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Harold Innis and the Empire of Speed

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Abstract. Increasingly, International Relations (IR) theorists are drawing inspiration from a broad range of theorists outside the discipline. One thinks of the introduction of Antonio Gramsci's writings to IR theorists by Robert Cox, for example, and the 'school' that has developed in its wake. Similarly, the works of Anthony Giddens, Michel Foucault, and Jurgen Habermas are all relatively familiar to most IR theorists not because of their writings on world politics *per se*, but because they were imported into the field by roving theorists. Many others of varying success could be cited as well. Such cross-disciplinary excursions are important because they inject vitality into a field that—in the opinion of some at least—is in need of rejuvenation in the face of contemporary changes. In this paper, I elaborate on the work of the Canadian communications theorist Harold Innis, situating his work within contemporary IR theory while underlining his historicism, holism, and attention to time-space biases.

Introduction

One of the more refreshing developments in recent International Relations (IR) theorizing has been the increasing willingness among scholars to step outside of traditional boundaries to draw from theorists not usually associated with the study of international relations.[1] My own expeditions in this respect have been in the communications field, where I have drawn from an approach called 'medium theory.' Writers generally associated with this approach, such as Harold Innis, Marshall McLuhan, Eric Havelock, and Walter Ong, have analysed how different media of communications affect communication content, cognition, and the character of societies.[2] In a recent study, I modified and reformulated medium theory to help

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[1] See, for examples, Robert Cox. 'Social Forces, States and World Order: Beyond International Relations Theory', in Robert O. Keohane (ed.), *Neorealism and its Critics* (New York: 1986); Stephen Gill (ed.), *Gramsci, Historical Materialism, and International Relations* (Cambridge, 1993); Alexander Wendt, 'The Agent-Structure Problem in International Relations Theory', *International Organization* , 41 (1987), pp. 335–70; James Keely, 'Toward a Foucauldian Analysis of International Regimes', *International Organization*, 44 (1990), pp. 83–105; and Richard K. Ashley, 'Political Realism and Human Interests', *International Studies Quarterly*, 25 (1981), pp. 204–236.

[2] Harold Innis, *Empire and Communications* (Oxford, 1950); Harold Innis, *The Bias of Communications* (Toronto, 1952); Marshall McLuhan, *The Gutenberg Galaxy* (Toronto, 1962); Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York, 1964); Eric Havelock, *Preface to Plato* (Cambridge, 1963); and Walter Ong, *Orality and Literacy: The Technologizing of the Word* (New York, 1982).

understand the relationship between large-scale shifts in modes of communication and world order transformation.[3] There I focused on the way the parchment codex supported the rise of the Roman Catholic Church in the early Middle Ages; the role of the printing press in the medieval-to-modern transformation of political authority; and the impact of the hypermedia environment on contemporary changes of world order. In that study, my primary interest was in communication technology and world politics. Here I take a step back, so to speak, to focus on more general contributions that an exploration of the work of one medium theory scholar in particular—Harold Adam Innis—can have for IR theory.

Innis' scholarship deserves scrutiny by IR theorists for a variety of reasons. First, he is a world order theorist, interested in the constitutive features of civilizations and how these features come into being and are transformed.[4] Although his work is much too diverse to pigeonhole, it is probably fair to say that one of Innis' overarching concerns was with the dynamics of large-scale social and political change. Such a focus is particularly appropriate today when the modern system of sovereign states is thought by many to be undergoing transformation. Unlike many of the mainstream theorists John Ruggie chastises for failing to conceptualize change, Innis' work provides a rich vocabulary of fundamental transformation.[5] Innis would be well at home in contemporary discussions of the collapse of the Soviet Union and the end of the Cold War, the 'unbundling' of sovereignty, and the significance of globalization.

Second, Innis' work covers a broad range, historically, geographically, and philosophically. Innis had a special dislike of academic specialization, and often pronounced against the artificial separation of the social sciences.[6] Writing in the 1930s, 1940s, and 1950s, Innis was an advocate of inter-disciplinarity long before it was fashionable—indeed, when the prevailing intellectual currents were oriented in precisely the opposite direction. Such anti-compartmentalization was fundamental to Innis' approach, which falls into a genre that is perhaps best captured by what Charles Tilly calls 'world-historical' research.[7] In probably his most well known study, *Empire and Communications*, for example, Innis moves from Ancient Sumeria and Egypt to the Middle Ages, from the Greece of Plato to the Germany of Hitler. Earlier works that focused on the explorations of the 'New World' cover in detail the events of centuries. For Innis, as for Fernand Braudel, the *longue durée* was his preferred level-of-analysis.[8] Such a broad historical sweep and inter-disciplinary approach is crucial for putting into perspective the significance and character of contemporary world order transformation.

