents toward the end of the nineteenth century, altered means of centrally controlled diplomacy became the norm.

Telegraph connections rapidly transferred information to the mass media of the era (newspapers); distribution of the resulting printed material, however, continued to move at the speed humans could carry it and depended upon contemporary surface transportation technology. Effective harnessing of steam created quantum leaps in the speed and reliability of transport, and the mass distribution of information as well.

The second half of the nineteenth century represented a period of relative peace which virtually eliminated cross-cultural influence by conquest but a variety of social and economic developments resulted in extensive migration, especially to the US Advances in surface transportation increased trade and migration and their resulting cultural cross-pollination. While extensive cultural expansion, melding, and synthesis resulted from trade and migration, little of it could be attributed to the introduction, existence, and growth of the telegraph.

Transfer of funds by wire initiated a process which would eventually culminate in the feasibility of "electronic cash transactions" (e-cash, in later vernacular). Letters of credit capitalized upon synergistic trust among corporations, governments, and banking

institutions and had been used for centuries. The telegraph extended their use into the limits of available technology. International financial transactions were taking place through the invisible movement of electrons through telegraph cables. While government observation might still be expected by the communications system's users, government supervision and control was slipping.

The Age of Telegraph was the era during which many of the Industrial Revolution's benefits, disadvantages, and technological developments came to fruition. The sovereign state thrived in the international environment and capitalized on the consequences of increased trade, migration, and a multitude of various technologies. Telecommunications was in its infancy; it laid foundations for future effects on sovereignty, but its actual impact was tertiary, at best. The technology began to come into its own with the synergistic union of telegraph, telephone, and especially, radio. Distant points could be "connected" without wires stretching across borders.

The Zimmerman Telegram offers a particularly apt point at which to end the Age of Telegraph and begin a new era. It also provides an interesting example of governments exerting their sovereignty while interfering with the sovereignty of others, aided by the latest incarnation of telecommunications technology. During World War I, Germany's foreign minister, Arthur Zimmerman, proposed an alliance with Mexico if the US entered the war. The "Zimmerman Telegram" — in this case, actually a radio message — was intercepted by the British and covertly decrypted. Information contained therein could benefit the British by igniting US indignation against Germany, but if Germans discovered that the British or US knew the contents of a sensitive, encrypted diplomatic

dispatch, it would also tell them that their cipher had been compromised.[19] Knowing this, they would change their cipher and the British effort to "break" the German codes would begin anew.

Britain, Germany, Mexico, and the US, all sovereign states, were communicating and exercising their sovereignty through diplomacy using "cutting edge" technology of the day — in this case, radio. Two, Germany and Britain, were at war. Mexico and the US were officially neutral. Germany attempted to enlist Mexico in an alliance. Britain went to extreme elements to prevent development of the alliance and use the information about the German proposed alliance to encourage US entry into the war in Europe. It was all done in secret and the latest ciphers were employed to keep it secret. The US did enter the war in 1918 and the specific role played by the Zimmerman Telegram remains subject to historical interpretation. Still, radio signals radiating through the atmosphere were intercepted by unintended recipients to extract the information contained therein, and the potential existed for international ramifications affecting multiple sovereign states.

Twentieth century states had, by 1917, already come to rely on telecommunications as an essential new tool for states to use in diplomacy and exercise of their sovereignty. Complexity of the new century's world required industrialized states, and those aspiring thereto, to participate in the new technology. However, it proved to be a vulnerability as well.

In peace or in war, the technical requirements to monitor and control every telegram and telephone call crossing international frontiers would prove prohibitively time consuming and expensive. States would find it necessary to alter their *modus operandi* to

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[19]Barbara W. Tuchman, *The Zimmermann Telegram* (New York: Dell, 1963), 184.

deal with information flowing across their borders with little control. The Zimmerman Telegram set the stage for the next era and provides a logical end point to the Age of Telegraph.

# CHAPTER V

## AGE OF RADIO AND CABLE — 1917-1964

This chapter continues diachronic analysis by addressing the impact on sovereignty as the world's appetite for immediate information expanded faster than telegraph technology could provide it. By 1917, telegraph cables interconnected much of the world, electronically linking points where economic requirements dictated profitable return on the investment. "Wireless" radio telegraph met other connection requirements where distance, technology, or profit potential prevented installation of cable. The telephone and radio combined with the telegraph system to make rapid communications available to much of the world. Concurrently, the idea of sovereignty and its associated state expanded to where it approached the status of "natural right" for all people. The rebuilding efforts following World War II resulted in international modernization and trade. The world's collective community grew ever more interdependent while the complexity of international society interconnected by telecommunications pressured sovereignty.

Diplomatic actions, business concerns, military operations, and individual activities had altered their *modus operandi* based on newly available ground, sea, and air transportation along with the immediate availability of information. Despite "dangers" from loss of privacy or sovereign dominance over international borders, collective appetites for faster access to information had been whetted to a fine edge and could not be dulled. By the end of this era, most (but not all) telephones could be connected to nearly any telephone, anywhere, regardless of distance.

Introduction

The Age of Radio and Cable commences January 17th, 1917 with transmission of the Zimmerman Telegram. Clandestine radio intercept of a secret, encrypted diplomatic transmission and exploitation of the information contained therein by states for whom it was not intended, marks the logical commencement of a new era. The era endured until 1964 when launch of the first geo-synchronous relay satellite marks another critical element in the historical time line.

At the beginning of the new era, information of varying, but often vital, import flowed through cables and beamed through the atmosphere in gargantuan magnitude. Cable systems, begun during the previous era, continued to expand with augmentation by a fledgling radio network filling some of the gaps where telegraph service was either too difficult technically or too expensive. A war of violence and lethality inconceivable to previous generations had engulfed Europe with the deadliness of weapons enhanced by the tactical "combat multiplier" of telecommunications in the form of telephones, telegraph, and early radio technology.

Except in support of government or military operations, telegraph connections were still economic investments, made with expectations of fiscal gain. Few altruistic concerns governed proposed cable routes. Where financial or national interests were involved (often indistinguishable in the nineteenth century's pursuit of wealth by the industrialized states), investments in telegraph lines were justified. States were free to subsidize investment in telecommunications infrastructure (specifically, telephone wires

and telegraph cables), but some economic return was expected.[1] A true worldwide network would require less expensive and more convenient means of establishing connections to locations which did not hold potential for significant economic return on the investment.

Still, information traveled throughout many portions of the world in minutes. Regional markets, no longer isolated by distance, responded to economic stimuli as functional elements of "the whole" rather than distinct and independent components of the world's economy. The content of mass media — still represented by the "printed word" of newspapers, and to some degree, periodicals such as magazines — could traverse vast distances from "event" to point of publication via the international cable network. However, distribution of the media itself — the printed word — continued to depend on the speed of human transport. The speed by which humans could travel had increased dramatically from long standing rate of about five miles per hour to rail's 40 to 50 miles per hour.[2]

Numerous technological advances as the previous era neared its close caused the speed of information transfer to increase dramatically. The airplane soon evolved into a means by which information in other than electronic form could move at speeds measured in hundreds of miles per hour. The vacuum tube, essential to long distance transmissions

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[1]Clare D. McGillern and William P. McLauchlan, *Hermes Bound: The Policy and Technology of Telecommunications* (West Lafayette, IN: Purdue University Press, 1978), 87.

[2]Terhi Rantanen, *The Media and Globalization* (London: Sage, 2005), 50.

of voices over telephones as well as effective use of radio, established a foundation for technology[3] which later gave rise to the transistor and integrated circuit.

In 1917, the newspaper continued to dominate mass media. However, broadcast radio soon challenged its supremacy only to be eclipsed, or perhaps, subsumed by television. States began to deal with telecommunications crossing borders, using some elements of telecommunications technology to obtain information surreptitiously exchanged by other states. Behavior of states as well as their representative diplomats required alteration and update to deal with new threats to the security of sensitive information. One US Secretary of State, discovering that elements of his department engaged in electronic eavesdropping, ordered it stopped because "... gentlemen do not read each others mail."[4] This attitude typified the dilemma created by the possibilities of technology versus the responsible use thereof.[5]

Sovereignty and Society in the Age of Radio and Cable

The health of the sovereign state, vital and vibrant a century earlier, began to decline by the end of World War I. European states who attempted to maintain the "exclusive club" throughout the nineteenth century, despite incursion by various upstarts in the Americas, found their exclusivity waning.[6] Following World War I, under international

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[3]George P. Oslin, *The Story of Telecommunications* (Macon, GA: Mercer University Press, 1992), 274.

[4]Louis Kruh, "Stimson, The Black Chamber, and the 'Gentlemen's Mail' Quote," *Cryptologia* 12, no. 2 (1988): 65.

[5]Bernard Woods, *Communication, Technology and the Development of People* (London: Routledge, 1993), 34.

[6]Hinsley, *Sovereignty*, 206.

pressure, the European powers "created" states with lesser economic value while steadfastly maintaining "ownership" of exploitable colonies. The decision to maintain colonial or mandate status of territory versus granting sovereignty in state building operations should not be mistaken for altruistic pursuit of self-determination. Rather, economic value of continued exploitation played a much larger part.[7]

Meanwhile, *nations* throughout the world began to coalesce, demand release from colonial, mandate, or protectorate status and insist on state and associated self-determination. Sovereignty and self-determination approached a *natural right* of populations everywhere.[8] Exclusivity of Europe's "club" was on life support if it still had any life at all.

Telecommunications and Sovereignty During the Age of Radio and Cable

As demonstrated by the incident of the Zimmerman Telegram, new technology under which states conducted diplomacy, brought danger of compromise through unintended receipt by enemies, competitors, or even friends. Slow moving, but relatively secure, letters between diplomats and their home governments had always been the target of interception but protection of the contents was quite feasible. Electronic transmission brought international diplomatic actions into near real time in their communications with their home governments, but it also increased the danger of interception and access by unintended recipients. The human nature involved, however, was unlikely to suggest any

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[7]F. S. Northedge, *The International Political System* (London: Faber and Faber, 1976), 90.

[8]Jorge M. Valadez, *Deliberative Democracy: Political Legitimacy and Self-Determination in Multicultural Societies* (Boulder, CO: Westview, 2000), 13.

return to the inherent delays of more secure but slower couriers[9] and states incorporated the telegraph into their modus operandi. Post-World War I advances increased dependence on the associated telecommunications technology especially and expanded use of cables and development of radio.

Telephones remained expensive prior to World War II and were primarily a tool of business, especially as an international tool.[10] In the US, where the system was privately owned, the installation of central switching offices, lines, and consumer instruments resulted in potential profit. In Europe, government ownership and resultant rules and regulations provided no such incentive and probably crippled growth. Further, cultural inhibitions hampered full use of the telephone's potential. The British considered it an inadequate substitute for face to face conversation and people in Latin countries did not find the device complementary to their temperament. The German government monopoly provided no profit incentive for expansion or improvement of service.[11]

Advances in radio, however, expanded coverage to include, virtually, any point on earth where communications was required but economics prevented installation of telephone or telegraph cable. With immediate connection available to the rest of the world, states began to lose their "absolute" control (real or imagined) over their own economies. In a fledgling process which would, in a following era, grow into the designation of "globalism," the corporate world began to ignore or circumvent state

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[9]David Paull Nickles, *Under the Wire: How the Telegraph Changed Diplomacy* (Cambridge, MA: Harvard University Press, 2003), 80.

[10]Brian Winston, *Media Technology and Society* (London: Routledge, 1998). 52.

[11]Oslin, *The Story of Telecommunications*, 231.

influences and supervision.[12] Another world war interrupted the "natural" social evolution of sovereignty, international political economy, and world society in general. After the war, technological advances also contributed to military control and protection of territory. The same advances, however, also allowed the growth of MNCs in pursuit of foreign direct investment.

*Dominant Mass Media*

Mass media first emerged in the seventeenth century in the form of newspapers which capitalized on high technology of the era — moveable type printing. Newspapers continued to dominate mass media until the 1920s when broadcast radio offered an alternative, or perhaps supplement, followed by television in the 1950s. At era's end, public reliance on radio and television as mass media was enhanced by the geosynchronous satellites which heralded an era of ubiquitous communications. By 1963, in the US, 90 percent of households had at least one television and nearly 100 percent had radios. Throughout the world, 245 million radios existed, 111 million of which were in US homes.[13]

*Telecommunications*

As this era commenced, long distance communications still heavily relied on the telegraph. Construction of cable networks required significant capital investments, but offered a substantial potential return. Telephones allowed consumers to access

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[12]Rantanen, *The Media and Globalization*, 50.