Third, Innis' scholarship deserves scrutiny because it is relatively unknown to the mainstream in IR theory and political science generally, particularly in the United

[3] Ronald J. Deibert, *Parchment, Printing, and Hypermedia: Communication in World Order Transformation* (New York, 1997).

[4] For definitions and studies of 'world order,' see Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* (London, 1977); and Robert Cox, 'Towards a Post-Hegemonic Conceptualization of World Order', in Ernst Otto-Czempiel and James Rosenau (eds.), *Governance without Government: Order and Change in World Politics* (Cambridge, 1992).

[5] See John Gerard Ruggie, 'Territoriality and Beyond: problematizing modernity in world politics', *International Organization*, 47 (1993), pp. 139–74.

[6] See Innis, *The Bias of Communications*, pp. 203–214, among other sections.

[7] Charles Tilly, *Big Structures, Large Processes, Huge Comparisons* (New York, 1984).

[8] Fernand Braudel, *On History* (Chicago, 1980).

States. If Innis is cited at all, it is only done superficially and without a clear explication of his original contributions.[9] Part of this lack of attention might be due to Innis' notoriously dense and unusual writing style. As Paul Heyer has commented:

> Often whole arguments are encapsulated in a single sentence or phrase. At best, insightful aphorisms can be frequently discerned. At worst, contradictions overwhelm the reader hoping for at least a modicum of scholarly consistency. There is considerable ambiguity and meandering narrative; a promising insight or argument will be raised and suddenly disappear, only to resurface later in the text.[10]

Heyer goes on to describe how the posthumously published *Idea File*, which is actually a random collection of Innis' notes and jottings, has a striking similarity with the formal texts Innis published in his lifetime.[11] Although most have described Innis' prose in negative terms such as these, one of Innis' more famous students, Marshall McLuhan, enjoyed and even adopted his style himself. According to McLuhan, Innis intentionally 'presents his insights in a mosaic structure of seemingly unrelated and disproportional sentences and aphorisms.' 'Each sentence is a compressed monograph.'[12] Whether intentionally cultivated or not, there can be little doubt that it is difficult to wade through Innis' dense prose. Certainly this trait deflected more than a few first-time readers from further investigations of Innis, particularly because his later writings on communications are both the most well known *and* cryptically written. As I intend to show below, however, several consistent threads run through Innis' entire body of work (including his earlier studies on railways, fisheries, and furs) that set it apart as a unique contribution. Despite the impenetrable style, Innis staked out a formidable position on world history and politics that should warrant his consideration by IR theorists.

Rather than undertake a biography of Innis' life or a chronological summary of his main works, in what follows I will excavate three 'meta-theoretical' traits running through Innis' writings, linking them to contemporary debates in IR theory. Specifically, these are his thorough historicism, his skilful combination of material and ideational factors, and the importance he attaches to the biases of space and time in understanding empires and civilizations. This will help situate Innis more clearly in the IR field, and hopefully offer some new and interesting ways of thinking about the study and practice of world politics. As I will argue below, Innis does not fall comfortably into any of the standard typologies of IR theory schools. Critical of the type of ahistorical theorizing that characterizes the rationalist mainstream, yet too materialist to be fully aligned with social constructivism and postmodernism, Innis provides an interesting and novel bridgehead to what I call an 'ecological holist' perspective on world politics.

[9] Two notable exceptions that prove the rule are Robert Cox and Edward Comor, both of whom are Canadian and published essays on Innis in Canadian journals. See Robert Cox, 'Civilizations: Encounters and Transformations', *Studies in Political Economy*, 47 (1995), pp. 7–31; and Edward A. Comor, 'Harold Innis's Dialectical Triad,' *Journal of Canadian Studies*, 29:2 (Summer 1994), pp. 111–127).

[10] Paul Heyer, *Communications and History: Theories of Media, Knowledge, and Civilization* (New York, 1988), p. 114.

[11] William Christian (ed.), *The Idea File of Harold Adam Innis* (Toronto, 1980).

[12] Marshall McLuhan, 'Introduction', in Innis, *The Bias of Communications*, p. ix.

Bridging the 'early' and 'late' Innis

Born near Toronto, Canada in 1894, Harold Innis' route to academia began with undergraduate work at McMaster University followed by a Ph.D. in economic history at the University of Chicago, and then a return to Canada with an appointment to the Department of Political Economy at the University of Toronto. Remaining at the University of Toronto for his entire academic career until his death in 1952, Harold Innis produced numerous articles and several books, including *The Fur Trade in Canada*, *The Cod Fisheries: The History of an International Economy*, *Empire and Communications*, *The Bias of Communications*, and *Changing Concepts of Time*.[13] Most commentators divide Innis' body of work into two distinct phases: the 'early' phase comprises books and articles that focus on trade in staples, primarily in Canada, while the 'later' phase is characterized by Innis' forays into communications in *Empire and Communications* and *The Bias of Communications*.[14] However, such a neat division is probably more a reflection of the different ways Innis has been appropriated by later scholars than by anything inherent in Innis' writings. Those who have concentrated on Innis' so-called 'early' phase have tended to read him as a proto-dependency theorist whose 'staples-thesis' shows how the economic and political development of raw-material exporting countries like Canada was shaped by dependence on large importing countries such as Great Britain and the United States.[15] Those who have concentrated on Innis' later writings on communications, on the other hand, have usually come to Innis via the writings of his student Marshall McLuhan, and have largely ignored his earlier works on staple production.

The artificial division between the 'early' and 'late' Innis also obscures important continuities that weave their way through all of Innis' writings. For example, through both 'phases' one can read in Innis a very pessimistic view of technology, particularly regarding the inventions of 20th century mass media, which Innis said, 'have produced a state of numbness, pleasure, and self-complacency perhaps only equaled by laughing gas.'[16] His admitted bias was with the oral culture of ancient Greece. As the quotation above suggests, Innis' writings also exhibit a disarming, dry sense of humour that often reveals itself in odd juxtapositions and playful aphorisms. He was fiercely protective of Canadian culture in the face of what he saw as the overwhelming threat of American commercialism, especially in his later years.[17] Indeed,

[13] Harold Innis, *The Fur Trade in Canada: An Introduction to Canadian Economic History* (New Haven, 1930); Harold Innis, *The Cod Fisheries: The History of an International Economy* (New Haven, 1940); Harold Innis, *Changing Concepts of Time* (Toronto, 1952).

[14] See Heyer, *Communications and History.* See also Leonard Dudley, 'Space, Time, and Number: Harold A. Innis as Evolutionary Theorist', *Canadian Journal of Economics* (November 1995), pp. 754–67.

[15] For dependency theory, see Fernando Henrique Cardoso and Enzo Faletto, *Dependency and Development in Latin America*, (Berkeley 1979). Although Innis shared the view that Canada's economy was shaped by its dependence on the British Empire and the United States, he did not communicate this view in the language of Marxism, world-systems, or unequal development that characterizes the dependency theorists of Latin America and elsewhere.

[16] Harold Innis, *Essays in Canadian Economic History* (Toronto, 1956), p. 383.

[17] See especially Innis, *Changing Concepts of Time*, pp. 19–20 where Innis remarked that 'The jackals of communication systems are constantly on the alert to destroy every vestige of sentiment toward Great Britain holding it of no advantage if it threatens the omnipotence of American commercialism'. Innis would have been dismayed, to say the least, at recent World Trade Organization rulings on 'split-run' magazines and other deteriorations of the regulatory mechanisms that preserve Canadian culture.

it is possible that the fate of Canada positioned precariously next to the empire of the United States was *the* backdrop for all of Innis' scholarship. Perhaps this also explains why Innis has been 'canonized in Canada but largely ignored in the US.'[18] Beyond these very general and stylistic continuities, however, is a more substantive set that characterizes Innis' scholarship. It is to these more fundamental traits that I now turn my attention.

Historicism

Perhaps the best place to start with an excavation of Innis' thought is 'at the bottom', so to speak, with his outlook on how we go about acquiring knowledge. To do so, however, we need first to make a brief detour into general questions of epistemology.

It is often said that two fundamentally different 'modes of thought' or epistemologies can be discerned in Western philosophy and science.[19] The first, which we might call the 'essentialist' mode, is concerned with uncovering fundamental laws and universal truths about nature and society.[20] This mode of thought is called 'essentialist' or 'foundationalist' because it seeks to build knowledge on stable, unchanging foundations. It seeks to explain particular events as part of a more general pattern or law that is both timeless and contextless (i.e., applicable across both time and space). It is for this reason that essentialists are referred to by their critics as *ahistorical*, not because they ignore or are not learned in history, but rather because they search for foundations or essences that stand apart from history.[21] From the essentialist point of view, history is seen as a repository of data, a 'quarry providing materials with which to illustrate variations on always recurrent themes'.[22] Hence, orthodox Marxism and most mainstream theories of IR—i.e., those that fall within the neorealist or neoliberal camps—are essentialist and ahistorical by their stress on the timeless constraints of the mode of production, anarchy, or the rationality of actors.[23] Even among those theories that account for change through history in the rise and fall of great powers there is still a 'static image of historical necessity' in the laws or dynamics that are identified as the generators of such

[18] Ian Angus and Brian Shoesmith, 'Dependency/Space/Policy: An Introduction to a Dialogue with Harold Innis', *Continuum: The Australian Journal of Media and Culture*, 7 (1993), p. 5.