[13]*Almanac Book of Facts* (New York: Press Publishing Company, 1964), 765.

telecommunications technology directly. While the telephone provided phenomenal local service, any distance necessitated signal amplification which required further advances.

Those advances materialized in the inter-war years. Technology took telegrams beyond labor intensive single operators transmitting a single message at 20 to 30 words per minute. Teleprinters — perhaps best described as interconnected typewriters — moved messages closer to 60 words per minute with less manual operator relay and reduced errors. Vacuum tube technology permitted signal amplification to the benefit of both long distance telephone and expansion of radio service from a wireless means of sending telegraphic messages to a new voice medium.

By the outbreak of World War II, information transfer had become wide spread and nearly instantaneous. Available "throughput" appeared to be massive when compared to early telegraph but it was still limited to information transfer. Distribution of large "volumes" of written data still relied on available means of transport, but that now included air service. Technological development is synergistic. Developments in the speed of information transfer still depend on physical movement of associated equipment or might be required for security; the speed of human movement remained an element in the all encompassing information transfer regime.

Broadcast radio, and its associated news services, provided for a previously unavailable means of widespread distribution. Initially, information which had been transferred across long distances, but with limited distribution, reached radio stations. News "readers" then read the information into a microphone which reached wide audiences. By World War II, foreign correspondents' reports were received via radio and

broadcast over commercial stations in the US. Telecommunications technology now provided both instantaneous transfer and distribution of information.

Early advances in consumer oriented television technology had been accomplished in the 1920s and 30s but were put into abeyance during war years. When war time national security restrictions eased and released research and development to support the consumer market, the wide data distribution pioneered by radio evolved to include pictures as well.[14]

By their nature, governed by laws of physics, radio and television signals have limited range. ("Shortwave" radio, used for international broadcasts by many states have much longer, but often intermittent servicing distance.) Various countries solved the restricted range of radio and television by combining transfer and distribution in networks. Radio programs were initiated and broadcast from a central location. Concurrently, the signal was transferred to other, distant locations via terrestrial cable where the same program was broadcast, thus reaching extensive audiences at far reaching locations. The same process was exploited and expanded when television began to supplant radio.

Transfer of signals across extensive distances required special technical consideration. Complex transoceanic cables installed for use by telephone and telegraph systems had some utility for television but at very high cost. The physics involved require television signals to occupy the "space" or bandwidth of hundreds of telephone connections. While a television signal transited an undersea cable, transoceanic telephone service became severely restricted.

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[14]David E. Fisher and Marshal Jon Fisher, *Tube: The Invention of Television* (Washington, DC: Counterpoint, 1996). 296.

In the US, broadcast radio and television industries developed under private ownership. Throughout much of the world, however, the electronic media were government owned, often by the postal services. Under some theories of government, state owned broadcast media have a public interest requirement to protect the nation's culture and traditions.[15] Where this was (and in some cases, remains) the case, the state maintains predominant control of the most dynamic cultural influence.

*Territorial Control*

This era saw significant change to the state's control of its borders. The airplane introduced a vertical element to sovereignty and begged the resulting question: How high does state control over its territory extend? Has an airplane, flying so high that it is not visible from the ground, violated a state's territory? The answer was, initially tacitly, later specifically agreed to be yes; state territory extends into the vertical plane. The specific answer to "How high?" remained in the foggy ether of international law. The issue would reemerge late in this and into the next era; aircraft flight, measured in thousands of feet, might be one issue. When the USSR shot down a US U-2 reconnaissance aircraft "violating" its sovereign airspace in 1960, little defense could be mounted to deny the violation beyond blustery insistence on sovereign rights to fly, uninhibited, as a matter of national security.[16] However, a "device" (specifically, a satellite) "crossing" over state territory in earth orbit at an elevation of hundreds or

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[15]"The Last of the Old Guard," *The Economist*, November 2, 2002.

[16]Phillip Knightley. *The Second Oldest Profession: Spies and Spying in the Twentieth Century* (New York: W. W. Norton, 1986), 325.

thousands of miles appeared to be quite different. It would not be until the 1970s that the issue of state sovereignty over a satellite would be addressed by the World Radio Conference under the guise of the ITU (see Chapter II, *Satellites and Sovereignty*).

Telecommunications technology continued to erode a state's ability to control information crossing its borders due to a combination of the sheer volume circuits and an inability of states to develop hard evidence as to what information might be damaging to their national interests. Cross-border data flows were, by their very nature intangible, functionally integrative, and difficult to interpret. As a result, a "transnational cyberspace" was emerging over which states had no control.[17] Early in the era, the telegraph (both via cable and radio) continued to dominate international communications but the telephone soon entered the equation as an expensive but viable tool in business and government operations. As with early electronic means, supervision of information entering and leaving state territory might be theoretically possible. The manpower requirements necessary to read, listen to, and control every telegram, telephone call, and radio transmission would vastly exceed the fiscal abilities of even the most prosperous states. Further, the delays and loss of privacy resulting from state control would constrain business. Business generates taxes. Attempts to limit the free flow of information would, therefore, hinder business, reduce the state's income, and hurt the state's health.

*Cultural Cross-Pollination*

Broadcast radio, followed by the enhancement provided by the synergistic addition of images to create television provided an entirely new means of cultural influence. Where

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[17]Drake, "Territoriality and Intangibility," 261.

traditional intercultural influence took place through migration, trade, and conquest — all activities with inherent contact among populations — radio and television had the capability to "insert" one culture directly amid the core of another.[18]

Various states, especially in post-World War II Europe, employed "world service" radio as an element of blatant propaganda. Voice of America, Radio Free Europe, Radio Moscow, and British Broadcasting Corporation World Service, to name only a few, actively sought to "export" their domestic "way of life." The shortwave radios necessary for reception of long range broadcasts were far more likely to be found in the homes of citizens of states "targeted" by "world service" broadcasts. In the US, the extensive size of the country and near saturation of markets with commercial [short range] broadcast stations did not give rise to an extensive audience for international shortwave broadcasts.[19] As television entered the world market, production costs of both news and entertainment shows far exceeded those of radio broadcast. Consequently, a few Western countries, most notably the US, came to dominate production and dissemination of information and entertainment media for world audiences. Even the requirement to dub or subtitle English language productions was far cheaper than local production. By the early 1960s, at least 60 percent of broadcast television hours in countries such as Nigeria, New Zealand, Iceland, Malaysia, and Guatemala were imported. The result was labeled

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[18]Rantanen, *The Media and Globalization*, 24.

[19]Winston, *Media Technology and Society*, 271.

"cultural imperialism" and resulted in far more successful export of culture and political propaganda than world service radio.[20]

The geographic distance between the location of a program's production and broadcast became irrelevant. Opponents or those concerned about developing mutual dependency and sensitivity among states, later to be labeled interdependence and globalism, accused the larger, more dynamic cultures of subsuming others much like tenaciously procreating weeds take over a garden. The end result, however, had not changed. Cultural subsumption had occurred throughout history. Telecommunications technology introduced an accelerant.

*International Finance*

International monetary systems existed during the first half of this era in turmoil as a result of post-war chaos followed by the Great Depression. As World War II neared its inevitable terminus, the soon to be victorious states convened an international conference to establish a post-war international monetary system. It became known as the Bretton Woods system, after the conference's location at Bretton Woods, New Hampshire. The resultant system established fixed currency exchange rates, aligned with the value of gold which assured currency convertibility. The agreements acknowledged autonomy of national policies, but free pursuit of macroeconomic policies always incurs some consequences since foreign trade involves foreign currency exchange.[21] The state might

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[20]John Tomlinson, *Cultural Imperialism: A Critical Introduction* (Baltimore: Johns Hopkins University Press, 1991), 36.

[21]Robert Gilpin, *The Political Economy of International Relations* (Princeton, NJ: University Press, 1987), 132.

have one philosophy as to the value of its currency; trading partners might have other reasons to accept different values. Rapid advances in telecommunications technology supported the expansion and efficiency of foreign direct investment programs and laid foundations for future transfer of funds from one international banking institution to another with virtual impunity. The first vestiges appeared in what would evolve into electronic cash and financial transactions; they later approached a complexity where national identity dissolved into complex obscurity often transparent to the transaction's nation of origin. Little, if any actual "money" crossed borders. Rather, the electrical transmission of transactions involving dollars, pounds, or other currencies provided a means of "keeping score" and providing quantification to transactions.

*Sovereignty as a Whole*

Colonial empires reached their whimpering terminus as this era approached its conclusion. The concept of sovereignty and self-rule as the *natural right* of all people extended throughout the international system. Sovereignty remained a territorial centric entity but the Cold War exerted artificial social evolutionary influences which suppressed many nationalistic movements. Numerous territorial borders had been drawn to match colonial frontiers or the needs and desires of European powers. Often, "nations" — in their political science identity as cultural entities such as tribes or ethnic minorities — had not figured in drawing borders, an omission that resulted in later civil strife.

States rebuilt after the devastation of World War II and looked outward for means of expanding markets for their rebuilt and growing industry. By doing so, they surrendered some control of their domestic economies to Adam Smith's "invisible hand" of the

market.[22] The steady (and perhaps, inevitable) march toward interdependence and globalism had commenced. With each element of interdependence came an incalculable increase in sensitivity and vulnerability to the economies of the other states and the world. Interdependence was not new. The necessity for Flemish weavers and fullers to purchase raw wool from England in the middle ages certainly constituted an early example of interdependence.[23] However, in the twentieth century, world trade moved at a much faster pace. The speed at which humans traveled had increased from a few miles per day on foot or horseback to a few hundred miles per hour on aircraft. Final products in the manufacturing process were automobiles, television sets, and consumer goods which required raw materials available only through trade. Sovereign states, never completely independent from others, had to consider availability of both raw materials and end product markets in considering their economic decisions. The difference over time was the available telecommunications technology. International sales exploited the availability of communications and transportation to ensure on time delivery of commodities and payment as well.

At the same time, advances in telecommunications permitted the transfer of news, funds, and cultural influence across international borders and states had little ability to control the flow. People were able to conduct some portion of their day to day lives in a "space" external to the state's defined territory. Draconian exertion of their sovereignty might allow some supervision, if not outright control, but at high cost. Participation in

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[22]Smith, *Wealth of Nations,* 194.

[23]Alan K. Smith, *Creating a World Economy: Merchant Capital, Colonialism, and World Trade, 1400-1825* (Boulder, CO: Westview, 1991), 108.

the world's growing reliance on technological advancements often required sacrifice of sovereign control for enthusiastic involvement. Foreign direct investment often resulted in production facilities located in one state with management in another. Telecommunications was in the adolescent stages of making distance irrelevant. The source of "cultural imperialism" might be half a world away, but through radio, television, and other media supported by its telecommunications infrastructure, the resultant influence might have originated from "next door."

Some elements of sovereignty, however, remained despite modern influences. Many functions were not targeted by forces which affected other elements of sovereignty. The state remained in complete control of "public goods." The construction and maintenance of costly assets necessary for the efficient functioning of domestic society require a sovereign state, through its manifested government to provide for national security, police actions, and other mundane functions such as light houses, seldom used roads, and even in many cases, unprofitable telecommunications facilities. In these cases, telecommunications provided states with tools for use in pursuit of state duties.

## Summary

The Age of Radio and Cable saw phenomenal changes to the world's culture, economy, and the system of sovereign states. Two world wars and the initial stages of a Cold War, unique to history, disrupted anything approaching "normal" social evolution. States were bound by alliances. States were antagonized by alliances. States joined IGOs in pursuit of perpetual peace. States abandoned them as a result of war.

The era began with one state (Great Britain) "plucking" another state's (Germany) private telegram addressed to another state (Mexico) out of the ether. The resulting information was used by Great Britain to attempt to influence the US entry into World War I and eventually influence the final outcome and end to hostilities. The era ended amid a "smoldering" cold war with telecommunications stimulating development of a single world economy and with television and radio expanding throughout the globe. The sovereignty of Westphalia could not traverse the historic continuum from 1648 to 1964 without change.