[19] See Cox, 'Social Forces, States, and World Orders', pp. 239–49; and Charles Taylor, 'Philosophy and its History', in Richard Rorty, J. B. Schneewind and Quentin Skinner (eds.) *Philosophy in History: Essays on the historiography of philosophy* (Cambridge 1984), pp. 17–30.

[20] On 'essentialism', see Daniel Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (New York, 1995), pp. 35–39; see also Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton, 1979), pp. 361–65.

[21] Cox, 'Social Forces, States, and World Orders', p. 243.

[22] Ibid., p. 212.

[23] For discussion, see Emanuel Adler, 'Cognitive Evolution: A Dynamic Approach for the Study of International Relations and their Progress', in Emanuel Adler and Beverly Crawford (eds.), *Progress in Postwar International Relations* (Columbia, 1993), pp. 43–88; see also Richard K. Ashley, 'Three Modes of Economism', *International Studies Quarterly*, 27 (1993); and R. B. J. Walker, *Inside/Outside: International Relations as Political Theory* (Cambridge, 1993).

change.[24] Each shares the view that scientific theories should strive to have a trans-temporal quality—in other words, have an applicability 'regardless of different historical and cultural settings.'[25]

Essentialism has been the dominant mode of thought in Western philosophy having roots that reach back to ancient Greece.[26] It was there that the biases in favour of the fixed and permanent over the changing and mutable were first formed and articulated. Since then, with minor exceptions, 'to know is to grasp a permanent end that realizes itself through changes, holding them thereby within the metes and bounds of fixed truth.'[27] Such an orientation to knowledge seems like common sense today not only because it is deeply engrained in our culture through the past, but also because it satisfies deep spiritual yearnings. As Dewey explains:

> It was not then for metaphysical reasons that classic philosophy maintained that change and consequently time, are marks of inferior reality, holding that true and ultimate reality is immutable and eternal. Human reasons, all too human, have given birth to the idea that over and beyond the lower realm of things that shift like the sands on the seashore there is the kingdom of the unchanging, of the complete, the perfect. The grounds for the belief are couched in technical language of philosophy, but the cause for the grounds is the heart's desire for surcease from change, struggle, and uncertainty.[28]

The alternative to essentialist modes of thought sees history not in terms of 'unchanging substances but rather as a continuing creation of new forms.'[29] From this *historicist* perspective, rationalities, nations, and states—though potentially stable in their basic characteristics over long periods of time—are nonetheless products of historical contingencies and thus subject to change as nature and society evolve.[30] Unlike the essentialist mode of thought, the historicist privileges change over continuity, flux over permanence. It is informed by a 'Darwinist' view of history—that is, one that sees no unfolding logic to history, but only 'descent with modification'.[31] While essentialism is animated by a desire to escape from the world of time, appearance, and circumstance into a world of enduring truth and permanence, historicism is content to be one among many of Nature's experiments.[32] For the historicist, contingency reigns supreme.

Such an orientation to history has some specific consequences for epistemology. The idea of framing knowledge as the search for a fixed truth standing apart from history is inapposite to the historicist approach. As Cox points out, 'one cannot therefore speak of "laws" in any generally valid sense transcending historical eras,

[24] See Robert Gilpin, *War and Change in World Politics* (Cambridge, 1981). The quotation is from Jim George, *Discourses of Global Politics: A Critical (Re) Introduction to International Relations* (Boulder, CO: 1994), p. 4.

[25] Erik Ringmar, 'Alexander Wendt: A Social Scientist Struggling with History', in Iver B. Neumann and Ole Waever (eds.), *The Future of International Relations* (New York, 1997), p. 284.

[26] See R. G. Collingwood, *The Idea of History* (New York, 1956), pp. 14–45.

[27] John Dewey, 'The Influence of Darwinism on Philosophy', in James Gouinlock (ed.), *The Moral Writings of John Dewey* (New York, 1994), p. 26.

[28] Ibid., p. 33.

[29] Cox, 'Social Forces, States, and World Orders', p. 213.