Domestic economies were developing interdependent relationships among one another which removed, or at least reduced, direct state control. Cultural influences accompanied financial data through an ever expanding telecommunications network. Finally, on April 6th, 1965 the Early Bird satellite was launched and placed in orbit above the equator. The satellite functioned as a relay platform for radio signals between North America and Europe. It could simultaneously receive and retransmit 240 telephone circuits or one live television broadcast between continents. Early Bird was the harbinger of a constellation of satellites which provided the backbone for inexpensive, worldwide connections of telephones, computers, facsimile machines and virtually every other electronic device imaginable. Instantaneous communications throughout much of the world were nearing fruition. Distance was on a path toward total irrelevance in the movement of information. The sovereign states of the international system had to deal with a different world. Therefore, 1965 and launch of the Early Bird satellite establishes a pertinent point at which to end discussion of the Age of Radio and Cable and begin analysis of the Age of Ubiquitous Communications.

# CHAPTER VI

## AGE OF UBIQUITOUS COMMUNICATIONS — POST-1965

This chapter continues the process established in the previous three chapters. It looks at how the society, telecommunications, media, territory, culture, and financial situations have changed from previous eras and how those changes affect sovereignty. Telecommunications technology allowed both businesses and individuals to carry on international commerce and private activities in a "space" where state borders played little or no part. A few "dominant" cultures exerted influence on other cultures from afar through long distance transmission and delivery of television, radio, music, and film. State actions became known throughout the world moments after they occurred and even in strictly domestic situations, decisions had to be made in light of international ramifications. It had become difficult, if not nearly impossible, for states to operate with impunity, even within their sovereign territory. Sovereignty — the absolute and unlimited power of the state — required consideration of parameters beyond frontiers. Sovereignty had changed.

Following World War II, a globe-encircling system of sovereign states emerged.[1] By 1965 as this era began, the vestiges of Europe's colonial elements had, for the most part, achieved independence and joined the now not very exclusive "club" of sovereign states. Self-determination through sovereign states had developed into the natural right theorized

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[1]Robert H. Jackson, "Continuity and Change in the States System," in *States in a Changing World: A Contemporary Analysis*, ed. Robert H. Jackson and Alan James, 347-367 (Oxford: Clarendon, 1993), 347.

by Immanuel Kant in the eighteenth century.[2] However, as the number of sovereign states in the international system approached 200, the complexity of the world's interdependent society also increased. Development of interconnected computer and telecommunications networks made a global economy possible. Global pressures on state sovereignty and the institutional apparatus necessary to manage and regulate the economy often threatened destabilization and transformation.[3] The telecommunications systems that allowed such institutions to function on the international level continued to grow.

## Introduction

Throughout this era, telecommunications technology developed beyond the wildest imagination of Samuel Morse, Alexander Graham Bell or Guglielmo Marconi. With each new development, the movement of any type of information, transferred into an electronic format, could be moved faster and faster. By the end of the twentieth century, distance, in the movement of information, became irrelevant. This era begins in 1965; the first geostationary satellite, the "Early Bird" was launched. Capable of handling one television channel or 240 two way telephone calls, the satellite effectively doubled transatlantic communications capacity[4] and set the stage for an ensuing epoch of true communications ubiquity. "Live" television could be broadcast from Europe to North America with technological "ease." It was expensive, since the developers of the satellite

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[2]Valadez, *Deliberative Democracy,* 234.

[3]Saskia Sassen, *Losing Control? Sovereignty in an Age of Globalization* (New York: Columbia University Press, 1996), xii.

[4]Solymar, *Getting the Message*, 188.

expected to recoup their costs through charges for its use, but it made the routine connection of the continents feasible.

By the end of the twentieth century, Early Bird's capacity would be insignificant by comparison to the interconnections among a constellation of satellites, undersea fiber optics, and terrestrial cable and radio based communications systems. However, as a milestone in evolution of worldwide communications, its 1965 launch marks an ideal point to begin a final era's analysis. With increased speed and capacity of telecommunications system, the international system's complexity increased as well.

Instantaneously available information, made possible by telecommunications technology, constituted a primary difference between this final era and previous periods. Events taking place beneath the glare of television lights in full view of cameras became global historic turning points; without the cameras, continental epochs could easily pass unnoticed.[5] The Peoples Republic of China provided one of the best examples of the effects of instantaneous, worldwide distribution of news [information].

China historically limited foreign news journalists' access to its domestic events. Through an ironic quirk in 1989, international news media were onsite in Beijing covering a meeting between the world's two bastions of Communism — the USSR's Mikhail Gorbachev and China's Deng Xiaoping. The meeting came to an end with little more of significance produced than such meetings ever accomplish, but groups of Chinese students in pursuit of greater democracy took advantage of the media conclave. The world watched as their protest began on Tiananmen Square. Foreign observers

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[5]Jay Mathews, "Mending Broken China: Beyond the Grim Television Images, There's Hope for Reform," *Washington Monthly* 22, no. 8 (1990): 48.

expected a government crackdown at any moment; cameras remained focused on the protests, and transmitted the images globally via satellite.

Conventional wisdom dictated that Chinese government suppression of the protest would be accomplished with violence, but not with foreign satellite links beaming live images throughout the world.[6] Unique to this situation, CNN had a camera set up at their satellite control station and continued a live broadcast as a Chinese official arrived to inform them that their license to use Chinese government controlled satellite uplink frequencies had been granted for coverage of the Gorbachev-Xiaoping meeting. That conference had ended. They must shut down their satellite operation immediately.[7] The official allowed the reporter to "sign off," but live, realtime relay of unfolding events terminated. The world's collective interest had been piqued and other media managed continued news coverage with some delay and difficulty getting their information (video tapes, news text, photographs) out of China. Instantaneity had been lost, but the ubiquity of communications provide other means, not the least of which was a fall back to move information at the same speed as the humans who were carrying it.

Telecommunications created an environment where purely domestic events such as a sovereign state repressing internal challenges to its authority could become events of international interest and concern. The case of China's crackdown on Tiananmen Square provided a particularly appropriate example. A decade prior, a strikingly similar event occurred and the Chinese government brutally suppressed earlier student demonstrations

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[6]Daniel Benjamin, "State of Siege: With Tiananmen Square the Epicenter, a Political Quake Convulses in China," *Time* 133, no. 22 (1989): 38.

[7]"CNN Basks in Reaction to Its Beijing Coverage," *New York Times*, May 25, 1989.

on Tiananmen Square. The international press were not, however, present to record that event and it went virtually unnoticed.[8] The events of 1989 were, and remain, well known due to ubiquitous media coverage.

China's governmental efforts to remove their actions from the collective eyes of the world indicated a desire to conceal, or at least obscure their actions. Norms of behavior form an essential basis of both natural and international law,[9] and the government was obfuscating their behavior so as not to be seen exceeding generally accepted norms. The state's absolute and unlimited power was being applied with judicious concern about external opinion and reaction. The key was information, its speed of transfer, and breadth of distribution. The world learned instantly about far away events; they were experiencing "news" not learning about past events. Would sovereign states in the control era or later have tailored action based on news media coverage?

Information made universally available via advanced telecommunications technology internationalized domestic actions. If states find it necessary to tailor, camouflage, or obscure activities within their territory, sovereignty would seem to suffer. It is situations like this which instigated and fostered this study in order to arrive at the Age of Ubiquitous Communications and examine contemporary effects of telecommunications technology on sovereignty.

## Sovereignty and Society in the Age of Ubiquitous Communications

As discussed in Chapter II, sovereignty has never been absolute. As the twenty-first

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[8]Mathews, "Mending Broken China," 48.

[9]Malanczuk, *Akehurst's Modern Introduction to International Law*, 57.

century approached and reached fruition, it became less so for many reasons. Sovereignty provided an organizing element to society, especially international society. Societies continued their evolutionary processes under various stimuli, one of which was the growth of telecommunications technology. If the needs of society changed (evolved) to function in an increasingly complex world, as a supporting concept, sovereignty had to change as well.

In a complex, interdependent world, isolation provided no value to states. Self-sufficiency escaped the ability of even the largest and most diverse countries. Prosperity, and in many cases, survival necessitated interdependence at regional, continental, and often, global levels. An isolated and independent state (if such an entity could still exist) would be unaffected by the actions or interests of other states. However, interdependent states have mutual interests where both domestic and foreign policy interact. When tied together through mutual interests, especially in trade, international predatory behavior becomes harmful to all the states involved.[10]

To ease adversarial situations in mutual dependency, avoid predatory behavior, and enhance efficiency of common goals which extend beyond international boundaries requirements, states form intergovernmental organizations (IGOs). IGOs operate on a principle of *sovereign equality* where each state maintains equal status with all others, although the Orwellian concept of "some are more equal than others"[11] often plays a tacit part. The scope of concern and privileges of membership vary according to the

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[10]Donald J. Puchala, "Western Europe," in *States in a Changing World: A Contemporary Analysis*, ed. Robert H. Jackson and Alan James, 69-92 (Oxford, UK: Clarendon, 1993), 84.

[11]George Orwell, *Animal Farm*. (New York: Harcourt Brace, 1946), 123.

organization's founding purpose and charter.[12] Whatever their purpose, member states agree to behave in a stipulated manner which constitutes a limit on their freedom of action and therefore, a "limit" to their sovereignty.

State membership in IGOs, especially those organizations with both broad and deep involvement among members, could be said to require the voluntary "surrender" of some degree of sovereignty. Reacting to members' fears for the loss of independence of action and identity, self-serving explanations or excuses by the organizations' members and leaders usually referred to "pooled" or "on deposit" sovereignty.[13] IGOs are not a new phenomenon. Any time in history where two or more states agreed to cooperate on trade, a tacit IGO existed. More formal agreements, such as the Hanseatic League among German principalities, also constituted proto-IGOs. However, in modern form, the IGO dates to formation of the International Telecommunications Union (ITU — neé International *Telegraph* Union) in 1865.[14] Technical and bureaucratic problems faced by the world's first telecommunications industry — the telegraph — were discussed in Chapter II; solving the problems required states to ease their sovereign rights to supervise messages — information — entering and leaving their territory. For the first time, the best interest of states would be served by international cooperation to ease and accelerate the passage of telegrams across frontiers.

Formation of the ITU did not set any precedent to encourage immediate formation of other IGOs. By 1909, there were less than 40 IGOs but nearly 400 operated in the Era of

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[12]Cusimano, *Beyond Sovereignty*, 221.

[13]Philpott, "Sovereignty: An Introduction," 358.

[14]Codding and Rutkowski, *The International Telecommunication Union*, 3.

Ubiquitous Communications one of which, of course, was the ITU.[15] The complex, interdependent world of the late twentieth and early twenty-first centuries led states to form IGOs for all the classic reasons: to promote trade, ease international exchanges, prevent or discourage predator behavior, etc. The need for telecommunications cooperation caused the first true IGO's formation, but day to day functioning requires effective communications systems.

Virtually all actors in the international system — states, IGOs, NGOs, and MNCs — rely on the world's complex web of telecommunications to operate. The world's communication system starts with each state's national system (often government owned and operated). Various private systems traverse, augment, or run parallel to national networks. When the electromagnetic spectrum is involved (radio waves), little, if any, argument exists to challenge a state's right to control its use within territorial borders. In many situations, short range or low power use of frequencies is strictly a domestic concern. However, many electromagnetic emanations have effective ranges extending far beyond the territorial limits of the state of origin. States might be within their sovereign rights to allow use of such emitters, but the international implications could be viewed in a range from internationally "annoying" to outright hostility. Even legitimate use of internationally allocated "long distance" frequencies caused concern as they crossed borders.

During the Cold War, the US and its allies in the West generally claimed a right to broadcast putatively objective radio programs directly to the populations of various

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[15]Michael N. Barnett and Martha Finnemore. "The Politics, Power, and Pathologies of International Organizations," *International Organization* 53, no. 4 (1999), 699.

Soviet bloc states via shortwave radio and condemned any action taken to "jam"or prevent reception. The ITU, to which nearly all states on both sides of the question belonged, maintained through its regulations that shortwave radio provided an internationally acceptable means by which information could be transmitted across national borders. The Soviet Union, however, maintained that such undesirable foreign transmissions violated their sovereignty. Therefore, they radiated blocking (known commonly as "jamming") signals on the same frequencies to render the Western ideological broadcasts unintelligible.[16] Similar situations still remain unresolved, especially concerning US sponsorship of Radio Marti broadcasts into Cuba.[17]

This circumstance provides a point of fact example of telecommunications technology's impact on sovereignty. No foreign military forces crossed an international border. No damage was done to any property, weapons, or assets. Nothing affected national economies. Only invisible, albeit detectable, electromagnetic waves were involved. Yet the targeted states maintained that their sovereignty had been violated and they expended considerable effort and expense to counter the broadcasts, an effort which was not 100 percent successful.