[30] Like Cox, the sense in which I use the word 'historicism' here is exactly in opposition to the sense it was used by Karl Popper in *The Poverty of Historicism* (Boston, 1957). Popper had in mind what I would call 'essentialist' theories of history, such as those of Plato and Marx.

[31] See Richard Rorty, *Contingency, Irony, and Solidarity* (Cambridge, 1989); see also Dennett, *Darwin's Dangerous Idea*.

[32] Rorty, *Contingency, Irony, and Solidarity*, p. 45.

nor of structures as outside of or prior to history.'[33] What regularities can be discerned are the products of a particular historical context. Nor can knowledge be grounded on a fixed human 'nature' or a kind of inverted Platonism that characterizes rational-actor approaches.[34] Historicists insist that socialization, and thus historical circumstance, goes all the way down—that there is nothing 'beneath socialization or prior to history which is definatory of the human.'[35]

Where Innis falls on this divide between essentialism and historicism is somewhat ambiguous, with many reading into his aphoristic style of writing a latent technological determinism or crude reductionism. Certainly phrases can be gleaned from Innis' writings superficially that might suggest as much: 'The monarchies of Egypt and Persia, the Roman Empire, and the city-states were essentially products of writing.'[36] 'Greek science and paper with encouragement of writing in the vernacular provided the wedge between the temporal and the spiritual power and destroyed the Holy Roman Empire.'[37] 'Sumerian culture based on the medium of clay was fused with Semitic culture based on the medium of stone to produce the Babylonian empire'.[38] My own impression is in accord with Robert Cox's, however, who regards such phrases as 'devices to set you thinking' and not suggestive of any kind of essentialism.[39] A closer inspection reveals that of the two modes of thought, Innis was fully in tune with the historicist approach.

One indication of Innis' sympathies towards historicism is his consistent critiques of the predominant essentialism that characterized the study of political economy in his day, whose ahistorical tendencies he referred to derisively as 'present-mindedness'.[40] An even more telling indication of his historicism, however, can be found in his own approach to history. Although not articulated explicitly as such, *radical contingency* features prominently in Innis' writings.[41] Using the narrative mode of explanation, Innis unearths the historical coincidences and conjunctions that take the evolutionary path down one road as opposed to the other. In this respect, he was clearly writing against the grain of the then emerging modernization paradigm, which assumed a single, linear path of development for all societies.[42] For Innis, the political and cultural development of particular societies is always contingent on the peculiarities of historical circumstance.

Examples abound of Innis' skilful attention to the interaction of contingent variables in the course of human history. In his studies of both the cod fisheries and the fur trade in early modern Canada, for example, Innis details how the exploitation of particular staples by Europeans had indirect ramifications for later political

[33] Cox, 'Social Forces, States, and World Orders', p. 244.
[34] On 'inverted Platonism', see Rorty, *Philosophy and the Mirror of Nature*.
[35] Rorty, *Contingency, Irony, and Solidarity*, p. xiii.
[36] Innis, *Empire and Communications*, p. 8.
[37] Innis, *The Bias of Communications*, p. 31.
[38] Innis, *Empire and Communications*, p. 166.
[39] Cox, 'Civilizations', p. 20.
[40] Innis, *The Bias of Communications*, p. 61. Innis believed that the neo-classical paradigm, with its pretensions to universality, was a 'form of exploitation with dangerous consequences'. See Trevor Barnes, *Logics of Dislocation: Models, Metaphors, and Meanings of Space* (New York: 1996), p. 212. Barnes is also of the view that Innis was fundamentally anti-essentialist.
[41] I have found Innis' essays to be similar in this respect to those of the popular writer on evolution, Stephen Gould. See Stephen Jay Gould, *Ever Since Darwin: Reflections in Natural History* (New York, 1977) and other books that have followed in that series.
[42] W. W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge, 1960).

and social developments in Canada depending on the type of cargo in outbound and return vessels. In the case of the fur trade, for example, outbound ships from France were loaded down with material goods used for bartering with the natives in exchange for furs. This had the effect of restricting personnel and immigration from France to Canada because of the lack of space on outbound vessels. With Great Britain, however, the exploitation of resources was concentrated on timber, where the situation was reversed: return vessels were heavy with cargo, while outbound vessels were light, thus encouraging immigration. Hence in concluding *The Fur Trade in Canada*, Innis noted that 'Canada emerged as a political entity with boundaries largely determined by the fur trade'. That it did so was at least in part because of the political implications of 'unused capacity' in ships.[43]

Similarly, *The Bias of Communication* could be read as an extended essay on how historical circumstances and the constraints and opportunities of local context take history in particular directions. Consider in the following passage the unique set of environmental, technological, and cultural factors to which Innis attributes the extraordinary development of ancient Greece, particularly its subordination of religion in the conduct of civic life that set it apart from previous civilizations of the time:

> The Phoenician Semitic consonantal alphabet was taken over by the Greeks on the north shore of the Mediterranean. Unlike the peoples of Aryan speech in Asia Minor the Greeks escaped the full effect of contact with the civilizations of Egypt and Babylonia. The necessity of crossing water enabled the Greeks to select cultural traits of significance to themselves and to reject others. Without a script they had built up a strong oral tradition centring about the courts of conquering people from the north. The Homeric poems were the work of generations of reciters and minstrels and reflected the demands of generations of audiences to whom they were recited. This powerful oral tradition bent the consonantal alphabet to its demands and used five of the twenty-four letters as vowels. . . . The written language was made into an instrument responsive to the demands of the oral tradition. . . . The delay in the introduction of writing until possibly as late as the beginning of the seventh century, the difficulties of securing large and regular supplies of papyrus from Egypt, and the limitations of stone as a medium combined to protect the oral tradition. No energy was lost in learning a second language and monopolies of knowledge could not be built around a complex script.[44]

In a remarkable passage in *Empire and Communications*, Innis explains how the use of the parchment codex by Christian monks, the cut-off of supplies of papyrus to the West as a result of the rise of Islam in the seventh century, the favourable ecological circumstances of western Europe for the production of parchment, and the relatively low level of lay literacy at the time, all combined to create circumstances advantageous to the rise of the Roman Catholic Church in the early Middle Ages.[45] In the face of passage after passage such as these, one cannot help but question the idea of 'laws' or 'regularities' standing outside of human history.

[43] Innis, *The Fur Trade in Canada*, p. 393. See also Harold Innis, *Essays in Canadian Economic History* (Toronto, 1956), p. 141 *passim*.

[44] Innis, *The Bias of Communication*, p. 41.

[45] Innis, *Empire and Communications*, pp. 117–119. Innis used the term 'cyclonic' to refer to the process whereby several contingent variables come together in a kind of symbiosis to generate large-scale social changes of the sort noted above. For discussion, see Barnes, *Logics of Dislocation*, p. 219. The meteorological metaphor is, in my mind, another indication of Innis' appreciation of contingency.

Innis' historicism did not stop with his interpretation of historical processes, however. One of the difficult conundrums of historicism is that, when carried to its logical conclusion, it leads ultimately to recognition of the limitations of knowledge itself. Historicism, as Robert D'Amico puts it, is also a thesis of 'how human understanding is always a "captive" of its historical situation'.[46] Innis did not shy away from this recognition that the lives of all human beings—including scholars such as himself—are lived within 'horizons'.[47] To the contrary, he incorporated it reflexively, consistently, and ironically into his own interpretation of history:

> Immediately we venture on this inquiry we are compelled to recognize the bias of the period in which we work. An interest in the bias of other civilizations may in itself suggest a bias of our own. Our knowledge of other civilizations depends in large part on the character of the media used by each civilization in so far as it is capable of being preserved or of being made accessible by discovery . . . Writing on clay and on stone has been preserved more effectively than that on papyrus. Since durable commodities emphasize time and continuity, studies of civilization such as Toynbee's tend to have a bias toward religion and to show a neglect of problems of space, notably administration and law. The bias of modern civilization incidental to the newspaper and the radio will presume a perspective in consideration of civilizations dominated by other media. We can do little more than urge that we must be continually alert to the implications of this bias and perhaps hope that consideration of the implications of other media to various civilizations may enable us to see more clearly the bias of our own.[48]

Given this thoroughgoing historicism, it should come as no surprise that law-like generalizations are notably absent from Innis' writings. Whatever future commentators of essentialist persuasions may read into Innis' aphorisms and rhetorical flourishes, it is clear that Innis saw history as open-ended, contingent, and without overarching purpose save for that created in local contexts under the constraints of particular historical circumstances.

Ecological holism

Translating Innis' historicism into today's language, most would see an affinity between his approach and that developed by so-called social constructivists.[49] Both are sceptical of timeless constraints, whether in the order of things or the nature of being. Both consider values and interests as intersubjectively generated in particular historical and cultural contexts. Both emphasize discontinuities in history, and see

[46] Robert D'Amico, *Historicism and Knowledge* (New York, 1989), p. x.