Modern trade, cultural exchange, international relief efforts to natural disasters, or virtually any other multinational operations necessitate extensive consultation and coordination, all of which requires telecommunications. Participation in the network that allows these communications requires matching or conversion to technical standards,

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[16]Drake, "Territoriality and Intangibility," 267.

[17]Monroe Price, *Media and Sovereignty: The Global Information Revolution and Its Challenge to State Power* (Cambridge, MA: MIT Press, 2002), 202-203.

coordinated exchange of control data, as well as physical connections among networks. The ITU provides a forum to coordinate and control the necessary actions. Does this constitute a significant reduction, surrender, or erosion of sovereignty? Perhaps "significant" requires some elusive concept of quantification and operationalization, but states' exclusive authority to intervene coercively in activities within their territory has taken on a new dimension. States agree to coercive intervention based not solely on domestic law with constitutional limits, but in accordance with international convention as well. Pursuit of both internal and external trade relations, cultural exchanges, international relief efforts to natural disasters, or virtually any other multinational operations requires extensive consultation and coordination, all of which requires telecommunications.

Radiation of shortwave propaganda across international frontiers presents a direct link between sovereignty and telecommunications. Modern financial transactions are somewhat more esoteric. States also have an uncontested right to determine and produce "coin of the realm." However, in the telecommunications dominant world of this era, states have little say in the internationally accepted value of their respective currencies. In the 1960 with much of the world's economy still linked to a gold standard and fixed exchange rates, the French franc was facing devaluation with respect to other states' monetary instruments. President Charles de Gaulle simply stated that he refused to allow the devaluation of his nation's currency. However, release of the link between currency and gold, combined with instantaneous exchanges permitted by telecommunications prevent any such future proclamation in the name of sovereignty from rising above the level of joke. Various currency markets, instantaneously linked together, synergistically

determine the value of a state's currency which is no longer directly based on precious metal content or reserves. Rather, the wide variety of elements constituting "news of the world" — both domestic and international — unite to influence currency exchange transactions. With computer aided decision tools, a minuscule drop (or rise) in exchange rates could result in massive electronic exchanges of currency. It takes place in "international cyberspace" and sovereign states have little or no control over the transactions. The state might join the trading frenzy in attempts to bolster exchange rates by purchase of its own currency, but can do little else to influence the value of its currency on the international market. In the end, a state's currency is valued by what the rest of the world will pay for it or sell it for.

Similarly, the evolution of "electronic cash" allows payment in kind to be accomplished with electronic transactions rather than exchange of specie. Here states might exert influence through severe control of domestic banking with positive supervision of all transactions known to cross its borders. Once again, to do so would hamper the market's free enterprise. Traders would likely move their operations to another state with less (or more acceptable) supervision. The trade off distills into a simple equation of exerting "absolute" sovereignty in the limited area of currency transfer at the likely cost of prosperity, or "surrendering" an element of sovereign control in return for economic gain.

## Telecommunications and Sovereignty During the Age of Ubiquitous Communications

This era, especially as it approaches contemporary points, combines all of the impact on sovereignty by telecommunications during previous eras. Sovereignty itself was

considered "under attack" by many political scientists, but the subject to hand requires distillation of the situation to refine the specific effects as a result of telecommunications.

The ubiquitous nature of telecommunications which developed and expanded throughout this era removed physical location from the equation in many private and public enterprises. Manufacturing operations could take place in a remote part of the world where — presumably — low wages, low real estate overheads, minimal environmental controls, and low taxes produced an optimal business environment. Associated fiscal, management, and service activities, linked via telecommunications, could just as easily be accomplished a continent, or more, away. Telephone calls from corporate management to operational or manufacturing elements do not vary when made from across a building, across, a town, or across an ocean. Funds can be moved electronically around the world among financial institutions to locations with the most favorable tax rate, minimal government influence, or ease of future transfer.

An impact on state sovereignty appears obvious in many areas as a result. If MNCs move fiscal assets with impunity to avoid tax liability, the state of origin has lost control over activities taking place within its territory. Harsh measures might attempt to clamp down on industries' free movement of assets in response, but those MNCs would likely limit or avoid future operations in that state. Other states create an "MNC friendly" environment. The state's "absoluteness" in taxing and supervision of business operations within its borders dissolves as they compete with other states who willingly forfeit some of their "absoluteness" in return for the benefits derived from businesses operating from their soil.

*Dominant Mass Media*

Newspapers, from their beginnings, provided information to the populace. Some versions may have experienced some state attempts at censorship and literacy rates limited impact, but newspapers functioned at the speed of civilization they served. Later media continued to do so by exploiting technological advances such as the telegraph. States found it necessary to suppress (censor) the press or live within the confines of a free press. The newspaper dominated mass media throughout the first two eras. During the third, the Age of Radio and Cable, broadcast radio materialized as an entertainment and news source followed by television, but printed newspapers remained a predominant means of news distribution in 1965. As the Age of Ubiquitous Telecommunications progressed, even the venerable, "low tech," printed on paper newspaper exploited information transfer technology. Traditionally limited by the requirement to collocate news, advertising, and production facilities with press equipment, newspapers had to print their product and physically move the resulting paper copies to sales and distribution points. Rapidity of transfer and distribution depended upon the speed of cargo transport — primarily cars, rail and truck, but in some cases, aircraft.

Telecommunications allowed the layout of pages to be accomplished on computers in one location and transmitted quickly to distant points for printing, as distance approached irrelevance in information transfer. This became particularly useful in geographically large states such as the US where the idea of a "national newspaper" was long limited by the time required to transport the printed product. However, by the late twentieth century, papers such as *USA Today*, *New York Times*, *Washington Post*, and *Wall Street Journal* capitalized on telecommunications technology to pursue "national newspaper" status.

The newspapers were developed in their home cities and prepared for printing. The print images were then transferred via computer networks to multiple points throughout the country where press runs could ensure rapid delivery throughout the surrounding regions. Rapid transfer of the graphic images required for printing of a newspaper would have been virtually impossible until the development of integrated computer and telecommunications networks.

Of course, newspapers exploited speed of information transfer in basic news production, as well. Traditional information transfer in news media had used telegraph, telephone, and various variants thereof such as teletype, and stock market ticker tape. Modern networks, such as the Internet, allowed news gathering and transfer to printing facilities to make use of the irrelevance of distance.

As computers began to permeate modern life, some experts predicted the imminent demise of the paper copy of newspapers. While this has not, in fact, happened, other means of reading the same information have emerged, most notably via the Internet. Both local and far distant newspapers are available to anyone with a computer and an Internet connection.

The printed word maintained a prominent if no longer dominant role in dissemination of information and shared its reliance on telecommunications with other mass media. All elements of media rely on telecommunications technology at some point in their production and delivery. When it reaches the "consumer," media of all types presents products of the originating culture. It reaches large numbers of people. If it presents a desirable picture of different but enviable lifestyle, the populace will likely begin to look toward adoption of some elements. The state can try to control access; it can pass laws

making the use of equipment allowing direct international connections illegal and punishable by harsh penalty. Broadcast media have inherent characteristics, however, which evade even the most severe attempts at suppression or control.

Since its inception, broadcast media always had some degree of long distance influence. Various national "world service" radio transmissions provided news and cultural media beginning in the 1930s. Many continue today. The British Broadcasting Corporation (BBC) World Service, Voice of America, Radio Moscow, and Radio Free Europe provided both legitimate news and flagrant propaganda during the Cold War. [These long distance broadcasts used the high frequency (HF) portion of the spectrum between 3 and 30 MHz, often generically referred to as "shortwave." Most American radios were not designed for reception of HF. Use of shortwave radio was considered the purview of ham radio enthusiasts. Much of the rest of the world, however, routinely maintained the capability to receive the international shortwave portion of the spectrum.]

Laws of physics and the nature of television transmission required it to be consigned to portions of the frequency spectrum limited to line of sight capability (approximately 30 miles). Networking — linking one program production facility to numerous broadcasting stations — overcame the need (or desire) to reach dispersed audiences with a single, high powered transmitter. Except where transmitters were located near territorial borders, cross-border incursion of television signals was not a major issue.

Satellites provided the means by which to extend the reach of television signals. Direct broadcast satellite systems provided a capability for "customers" in much of the world to receive television originating throughout the world — but primarily in the developed countries — directly from a satellite. States can outlaw the use of such

reception equipment, but at what cost? A desire for drastic repression of foreign influence would probably be indicative of an already repressive regime controlling the state. Police power, inherent in sovereignty, would become intrusive to the citizens in denial of equipment availability. Further, should the state wish to extend its own influence through use of similar media, equipment availability would be denied to the citizenry.

*Telecommunications*

At the opening of this era, telecommunications had already reached and exceeded the projections for ubiquitous communications made near the end of the Age of Telegraph. In 1896, the president of the National Electric Light Association predicted a not distant future where news from all areas of the world could be gathered in less than a second and human voices would be transmitted a thousand leagues.[18] It did not happen quite as fast as projected, but by 1965, radio, telephone, telegraph, and television girdled the earth. Undersea and terrestrial cables dominated the long distance transfer of data, augmented by line of sight and over the horizon radio systems. The environment surrounding sovereign states was immersed in telecommunications. Nearly every event in the domestic and international arena became known though mass media unless extreme efforts were made to suppress transfer and distribution of information surrounding the event.

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[18]James Gleik, *What Just Happened: A Chronicle from the Information Frontier* (New York: Pantheon, 2002), 5.

The definitive event to separate eras occurred in 1965. The first geo-synchronous communications relay satellite reached orbit. This was the first step toward exceptionally long distance exchange of information in all forms of electronic media. By the end of the twentieth century, a constellation of satellites orbiting the earth at 22,300 miles above the equator provided for the gathering of news from all areas of the world far beyond the remotest dreams of 1896. If the information could be forced into a format to be transmitted via electromagnetic radiation, it could be sent anywhere in an instant.

While the geo-synchronous satellite provided a key element, the ubiquity of communications relied, rather, on a synergistic amalgamation of interdependent networks. Terrestrial cellular (wireless) telephone systems connect among each other via cables and line of sight radios, and cross longer distances via satellite links. Television remote teams connect to their home stations via line of sight when locally remote or satellite during long distance separation, depending on terrain and availability of equipment. The Internet "rides" virtually every type of transmission media.

Ubiquitous communications impose a dilemma of sovereignty on states. They are capable of controlling where, within their territory, cables may be laid. Radio transmissions originating within their borders used frequencies under their control and allocation. States could — theoretically — exercise careful supervision over all transmissions leaving their territory. However, in doing so, they hamper the efficiency of the users of telecommunications, many of whom will be involved in international trade and finance of benefit to the state. The state can exercise its sovereignty and suffer in the international marketplace, or it can back away from sovereignty and participate.

*Territorial Control*

The states comprising the international system continued to be territorially defined and the development of ubiquitous communications did not change borders. Rather, one of the world's primary commodities in this era — information — routinely and constantly crossed frontiers, often without the knowledge of the state whose territory had been "violated." Telecommunications technology provided the means by which state residents, MNCs, and NGOs could "operate" within or across borders with virtual impunity, removing the significance of the territorial state over such actions. A particularly pertinent example comes from "remote sensing." For those states with the necessary technology, powerful sensors attached to orbiting satellites scan territory to map geography and obtain all types of resource information without any permission from the scanned region's government. The resulting information can be used to predict weather, produce maps, or seek data on another state's activities for intelligence purposes. Technology may produce a counter measure to "protect" against such action, but it is not likely in the immediate future.[19]

North Korea probably attempts the most draconian control of its territory from the influences of telecommunications. The state severely limits its citizenry's access to modern telecommunications technology. Basic telephone service is both limited and expensive and international calls are priced beyond the general population's means. The Internet is available only under controlled conditions. Still, people manage to make hazardous journeys into China where they purchase cellular telephones and service.

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[19]Herbert I. Schiller, *Information and the Crisis Economy* (Norwood, NJ: Ablex Publishing, 1984), 99-100.