[47] The metaphorical use of 'horizons' to refer to constraints on knowledge is associated with the thought of Friedrich Nietzsche. On Nietzsche's horizonism, see George Grant, *Time as History* (Toronto, 1969). As Nietzsche remarks in the preface to *The Genealogy of Morals*, 'The sad truth is that we remain necessarily strangers to ourselves, we don't understand our own substance, we *must* mistake ourselves'. In Friedrich Nietzsche, *The Birth of Tragedy* and *The Genealogy of Morals* (New York, 1956), p. 149. Although there are some scattered allusions to Nietzsche in Innis' work, his historicism is probably more attributable to the influence of Veblen and the Institutionalist school of thought, which, along with the American Pragmatic school of John Dewey and William James, was a strong presence during Innis' graduate training at the University of Chicago. For a similar view, see Barnes, *Logics of Dislocation*.

[48] Innis, *The Bias of Communications*, pp. 33–34.

[49] On social constructivism in the social sciences, see especially Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality* (New York, 1967).

institutions and orders as emerging and being sustained by social practices, rather than as 'givens'. In the IR field, social constructivists have done much to expose the ahistorical proclivities of mainstream rationalist approaches, and have underscored the historical variability of world orders.[50] It is for this reason that they are today at the forefront of the emerging historicist movement in IR thought.

But in their indictment of the crude, static materialism of neorealism, constructivists have perhaps swung too far in the direction of an airy 'idea-lism', not in the utopian head-in-the-clouds sense of the term, but rather in their slighting of the importance of material factors as constitutive forces in society and politics. Social constructivism, in the words of Dan Deudney, is 'de-natured' social science:

> In correcting for the reification of social structures, constructivism risks its own blindness in failing to distinguish between social structures constituted by social practice, and material or deep structural realities that are not socially constructed. Natural and material realities structure human action, and such structures are subject to various socially constructed interpretations, but they are not generated by social practices.[51]

The problem with most materialist theories in recent times is that they have been either prone to the type of ahistorical reification that constructivists so skilfully expose in, for example, the structural realism of Kenneth Waltz, or they have slighted the importance of ideas, norms, and culture altogether, as in orthodox Marxism.[52] A sophisticated materialist alternative has, for the most part, been either lacking or ignored. Rediscovering Innis' elaborate combination of 'natural' and 'social' factors suggests just such a sophisticated materialist alternative—one that might help to 'bring nature back in'.[53]

Innis was naturalistic without being reductionist. His writing demonstrates a kind of 'non-reductive physicalism', or what I have elsewhere called 'ecological holism' in its incorporation of natural, technological and ideational factors in the constitution of civilizations or societies.[54] In this respect, Innis is perhaps best situated as part of a now largely overlooked tradition of naturalistic or physio-political theorizing of the late nineteenth/early twentieth century that includes such figures as John Dewey, Lewis Mumford, or Fernand Braudel.[55] As with these writers, Innis rejected the long-standing binary opposition in Western metaphysics between material and ideational factors. Instead, he weaves elements of both together into a coherent holistic explanation.

As with Braudel, the starting point for Innis in any analysis was the deep material context of the civilization or empire in question. As Innis put it, 'geography provides the grooves which determine the course and to a large extent the character of

[50] See especially Alexander Wendt, 'Anarchy is What States Make of It', *International Organization*, 46 (1992), pp. 391–425; and Thomas J. Biersteker and Cynthia Weber (eds.), *State Sovereignty as Social Construct* (Cambridge, 1996).

[51] Daniel Deudney, 'Binding Sovereigns: Authorities, Structures, and Geopolitics in Philadelphian Systems', in Biersteker and Weber (eds.), *State Sovereignty as Social Construct*, p. 193. See also, Daniel Deudney, 'Bringing Nature Back In: Geopolitical Theory from the Greeks to the Greenhouse', (Paper delivered to the American Political Science Association annual meeting, September 1993, Washington DC).

[52] Kenneth Waltz, *Theory of International Politics* (New York, 1979).

[53] See Deudney, 'Bringing Nature Back In', for an informative overview of sophisticated materialist theories of world politics.

[54] On 'non-reductive physicalism', see Richard Rorty, *Objectivism, Relativism, and Truth* (Cambridge, 1991), pp. 113–125. On 'ecological holism', see Deibert, *Parchment, Printing, and Hypermedia*, ch. 1.

[55] For an overview, see Deudney, 'Bringing Nature Back In'.

economic life'.[56] Hence in his study of 'Transportation as a Factor in Canadian Economic History', Innis first traces the distinctive waterways of the 'Precambrian formation' whose 'resistant character' and 'relatively level surface have been responsible for a network of lakes and rivers'. Likewise, in both *The Fur Trade* and *The Cod Fisheries*, Innis begins his analysis by focusing on the way the material context of North America—particularly its wildlife—influenced both European explorations and later political and social developments. *The Fur Trade* opens with a careful scrutiny of the habits of the beaver, and how its mating and migration patterns, its habitat, and its fur shaped the character of European exploration, immigration, and trade. In *The Cod Fisheries*, Innis' narrative begins with a close examination of the water temperature and salinity level of the Grand Banks, the gravity of cod's eggs, and the feeding habits of newly hatched fry all of which restricted the fishing industry 'to areas and seasons'.