Returning home, the Chinese cellular network signals cross North Korean borders and those telephones continue to obtain service, albeit, only in border areas.[20]

States maintained their responsibilities for those activities which remained purely domestic — common goods, police and law enforcement, and national security — but the borders did not exclude or prevent border crossing of other commodities. The "information revolution" finally completed the conversion of much of the world's financial transactions to purely electronic exchanges. Dollars, pounds, and eventually euros still provided units of quantification by which to "keep score" but an end point occurred in the future — true e-cash which has been predicted to threaten the very basis of the territorial state by removing state influence, control, or taxation over financial transactions.[21] While this prediction might be somewhat harsh, it forms a basis for further consideration. If a state has little or no control over currency transactions taking place within its domain, has sovereignty been lost? Perhaps, rather than lost, states in the future will no longer have domestically peculiar currency. If so it is the nature of sovereignty that changed rather than a level which has eroded. While traditional sovereignty included issuing coin of the realm, it may become unimportant in postmodern international society. The specific impact remains to be determined.

*Cultural Cross-Pollination*

Throughout history, cultures intermingled through trade, migration and conquest.

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[20]Howard, "The Real Threat to Kim."

[21]Stephen J. Kobrin, "Electronic Cash and the End of National Markets," *Foreign Policy*, no. 107 (1997), 65.

States, especially nation-states, often tried to maintain cultural purity by limiting that influence. In antiquity, cultural influence required travel. People — traders, immigrants, soldiers — had to travel to distant lands leaving some of their culture and returning with foreign influence. Telecommunications technology allows influence to be inserted into a foreign culture without any travel. States must either adapt to or repress the receipt of technical cultural influence. If sovereignty helps explain state behavior and states behave differently from past eras, sovereignty has changed as well.

Even before the emergence of mass communication, when influence relied on the "natural" forms of cross-pollination, cultural purity was something of a myth. Early in the twentieth century, the anthropologist Ralph Linton observed that no extant culture owed more than ten percent of its elements to members of its own society.[22] Put into other words, ninety percent of all cultural peculiarities result from cross-pollination.

Languages dynamically demonstrate cross-cultural influence. Most modern languages have adopted words peculiar to modern technology directly from the language of origin, usually English (or the American dialect thereof). The French are so concerned about the "pollution" of their language due to cultural cross-pollination that they "outlaw" the "importation" of foreign words and require new words, as necessary, to be "Franco-ified"[23] rather than simply adopted from a foreign language of origin. So what? The French particularly associate their language and nation (nation = people with a shared cultural heritage). Coalescence of society around common languages gave rise to the

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[22]Linton, *The Study of Man*, 325.

[23]David Hornsby, "Patriotism and Linguistic Purism in France," *Journal of European Studies* 28, no. 4 (1998), 362.

original European nation-states. In the modern, telecommunications dominated world, dominant culture — usually the US — wields its influence with near impunity. Linguists attribute the "borrowing" of words between and among languages as a legitimate evolutionary process by which the lexicon of a language adapts to new phenomena. In the postmodern world, however, where the borrowing often takes place from the US dialect of English, it is seen as a cultural threat.[24] Still, in language chauvinistic France, *le weekend* and *le drugstore* are universally understood terms.

State rulers — especially in absolute or authoritarian states — regard modern telecommunications and associated technologies as a mixed blessing. They usually want the benefits accompanying automation, telephones, and television. At the same time, they do not want the erosion of cultural integrity often included with "progress,"[25] especially since the influence is often seen as US based. Cross-cultural influence via commercial media is obvious to a modern traveler. Police in Beijing direct traffic beneath umbrellas emblazoned with McDonald's logos. Blue jeans-clad youth are everywhere. "Columbo" and "Baywatch" are known to television audiences throughout the world. Where US music, motion pictures, and television programs become so dominant, underpinnings of political culture ride along like remora. States might deny their populace local broadcasts of foreign television, but in many cases, the dam has been broken. Could it be cut off after the fact? Sovereign "protection" of national culture was probably always impossible due to natural human interface. Attempts to limit access to foreign media of all types, once broken, likely would be difficult to reclaim.

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[24]Rebecca Posner, *Linguistic Change in French* (Oxford: Clarendon, 1997), 163.

[25]Pool, *Technologies Without Boundaries*, 101.

The mythical nature of true cultural "purity" was always defeated as populations interacted by way of trade, migration, and conquest. Cultures intermingled and synthesized — cross-pollinated. Telecommunications technology accelerated the exact same process, taking it from the speed of its "state-of-nature," where changes appeared over generations, to a point where influence occurs in near realtime. The state has little ability to stop the rapid influx of cultural influence. Saudi Arabia forbids the import of Christian bibles, anything remotely connected to Judaism, and all media depicting nudity. Any Saudi citizen with a computer and Internet access (and enough ingenuity or money to get around government attempts to limit access) can find all of the forbidden material. Somewhat less blatant cultural influence, although neither as rapid nor as dynamic, finds its way through. A full body concealing woman's abaya purchased in Riyadh carries a label, in English, proclaiming the shop's name: "My Fair Lady." The western cultural influence is obvious, and the involvement of telecommunications and impact on sovereignty follows, logically.

*International Finance*

The world's markets began to merge as a result of the relative instantaneity provided by the telegraph. A century and a half later, deregulation of many domestic financial markets combined with liberalization of international capital flows made possible by telecommunications technologies linking computer networks results in a single, worldwide economy.[26] States no longer dominated their domestic economy. The

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[26]Sassen, *Losing Control,* 40.

economic system of the world became inseparable from domestic systems. In 1987, French economist Lionel Stoleru expressed it with complete accuracy:

> [N]ational economies turn round the international economy like the earth turns round the sun, and not the reverse. . . . Abandon the illusion of strictly national policies modified by international constraints and face today's reality. International policies modified by national constraints.[27]

Economic sanctions, in particular, hold potential for devastating consequences to the state excluded from the global market. Telecommunications enable movement of funds around the world, with a few strokes of a computer keyboard, the click of a computer mouse, or at the "low tech" worst, a phone call. The transactions often involve no state control, review, supervision, or taxation. As with other modern implementations, states could impose restrictions and review before the electronic transactions cross their borders, but the resultant difficulty would limit the states effective participation in the world's economy. Once again, the state must choose between "full" exercise of its sovereignty and the gains to be had from both expressed and tacit membership in the world's institutions.

The primary influence of telecommunications on international finance is in the realm of "electronic cash" or "e-cash" as the vernacular calls it. Totally reliant on a digitally networked global economy, e-cash is often viewed as a direct threat to the existence of territorial states.[28]

Traditional means of payment did not spontaneously erupt when some prehistoric financier smote the ground. It was an evolutionary process beginning with exchange of

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[27]Basil Blackwell and Samuel Eilon, *The Global Challenge of Innovations* (Oxford: Butterworth-Heinemann, 1991), 156.

[28]Kobrin, "Electronic Cash and the End of National Markets," 65.

goods. At some point, objects of value became a generic payment until precious metal — primarily gold and silver — settled in as the nearly universal media of exchange. Problems with movement of precious material gave rise to letters of credit and paper currency and set the stage for the modern evolution of electronic financial transactions. Acceptance of paper money required trust in the state responsible for issuing the script, or in some early cases, banking establishments. That trust did not automatically shift into the electronic world.

Electronic cash had its own metamorphosis through which to pass before larval electronic debit and credit systems gave rise to the adult butterfly of true electronic money. Credit and debit cards in routine contemporary use throughout the world are based on existing monetary systems. When used, funds are electronically transferred from the account of the user to the account of the merchant. Telecommunications technology is essential to the cards' use through nearly instantaneous verification as an integral element of the transaction. Next in the evolution of e-cash came the "smart card" — credit cards in which an embedded microchip carries inherent electronic means of verification along with available balance. However, credit, debit, and smart cards all represent a more convenient means of transacting financial transfers of "traditional" money. Banks still process the proceeds at the end of the day, albeit electronically without the exchange of actual specie. Banks in all states operate under some degree of government charter and supervision so that sovereignty still manifests in national finance. True electronic money, existing only in digital form stored in the memory of personal

computers or next generation smart cards, might not be backed by reserve accounts of "real" money.[29] Banks might cease to be an element in banking.

True digital money remains in the future of finance, but the foundation exists in electronic credit and debit transactions. Trust and verification are critical to any electronic financial transaction but once established, the title of the currency merits little concern. Rather than dollars, pounds, yen, or euros, "electronic credits" would work as well provided their value is known and understood by all concerned. What part do states play in this? Perhaps, none. Historically, only states and banks — and usually, state chartered banks — could garner the trust necessary for faith in currency. Should e-cash evolve into a viable alternative to traditional monetary transactions, it would constitute a *de facto* if not *de jure* single, international monetary system. To maintain any degree of control or regulation, states would be required to harmonize national monetary regulations and means of control.[30] Otherwise, independent e-cash issuing concerns (probably some variant of MNC) could elude any regulation and take on some elements of sovereignty, in this case, determining the coin of the realm to be used within multiple sovereign states. It could be argued that interconnected international currency exchange markets constitute a single international currency with multiple variants.

If electronic cash should emerge from the world's interconnected network — primarily the Internet — could state currencies survive? The Internet grew from a state sponsored program — the US Advanced Research Projects Agency (ARPA) — into an amorphous, international web with little state involvement in its expansion, growth or

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[29]Ibid., 67.

[30]Ibid., 76.

use.[31] Some analogies exist between the Internet, the anarchy of the international system of states, and the possibilities of an e-cash system free of state control. The Internet represents an anarchical international means of communications as a "network of networks" which is neither owned nor controlled by any single state, person, or entity. Protocols have been agreed to avoid chaos and ensure efficiency within the anarchy, but anyone with the technical wherewithal can connect to and exploit the system.[32] Many users of the Internet transfer money through its circuits. Consumers purchase day to day items for small amounts to be applied to their credit cards. Brokers buy and sell stocks involving large transactions. Currency traders exchange large amounts of money to buy and sell foreign script which never physically exists outside their computer memory. Normally, the funds involved are in the home currency of the user, but international transactions present few problems to sophisticated users. A purchase in pounds or euros appear on credit bills in dollars, in a simplistic example. Little imagination would be necessary to picture the eventual emergence of universal exchange of electronic "credits" — probably starting with the deposit of actual, traditional money, but leaving it behind at some point and becoming truly digital.

If taxation is a sovereign right of states, how will they determine the domestic value of an international electronic currency based solely on trust and verification? Could they exert any control over expenditures crossing their borders in pure electronic form? How would they fund state operations? Sovereignty might be under attack by weapons no

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[31]Jerry A. Goldstone, "Internet Celebrates Its Past and Forges Its Future," *Business Communications Review* 24, no. 10 (1994): 4.

[32]Douglas W. Vick, "Exporting the First Amendment to Cyberspace: The Internet and State Sovereignty" in *Media and Globalization: Why the State Matters*, ed. Nancy Morris and Silvio Waisbord, 3-20 (Lantham, MD: Rowman and Littlefield, 2001), 6.

more lethal than the electrons and magnetic charges making up electronic financial transactions.

In the US, an analogous situation points toward similar problems in the international commercial arena. The states and their local jurisdictions comprising the US federal system all have different programs for collecting taxes on retail sales. With increased sales via the Internet, state and local tax jurisdictions, of which there are nearly 8,000, complained about the annual loss of $15 billion in uncollected sales tax. A group of 42 US states formed the Streamlined Sales Tax Project (SSTP) in attempt to encourage, or perhaps coerce, on line retailers to collect sales taxes through simplified procedures. While the SSTP has had some success, it is unlikely to achieve full compliance without federal legislation for enforcement.[33] Taking the analogy to the international environment, anarchy still exists. No overarching means of enforcement exists and international taxation programs would require cooperation far beyond existing intergovernmental organizational structures. As states in the international system see their sovereign control over commerce changing, their surrender of control over taxation to an international entity would likely be seen as extreme.

The financial size of some MNCs already exceed the gross national products of many sovereign states. Using telecommunications to move fiscal assets, they already often avoid tax burdens by relocating the "focus" of their operations to tax friendly states. Telecommunications allow them to communicate with a distant "headquarters" across the

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[33]W. David Gardner, "States Line Up for Voluntary Internet Sales Tax Program," *Information Week,* May 19, 2005, http://www.informationweek.com/story/showArticle.jhtml?articleID=163105744 (accessed August 8, 2005).

world as easily as across a city or state. They seem to take on some elements of sovereignty.

*Sovereignty as a Whole*

As originally actualized, sovereignty existed in a world system where territorial states with nation based citizenship were the only actors. The Roman Catholic Church tried to participate as it had under the feudal system, but sovereign states controlled the limited membership to their exclusive club. As the number of sovereign states increased, the differences among them blurred in concert. By the Age of Ubiquitous Communications, the club was neither limited nor exclusive. The twentieth century's growth of a global economy, spurred on by the computer networks, telephones, television, and other elements of telecommunications technology, caused profound reconfiguration to the institutions fundamental to processes of governance.[34]

States, while still territorially defined, were under constraints from all manner of sources. Individuals and non-state actors in the international system made claims on states through both tacit and explicit regimes. The human rights regime provides a specific example. The Universal Declaration of Human Rights does not carry the "legally binding" status of an international treaty. However, it is cited so often in international law that it has ascended to the status of customary international law and observed as law — to the extent that international law can truly be treated as law.[35] Sovereign states find their exclusive authority to intervene coercively in domestic activities to be constrained

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[34]Sassen, *Losing Control*, xi.

[35]Ibid., 90.

by a tacit regime proscribing norms of behavior. Abuse of citizens, violations of human rights, even environmental damage are likely to be announced to the entire world as they happen. Of course, states may ignore the percepts of the regime but in doing so, risk the wrath of other states. International sanctions might be employed, but large powerful states could ignore them and possibly retaliate. Smaller states might find sanctions devastating. The norms of international law would not be applied with any consistency.

Much has been made of the effects on state sovereignty by international economic activity. Often, this is described as erosion of sovereignty. However, it is not the sovereign state that is being eroded. Rather, it is erosion of the central government's control of activities which have international consequences, especially economic activity. A synergistic union of sovereign states created an environment where international and mutually beneficial activities could flourish. States still impose organizing aspects on the international system despite the efforts of many members of the economic system to evade state control. Without the structure of states, the [purely theoretical] result would be an inconceivable anarchic chaos. States might function in a chaotic international system, but purely economic entities require the framework of organized monetary systems.

## Summary

The Age of Ubiquitous Communications began with communications available to much of the world, although in some cases limited to radio, telephone, and a vestigial telegraph cable network. At the era's beginning, the first geo-synchronous relay satellite doubled transatlantic telephone and television capacity. By the twentieth century's end,

geo-synchronous satellites, undersea fiberoptic cable, and terrestrial communications systems provided "connectivity" to most of the world. Concurrent to the development of ubiquitous communications, the sovereign state continued its social evolution to keep pace with the demands of world society.

States' various "coins of the realm" based on gold standards gave way to floating valuation which became dependent on telecommunications systems to tie them all together in one world economy. Independent markets began to merge with the introduction of the telegraph in mid-nineteenth century but reached virtual consolidation when computers in one hemisphere instantly relayed transactions to the opposite side of the world, and all points in between. An increasingly literate, aware, and technologically equipped populace found themselves exposed to cultural undercurrent from far away places; the residual influence which in the "state-of-nature" might have taken decades or centuries now happened in real time.

While this happened, states "absoluteness" waned. The telecommunications technology which provided a foundation for expansion of the world's media, economics, and culture also brought information across state frontiers with impunity. States found it necessary to relook, reevaluate, and in many cases, reconfigure the fundamental processes by which governance was accomplished. Yet states have remained sovereign.

Sovereignty has changed. States can rely on news of their actions being learned throughout the world moments after their occurrence. A requirement to consider world reaction to purely domestic conduct and events diminishes states' "...exclusive authority to intervene coercively in activities within its territory."[36] Attenuated or not, sovereignty

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[36]Thomson, "State Sovereignty in International Relations," 219.

remains. It is not like energy which can not be created or destroyed. Newly sovereign entities emerge such as Croatia. Once sovereign players such as Somalia exist within former territorial limits but without any "state" to exercise authority. The sovereignty of the USSR transferred seamlessly, if not painlessly, to the Russian Federation.

Hastened by telecommunications, sovereign states have changed. "Cultural purity," in all probability a myth at best, remains elusive. If populations want modern technology, information and ideas about other cultures comes along with it. If states desire the taxes and prosperity from a vibrant businesses environment, they must accept the telecommunications technology necessary for participation in the global economy which, in turn, requires easing of state supervision of funds, information, ideas, and concomitant cultural influence crossing borders.

Joining the international community, further, requires state participation in IGOs, all of which rely on telecommunications for routine functioning. Agreement to abide by the "rules" of IGOs — in essence, acknowledging the existence and validity of international law — removes some of the anarchy in the international system at the expense of "traditional" sovereignty. A circular dialectic continues — the more a state desires to participate in the international system, the less "freedom of action" it has. However, states remain sovereign.

Despite the erosion of their sovereignty, states still serve a vital function in organizing the world's international system. A true and pure capitalist — in economic system terms, or an equally die hard realist, in international relations theory terms — might suggest that states could confine themselves to maintenance of a domestic economic system to foster market forces which, in turn could take on other functions. However, in reality, it falls to

the state to build infrastructure, protect domestic tranquility, and preserve the "common good," especially where it serves the populace in general, but not specifically business interests.

The sovereign state survives.

# CHAPTER VII

# CONCLUSIONS

## Introduction

The original research question asked: In what ways does telecommunications technology affect state sovereignty? In answer to the question, the hypotheses set out in Chapter I proposed that the more telecommunications technology developed, the less states could control the passage of information across their borders, influence the international inflow and outflow of funds, and limit cultural penetration through foreign influence. A converse null hypothesis suggested that state sovereignty is unaffected by telecommunications technology. The methodology for analysis called for comparison of variables, across time, beginning with 1648 — the generally accepted date of the sovereign state coming into its own — and continuing to the present.

When the international system of sovereign states emerged in Europe during the seventeenth century, no telecommunications technology existed. Three and a half centuries later, sovereign states still constituted the primary element of international social organization, and ubiquitous telecommunications technology provided the infrastructure for worldwide, instantaneous transfer of information without regard to distance. Over this period of time, how had emergence and growth of telecommunications affected sovereignty? Initial review of the analysis suggests rejection of the null hypothesis. This chapter compares the analyses described in Chapters III through VI in response to the basic hypotheses set.

In previous chapters, the evolution of sovereignty was compared to the development of the telecommunications technology underpinning the ever increasing speed of information transfer over four distinct eras. Some impact between the two appears intuitively obvious and diachronic analysis would seem to confirm intuition's validity. This chapter specifically combines and presents the synergy of mutual influence between sovereignty and telecommunications technology.

Telecommunications technology (the independent variable) exerts influence on sovereignty (the dependent variable) through the intervening variable of information. In other terms, states find that their freedom to act with sovereign impunity to be limited by the necessity to consider international ramifications of their actions because knowledge of those actions will be internationally known rapidly if not instantaneously.

## Sovereignty and Society

Sovereignty is first, and foremost, an organizing principle for both domestic and international society.[1] During the Middle Ages, the era between the fall of the Roman Empire until the dawn of the Renaissance, which predates the time frame under study, European society organized around feudalism. However, with the Renaissance and associated enhanced rates of literacy, early mass media, and the increased availability of printed matter, society's organization evolved away from feudalism toward a system of sovereign states. Sovereignty was *thought into existence* to meet the needs of post-feudal society.[2] The initial Control Era for this study began with the emergence of an

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[1]Bartleson, *A Genealogy of Sovereignty*, 188.

[2]Knutsen, *A History of International Relations Theory*, 2.

international system of sovereign states following the Peace of Westphalia when no telecommunications existed. Throughout the initial control era, as well as subsequent telecommunications technology dominated eras, sovereignty continued to meet a number of societal needs. As with other forms of biological and social evolution, the process did not reach an endpoint and cease in 1648. Societies' needs changed, as did sovereignty to meet them.[3]

Initially, little was expected from the sovereign states. They might be expected to provide security in the form of freedom from fear of foreign invasion, develop a monetary system to support commerce, and in many cases, specify the means of religious practice. The absolute and unlimited power of the state, inherent within sovereignty's basic definition, was rarely challenged and the international system approached the nineteenth century as a strong and well established element by which the international system was organized.

Sovereignty's internal focus had always been the proverbial prince, but the American and French Revolutions wrested the power away and refocused it on the people. Other slow and less drastic processes, such as occurred in England, were moves toward removing the concentration of sovereign power from the "sovereign" or monarch and vesting it in the legislature. As societies evolved away from absolute monarchies and approached differing degrees of democracy, the organizing principle — sovereignty — might be expected to change along with it.

As the nineteenth century advanced, the international system of sovereign states remained centered on Europe but the walls surrounding the "closed club" were

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[3]Philpott, "Ideas and the Evolution of Sovereignty," 17.

crumbling. The Industrial Revolution was in full swing and demand for raw materials necessitated international trade and cooperation. In this environment, the telegraph made its debut. Movement of goods still took place at the prevailing speed of ground travel (at this point determined by ocean and terrestrial steam engines) but information about international transactions or diplomatic decisions could move in minutes or hours rather than days or weeks.

Governments, businesses, and individuals altered their *modus operandi* to incorporate telegraphic connections to transfer information over long distances. In a process that continues into the twenty-first century, each new advance was incorporated into societal functions. In the nineteenth century, the telegraph provided rapid exchange of information at ever increasing distance and speed. The telephone provided convenient exchange of voices but it would take further, related technical advances for it to reach distances comparable with the telegraph.

By the time radio emerged to augment telegraph and telephone at the turn of the twentieth century, international society was information dependent and states came to expect rapid knowledge of their actions to be available to friends, competitors, and enemies. At the same time, the number of states participating in the international system increased as well. Former colonies and *terra incognita* coalesced into defined national entities demanding self-determination, and the international system expanded with telecommunications technology interwoven with the expansion.

Societies constituting the population element of the sovereign state constantly change through a natural process of social evolution, with the process often enhanced or accelerated by telecommunications technology; in doing so, their expectations of

government evolve as well. By the twentieth and into the twenty-first century, populations in developed states looked to their own government for social safety nets and various social justice programs. In lesser developed countries, populations as well as the state looked beyond their own borders to IGOs and NGOs as the only likely sources of assistance. What role did information — the intervening variable — play as enabled (made possible) by telecommunications technology?

Much of people's expectations about the role of their state and its government may be attributed to increased awareness of their place in the world, and that is a product of information. As discussed throughout the preceding chapters, both distribution and transfer of information contributed to increased availability of information. State actions became known domestically and internationally unless determined efforts were taken to prevent it. The state-of-nature of information transfer can only be maintained artificially through repressive measures by a state desiring to limit the transfer of information by suppressing the use of telecommunications technology.

## Telecommunications and Sovereignty

Entry of telecommunications technology into the international arena caused states to alter their way of doing day to day business. Diplomats assigned to work with major trading partners, advisories, or potential enemies were no longer sent out on their own with a set of instructions and requirements to report via slow mail. Exploiting telecommunications technology, changes to diplomatic instructions and replies to them could be exchanged quickly. This might actually be considered a positive change to

sovereignty. States could exert their international influence directly rather than await long delayed exchanges of reports and instructions.

However, the interconnected world removed much control of other matters from state supervision. A state attempting to exercise sovereignty over telecommunications and information it carries has a difficult task. No argument exists over a state's right to manage and control the use of the electromagnetic spectrum emanating from within its borders. However, those electromagnetic waves do not stop at the borders. As the waves fall on other states' territory, interference is sure to follow unless spectrum use is coordinated. Active participation and membership in IGOs such as the ITU helps minimize potential chaos, but states limit their sovereign rights in return for the benefits of cooperation. Participation in the world's postmodern economy requires extensive, coordinated use of the spectrum and minimum contribution to the potential chaos. Therefore, states agree to the necessary limits on sovereignty in exchange for the functional benefits of international participation in actions requiring technical cooperation.

Means of information transfer which do not radiate, such as old fashioned cable or ultra-modern fiber optics have different characteristics in that the information content can neither cause chaotic electromagnetic interference nor can it be as easily extracted by unintended recipients. The state can forbid use of the technology, but once put into use, little if any supervision can be exercised over the information transferred. The sheer volume of data would require extensive investment in personnel for review which, in turn, would introduce unacceptable delays in delivery. The state might exert its sovereignty over telecommunications technology in order to limit the information passed

as is often attempted by North Korea. However, to do so minimizes effective communications and severely limits participation in the functioning of the postmodern world.

*Dominant Mass Media*

The dominant mass media within any era merit discussion in the domain of telecommunications because it provides the most obvious means for distribution of information to the populace. During the control era, mass media consisted of little more than local newspapers which were few in number due to increasing but still low literacy rates. Like all other information dependent elements of the era, newspapers relied on the speed of human travel to receive information to be published.

Newspapers maintained some degree of dominance in mass media throughout all of the eras under study and took advantage of each advance in telecommunications to increase the speed at which they could obtain data for publications. Still, until late in the final era, the newspapers themselves always moved at the speed of human travel. Of course, that speed increased from a few miles an hour — the proverbial speed of oxcart — to hundreds of miles per hour when aircraft delivery became available.

The first use of radio was technologically limited to "wireless telegraph" capable only of transmitting the same type of Morse Code used over telegraph wires. When voice radio developed in the 1920s to the point where broadcast systems were feasible, mass media had new elements of speed. With newspapers, rapid and nearly instantaneous transfer of information through telephone and telegraph then stagnated to await production in print. When received by news organizations, it could be broadcast without

delay (at the discretion of editors or station owners). True mass media had emerged — with particular emphasis on *mass*. The information moved at the speed of light and reached wide audiences. Advances in telecommunications technology expanded the mass media into every element of human activity. The Internet and various other computer and communications networks rendered distance irrelevant and distribution approached universal. Information could move across a city or across an ocean in microseconds.

The synergistic union of computers and telecommunications technology produced an amorphous, worldwide element of infrastructure for massive transfer and distribution of information — the Internet. Newspaper, television, and radio continued their traditional delivery and broadcast, but often the same information was "posted" on or "streamed" through the Internet. News, educational material, cultural information, and entertainment from one part of the world were all available, instantly, anywhere else on the globe. The dominant mass media were *mass media* and states had little control over any of them unless they attempted to suppress them all.

*Telecommunications*

Telecommunications have evolved through numerous iterations from rudimentary point to point telegraph connections in the nineteenth century to the ubiquitous Internet. States have been required to contend with information crossing their borders but they have also exploited the capabilities for their own use. The technical difficulty surrounding interception and monitoring data crossing borders has not prevented states from continuing long established attempts to determine the content of messages. Rarely discussed openly, intelligence gathering is generally acknowledged as a state's sovereign

right, or even duty. Ubiquity of telecommunications along with countermeasures to prevent intercept and monitoring, however, continually make the process more difficult. As telecommunications technology develops, so do the attempts to develop technical means by which to intercept the information. State attempts to find out what information was crossing its borders continue as they had for centuries.

Development of telecommunications has been continuous, as a cursory look at its history shows. The next step, perhaps, is more difficult to predict. Early twenty-first century telecommunications would truly seem to have earned the title of "ubiquitous." Citizens of nearly all countries have the ability to use a cellular telephone to talk, exchange messages, or access the Internet from, and to, anywhere in the world. Again, states might make attempts to monitor the cacophony of data in search of any with sovereignty damaging potential but the magnitude of such a task limits its potential. The next step in the technological evolution may completely remove any potential for the state to control information, cultural influence, or exchange of funds across its borders.

*Territorial Control*

The sovereign state was born a territorial entity and territory remains an essential element of the modern state. States have always defended their borders against military incursion, tax evading smugglers, and unwanted immigration. Traditionally, such border control is a police or military responsibility limited by little more than a state's ability to deploy adequate forces. In this context, the emergence of telecommunications technology likely enhanced a state's control of its borders. As communications would become a

"combat multiplier" in warfare, it would provide similar enhancement to the process of border control.

However, when telecommunications are used to transfer information across frontiers rather than things or people, control becomes more difficult and approaches impossible. Early attempts by France and Prussia (Chapter II) to control the content of telegraph messages entering and leaving their territory proved feasible but at the expense of unacceptable delay to the messages and high personnel costs. Later technologies have the same disadvantages magnified by orders of magnitude. Sovereign "rights" of states might permit them to control electronic data but technology does not provide any practicable method by which to exercise that right. Rather, states must adapt to the international environment where information, as a commodity, circulates throughout the world without state supervision. Uncontrolled movement of information does not necessarily threaten the territorial nature of the state, but state action must adapt appropriately. Terrorism, however, inserts an exception into the situation. Ease of information transfer facilitates all types of potential hostile attacks, but terrorists are particularly capable of capitalizing on the technology to pursue their ends.

Because of the territorial nature of the state and the limits it puts on the exercise of state power, their sovereign absolute and unlimited power stops at the border unless offensive attack, invasion, or conquest is contemplated. All types of technology, especially transportation, combined with the modern nature of territorial borders, however, opens a particular vulnerability to threats from terrorism. It is not, specifically, the motivations of terrorists which has an impact on states and their sovereignty. Rather it is the limits on the state's freedom of action in response to terrorism that prevents

fulfilling sovereign duties to provide security for the population.[4] If the state is attacked by a non-state terrorist organization, what are the options for response? In the case of the September 11, 2001 attacks on New York and the Pentagon, the US responded by attacking Afghanistan and Iraq. Subsequent terrorist attacks in Spain and the UK provided no "convenient" target for state response, and no obvious path for states to follow in pursuit of the perpetrators and to reestablish security.

As with other "transsovereign" problems, terrorism exploits the open society, open market and available technology which facilitate the legal cross-border movement of goods, people, and especially, information.[5] The telecommunications technology underpinning the Internet combined with modern society's reliance on computers also provides particular vulnerability to "cyber-terrorism." Doomsayers have long predicted the US or another industrialized society being brought to its metaphorical knees by computer virus, worms, or Trojan Horses. While no such catastrophe has yet reached international proportions, numerous "lesser" attacks to computer networks have shut down municipal communications systems and disrupted business.

A classic definition of "security" suggests that "a state (or its leaders and citizens) believes itself secure when it fears that nothing adverse can be done to it by other states or by other foreign non-state actors."[6] In a society dependent upon computer networks for day to day functions, attacks on those networks surely fall into the category of "adverse"

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[4]David E. Long, "Countering Terrorism beyond Sovereignty," in *Beyond Sovereignty: Issues for a Global Agenda*, ed. Maryann K. Cusimano, 96-108 (Medford, MA: St. Martin's, 2000), 96-97.

[5]Ibid., 97.

[6]Joel Krieger, ed., *The Oxford Companion to Politics of the World* (New York: Oxford University Press, 1993) s.v. "Security."

actions. Individuals with no agenda beyond catastrophic mischief have disrupted systems. If an organized terrorist group obtains the necessary technical acumen, the threat may become as real as a hostile, lethal attack. How does the state protect its citizens against such a threat? Conventional sovereign statecraft provides few courses of action. Terrorist groups are not participants in the pursuit of security, or of peace, as practiced by states. A focus of sovereignty becomes development of technology for protection against non- state threats which might be violent or cyber-based. Terrorism drove another change in the nature of sovereignty to emerge.

The state remains a territorial entity. Domestic sovereignty is exercised much as it ever was but control of information eludes even the most technologically savvy of states. Control of actual crossing of borders by people or cargo can still be attempted. Every state has procedures to control immigration, and cargo control becomes limited by sheer volume. Smuggling to avoid both immigration restrictions and freight import duty remain police and military actions.

*Cultural Cross-Pollination*

Intercultural influence has existed for as long as human society supported more than one culture. The natural process occurred as a result of normal interactions such as trade, migration, and conquest. In its "state-of-nature," intercultural influence took place as traders visited other societies and returned with stories about how others lived. In the case of migration or conquest, the travelers often remained and attempted to introduce their own ways into a distant culture. Intercultural exchange took place as a result of human travel at the associated speed of human movement.

Telecommunications technology, especially in its later, ubiquitous incarnations, changed the speed at which the influence could take place between cultures. Cultural influence no longer requires any international travel. Extensive availability of direct broadcast satellite television, wide distribution of digital video disks, Internet exchange of information, and a synergistic union of media accelerated evolutionary processes. Impoverished cultures often have access to television which shows them how the rest of the world lives (valid or otherwise). It remains to be seen how that will affect cultures of the future, but dominant cultures — especially American in the late twentieth and early twenty-first centuries — may subsume any number of others. Police in Beijing directing traffic under an umbrella with McDonald's logos, as a case in point, demonstrate the concept. This may be a result of aggressive marketing by McDonald's, but telecommunications technology provides Chinese people with their perception (again, valid or otherwise) of US culture, the "desirability" of "all things American," and provides the corporate structure with the ability to maintain its worldwide distribution of products.

Without the underlying telecommunications technology, some of the same influences might exist but slower in process and lower in intensity. With the technology, the culture which most successfully exploits the advantage will appear to dominate, and possibly endanger others. How might it affect sovereignty? One of the three key elements of the sovereign state, a population identifying itself with that state, might find dissatisfaction with their identity. They might see how other people in other societies live and function and demand similar benefits (real or perceived). The state may wish to isolate its populace from "undesirable" cultural influence but find itself virtually powerless to do so.

*International Finance*

Telecommunications technology made "internationalization" of the world's finance systems possible. Interconnection of geographically separated markets began with the introduction of international telegraph. Later, ubiquitous communications throughout the world permitted nearly instantaneous transfer of currency transactions based not on any preset value by the state, but rather, on the actual rate used by sellers and purchasers. The sovereign state's control over domestic monetary systems, as a result, was subjugated to the whims of Adam Smith's "invisible hand" of the international market. States might attempt to maintain a high level of their currency exchange rate by offering a higher than market price, but in doing so, they were participating in, rather than exerting control over, the international trade regime. Similarly, all international trade succumbed to instantaneous and universally available information about the cost of goods, services, stock shares, and any other commodity bought or sold on the open market. States had little control over international financial transactions which might directly affect them.

When the international system of sovereign states emerged in the seventeenth century, mercantilism dominated approaches to finance. State programs focused on extracting the maximum possible amount of gold from foreign lands while exporting as little precious metal as possible. Subsequently, the Industrial Revolution and Adam Smith's invisible hand of the market suggested removing any goals of self-sufficiency and acknowledgment of the necessity for mutually beneficial international trade.

International transfer of funds had been going on for centuries and provided the emphasis for many advancements in the development of monetary systems. While not an unusual process, it was accomplished on an as needed basis. Feeding the voracious

appetite for raw materials in support of the Industrial Revolution, however, required a steady stream of international transactions. Various industries had always required international sources of supply but as it approached "normal" it resulted in degrees of interdependence.

As the need to transfer funds internationally evolved in concert with developing interdependence, the financial community exploited the benefits of developments in telecommunications technology. As with other "users" of the world's telecommunications infrastructure, the financial community found ways to relegate financial data to the realm of information in formats transferable initially by telegraph and later by the further developments. At the end of the final era, the international financial system allowed for funds to be moved around the world with virtual impunity. Funds require quantification; transactions must specify the value of the "money" involved. Any of the world's viable currencies could be specified although most international transaction take place using the US dollar, British pound sterling, EU euro, or Japanese yen. The actual unit of currency is of little consequence as long as all parties to the transaction acknowledge the value.

Globalization — perhaps euphemistically described as interdependence on steroids — became reality as mutual dependency among states grew. As discussed earlier, no state can survive in isolation with total self-sufficiency. Import of some raw materials is essential to industry and foreign markets are necessary for a dynamic economy. However, MNCs existed solely to produce profit and often removed any state loyalty they may have had in pursuit of tax advantage and maximum return on investments. Telecommunications allowed them to move funds from one sovereign jurisdiction to

another to avoid the taxes on which states rely for their existence. Extraction, purchase, and transport of raw materials has been in progress for centuries, but sophisticated manufacturing processes rely on timely arrival and predictable prices. International distribution of finished products also relies on advances in transportation which are enhanced, carefully controlled and made more profitable by close corporate supervision. Through telecommunications technology, that supervision often emanates from locations with long distance separation from the actual process.

This globalized situation in which MNCs appear to thrive further removes them from specific state identity. With corporate headquarters located in a "tax friendly" state, production situated across the world among people with low expectation of wages, and distribution of final products based on convenient delivery to end users, national identity and state loyalty do not figure prominently in profit based decision making. Diversification of assets brings the MNCs into play in the international system not as sovereign elements, but entities with which sovereign states must contend.

Without the ability to move money around the world with virtual impunity, global pursuit of profit could not thrive as it has. MNCs with corporate budgets higher than gross domestic products of many sovereign states have begun to impose themselves as players in the international system. While they do not posses true elements of sovereignty, their financial influence can not be ignored by many states, and in fact, many states court them obsessively to gain economic benefits of employment and trade.

*Sovereignty as a Whole*

Regardless of the presence of influential MNCs or the "pooled sovereignty" of IGOs,

the sovereign state remains the key player in the international system. The Realist theoretical argument might discount the influence of other actors, but in an era of globalism, the impact of IGOs, NGOs, and MNCs can not be ignored. The realist school of thought has been under assault in recent times.[7] Among the lines of attack, its detractors argue that states are not as important in world politics as realists would assume; that they may in fact be eclipsed in influence by a variety of non-state actors placing the future of sovereignty upon which states are built into serious question.[8] The study carried out in pursuit of the research question shows otherwise. The sovereign state remains a player in the international system. Virtually every state has agreed to some limits on sovereign rights in return for the benefits of active participation in the world community. States agree to control use of the electromagnetic spectrum radiating from within their borders to minimize interference with other states through the ITU. Similar functional agreements "push back" anarchy in aviation and mail regimes.

Telecommunications technology is necessary for the day to day exchange of information required in a complex system of states to organize market functions and ensure international cooperation. Technology, and the information reliant thereon, particularly permits, enables, or accelerates evolution toward some sort of "common denominator" in currency and culture. Ever increasing use of charge or debit cards tends to make individual currencies irrelevant. The ability to transfer funds electronically without ever making physical contact with money further points toward some common

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[7]Ethan B. Kapstein, "Is Realism Dead? The Domestic Sources of International Politics," *International Organization* 49, no. 4 (1995): 752.

[8]Jeffrey W. Legro and Andrew Moravcsik, "Is Anybody Still a Realist?" *International Security* 24, no. 2 (1999): 7.

currency — e cash. American products can be found advertised and for sale in virtually any large city in the world in local currency. The telecommunications technology that carries the US culture may, or may not, cause it to subsume others, but its influence is domineering. However, despite the large industrialized states' domineering presence in the world, the sovereignty of other states remains.

State behavior, and therefore, many elements of sovereignty have changed over the proceeding three and a half centuries. Trading blocks, IGO memberships, and functional organizations, have caused the voluntary "surrender" of some sovereign control. Telecommunications technology may be creating an environment where a single — or a few — currencies will quantify the world's financial transactions. Mass media require that states consider their actions before the fact because the world will know about them in a virtual instant.

Yet the sovereign state remains. The basic definition of a state specifies three mandatory elements: a sovereign government, a population, and territory. Telecommunications may make distance irrelevant in the transfer of information and permit territorial "violation" which may not be favored by the state, but the territory remains defined by the state and acknowledged by the system of states. Cultural influence may expand the population's identity from purely national (German, for example) to regional (European, to continue with the same example), but some degree of national identity remains. The sovereign government controlling the state may have different parameters for its exercise of absolute and unlimited power when compared to eras long past, but it still has domestic responsibilities to establish and maintain infrastructure and provide for security of its citizens, as well as participate in the

international system. MNCs might establish security forces or build roads, schools, and common goods when it serves their profit potential, but they can not be relied upon for unprofitable service to the populace's universal well being. The sovereign state will remain until society, and the needs of society, dictate the creation of a viable alternative as an organizing structure.

The last time society needed a fundamental change in the organizational nature of the international system, feudalism gave way to sovereign states. The economy had changed and began the evolution of a vibrant middle class. New organizations, institutions, and ways of thinking developed in concert with the changes. The sovereign state won out as the primary international organizing factor. In the twenty-first century, similar parallels exist. The economy has gone through a metamorphosis away from a focus on "goods" and toward information, technology and services, all of which rely far less (if at all) on territorial control. The means of production, supporting capital, and labor are no longer fixed, as they were in the past and have become quite mobile. States with governmental systems spanning a wide variety of philosophies — ranging from democratic republics, to theocracies and residual authoritarian regimes — all court foreign direct investment which is capitalistic in nature.[9] The annual budgets of many MNCs exceed the gross domestic products of some sovereign states. The world might seem ripe for another cataclysmic change in the international system.

NGOs, IGO, MNCs, and perhaps some additional category of international entity are insinuating themselves into the international system as "players," if not "actors" on an

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[9]Maryann K. Cusimano, "Sovereignty's Future: The Ship of Theseus and Other Conclusions," in *Beyond Sovereignty: Issues for a Global Agenda*, ed. Maryann K. Cusimano, 311-331 (Bedford, MA: St. Martin's, 2000): 317.

equal footing, with states. Transsovereign problems carry the potential to extend beyond resolution by states. The states become mediators, facilitators, and persuaders to develop solutions to transsovereign problems,[10] but often without the means to solve them without non-state assistance. State institutions, developed to support historically conventional approaches to the international system, may require reorganization and modification to accommodate new roles. However, rather than a loss, or reduction of sovereignty, this might be classified as an "expansion" of sovereign duties or requirements. The state still maintains it place as an international organizing factor. States continue to posess and the ability to use hard and soft power. Further, no viable alternative has emerged to replace sovereignty and its manifestation in the state. Telecommunities, trading states, or other pseudo-state concepts may take on some elements of sovereignty, but they lack the all encompassing responsibilities and power of the sovereign state.

## Conclusions

Sovereignty is a theoretical concept. As such, it consists of a series of statements, or hypotheses which explain observed phenomena. The archetypical sovereign state, with [tele]communications in its peculiar state-of-nature, functioned in an environment where news of its actions, both domestic and international, took time to reach other competitors, friends, and enemies. As the concept of sovereignty developed to describe observed behavior of states, it was based on this state-of-nature.

As the distribution of information broadened through the use of mass media, and transfer of data increased due to telecommunication, states' actions became known more

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[10]Ibid., 329.

rapidly across — and even beyond — their area of influence. Decision making had to include the results of rapid (and eventually immediate) news transfer. The most parsimonious of theories of sovereignty have room for states altering their behavior based on their pursuit of courses of action in the best interest of the state. However, the fact that a state must alter, adjust, or limit its actions based on external concerns indicates impact on sovereignty. If sovereign states no longer "behave" in concert with the theory, it is not necessarily sovereignty that is different, reduced, or eroded, it may well be that the theory requires revision. As a social construct, sovereignty meets the needs of society — both domestic and international. Society has changed since 1648 and states may just as likely have changed as well. Sovereignty may still exist but the hypotheses which help explain state behavior may require revision to continue to be relevant.

States no longer await days, weeks, or months for news from other parts of the international system. In the twenty-first century, distance has little effect on the speed of information transfer; it can travel to the farthest corners of the world with virtual instantaneity. Although the international system is still in anarchy, telecommunications technology and the resultant transfer of information provide new tools for states to use within the anarchical system. They have positive, instantaneous control of their diplomats and forces under their control throughout the world.

One necessary element of the state is its population. If the state serves the population then the culture of the people becomes a sovereign concern. Telecommunications technology and information transfer act as a catalyst and accelerate the natural processes of social evolution. Various electronic media provide instant exposure to cultural influence which, historically, was accomplished through trade, migration, and conquest.

Is the sovereign state in competition with anything? Telecommunications technology allows IGOs and MNCs to take on some sub-elements of sovereignty; they have a bureaucratic or organizational structure which performs many of the functions of a government; they have employees with a loose identity; and some degree economic control over finance which approaches establishing a currency. Such organizations, however, exist to pursue the goals of their founding treaty or charter; in the case of IGOs and NGOs, or in pursuit of profit with MNCs. Further, they fail to meet the territorial control element of the state.

The US dollar, the British pound sterling, the newly emerged euro, and the Japanese yen have all been used as a form of international currency because their value is more trusted than many other domestic currencies. Does this spell and end to sovereign "coins of the realm?" If so, does it affect sovereignty?

As the international movement of money via telecommunications becomes more routine and "e-cash" nears reality, state currencies may decrease in importance. If an internationally accepted form and quantification of e-cash should gain worldwide acceptance, state peculiar currencies may survive for domestic transactions. The sovereign state acts in its own best interest. It does not necessarily affect sovereignty if the state determines it to be in its own best interest that its coin of the realm should be one produced elsewhere.

The sovereign state, defined by territorial limits, will remain a significant player in the international environment. While other entities such as MNCs, IGOs, NGOs, trading blocks, or even somewhat ethereal telecommunities might begin to take on some elements of sovereignty, there is still a place and a necessity for the state. Other

international actors are driven by self-centered interests, primarily profit. States are concerned with security. Will other entities establish security forces to protect all citizens and elements of the state, not just profit related entities? Who will build the roads to unprofitable areas? Establish an egalitarian school system? Provide the community with common goods?

Because of the presence of other actors, the state may see its application of power diminished, or changed, but its significance as the territorially-oriented sovereign entity remains. Other participants in the international system such as MNCs, IGOs, and NGOs have narrow interests which can not rival the requirements, responsibilities, and power of the state. The theory describing the concept may well require revision, but the international system will remain in an anarchic situation. Other actors will become more influential as ubiquitous telecommunications technology allows virtually instantaneous movement of information. As globalization necessitates deeper and deeper cooperation in pursuit of prosperity, perhaps the anarchy will be "pushed back" a little as the "norms" of cooperative behavior become established and coalesce further a body of international law.

Although the concept of sovereignty represents a mature element in the discipline of International Relations, further research is indicated as technology of all types, but especially telecommunications, continues to evolve. As citizens' expectation of the governmental element of the state changes, the impact of technology can not be ignored. Sovereignty remains an organizing element but it coexists with increasing power and significance of MNCs, IGOs, and NGOs.

This study points to conclusions about effects on sovereignty, but the conclusions require differentiation between changes in sovereignty and a serious diminution of sovereignty. Returning to the basic definition of sovereignty — the absolute and unlimited power of the state — "reduced" or "diminished" sovereignty would be reflected in an inability to exercise state power. In terms of hard power, diminution would reflect the state's inability to use military or economic assets in pursuit of its best interest in either domestic or international roles. This would require restraints on the ability to accomplish state functions such as pursuit of national security, engaging in international agreements and recognition among the community of sovereign states, or a lack of international recognition that it has the exclusive right to intervene coercively in activities within its territory. While soft power accounts for a significant element of the state's total national power, diminution would require some means by which a state was prevented from using its inherent culture, values, and ideas to convince others of the validity of or need for cooperation

Short of outright conquest by another state, or perhaps in some extreme (approaching imaginary) situation where a non-state entity, such as an MNC, might exert exceptional control over a government, sovereignty will exist in some form until destroyed.

In comparison to diminution of sovereignty are changes in sovereignty caused by external stimuli, in the case of this study, of course, by information as enabled by telecommunications technology. Here, telecommunications technology enabled the movement of information throughout the world at increasing speeds until distance became an irrelevant factor. If the state participates in international trade or economic activity, its domestic market becomes an integral part of the single, world economy,

linked by telecommunications with immediate, worldwide transfer of information about its decisions and actions. A domestic economic decision may be reflected in the world's market with international ramifications. Cultural influence, transferred across borders via various electronic means, could potentially alter some elements of a state's soft power. A change in or subsumation of cultural elements would change the values on which it attempts to exert soft influence on others in the international system.

The foregoing study has not identified evidence of impacts on sovereignty resulting in diminution. Rather, the effects of information enabled by the evolutionary developments of telecommunications technology result in modification of sovereign states' behavior. They are still sovereign by classic definitions. However, as members of the international system of sovereign states, and more importantly, as participants in an ever-increasingly interdependent world community, states modify their behavior to fit the needs of modern society. They still pursue security and self-interests but with information about all states' actions moving throughout the world at the speed of light, state behavior must consider, accommodate, and where possible, exploit the information-based environment of the future.

Changes to sovereign state behavior do not necessarily indicate a loss of sovereignty. They do, however, suggest that the natural social evolutionary process has resulted in a necessity for review of some elements of the theories which describe and explain state activities. Future developments in telecommunications technology can be expected, even relied upon. Consequently, states' territorial borders may be expected to become invisible and inconsequential to information transfer. It does not mean that the borders

disappear. The sovereign state will survive well into the foreseeable and imaginable future.

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