Innis' most impressive combination of material factors and ideas, however, can be found in his discussions of communication technology. Here, natural, technological and cultural factors are strung together into a seamless explanatory web. Consider, in the following example, how Innis combines communication technology, institutional inertia, and prevailing values in his explanation of the rise of the Roman Catholic Church over elite culture in the early Middle Ages:

> The spread of Mohammedanism cut off exports of papyrus to the east and to the west . . . Papyrus was produced in a restricted area and met the demands of a centralized administration whereas parchment as the product of an agricultural economy was suited to a decentralized system. The durability of parchment and the convenience of the codex for reference made it particularly suitable for the large books typical of scriptures and legal works. In turn, the difficulties of copying a large book limited the numbers produced. Small libraries with a small number of books could be established over large areas. Since the material of a civilization dominated by the papyrus roll had to be recopied into the parchment codex, a thorough system of censorship was involved. Pagan writing was neglected and Christian writing emphasized.[57]

An account of an earlier period is equally adept in drawing out the peculiarities of the mode of communication for social and cultural developments:

> Dependence on clay in the valleys of the Euphrates and the Tigris involved a special technique in writing and a special type of instrument, the reed stylus. Cuneiform writing on clay involved an elaborate skill, intensive training, and concentration of durable records. The temples with their priesthoods became the centres of cities. Invasions of force based on new techniques chiefly centring around the horse, first in the chariot and later in cavalry, brought union of city states, but a culture based on intensive training in writing rendered centralized control unstable and gave organized religion an enormous influence. . . . The influence of religion in the Babylonian and Assyrian empires was evident . . . in the development of astronomy, astrology, and a belief in fate . . .[58]

At other times in Innis' analysis, the balance shifts from material factors to 'ideas' or 'culture'. Consider the following account of the influence of Stoic philosophy on the Roman state:

[56] Innis, *Political Economy of the Modern State*, p. 87.
[57] Innis, *The Bias of Communications*, p. 48.
[58] Innis, *The Bias of Communications*, p. 6.

> Through Cicero . . . Stoicism received fresh support in its influence on Roman law, bringing to it the ideas of the world state, natural justice, and universal citizenship in an ethical sense, which were independent and superior to the enactment of kings. The conception of natural law brought enlightened criticism to bear on custom, helped to destroy the religious and ceremonial character of law, promoted equality before the law, emphasized the factor of intent, and mitigated unreasoning harshness . . . The *jus gentium* began to be conceived as a law common to all mankind and equivalent to the law of nature.[59]

For Innis, the important point is not whether 'material' context or intersubjective 'ideas' matter the most. The question itself bespeaks a duality alien to Innis' ecological holism. Innis saw a seamless connection—an inclusive functional system—between human beings as living organisms, the intersubjective web-of-beliefs into which they are acculturated, and the natural environment around them. Such a sophisticated materialism seems especially appropriate today when nature is being 'brought back in' involuntarily—from global warming to infectious diseases. A reconsideration of Innis' ecological holism might help deepen social constructivism without the reifications of crude structuralist-materialism and thus help to see the intimate connections between changing material context, technology, and culture.

Time-space biases

One of the more novel and potentially valuable aspects of Innis' work is his concentration on the way different civilizations or societies apprehend the categories of space and time. For Innis, these categories are not fixed and transparent, but variable from culture to culture and epoch to epoch. '[H]istory is not a seamless web but rather a web of which the warp and the woof are space and time woven in a very uneven fashion and producing distorted patterns'.[60] In *Empire and Communications* and *The Bias of Communications*, and in scattered essays, Innis chronicled how civilizations throughout history have demonstrated a remarkable variety in the ways they have extended their control over space or have conceived of temporality.

> It has been pointed out that astronomical time is only one of several concepts. Social time, for example, has been described as qualitatively differentiated according to the beliefs and customs common to a group and as not continuous but subject to interruptions of actual dates. It is influenced by language which constrains and fixes prevalent concepts and modes of thought.[61]

Innis argued that control over predominant ways of ordering space or apprehending time have been important sources of social power in history, and struggles between social groups have often centred on competing conceptions of these categories. In ancient Sumeria, for example, where the system of agriculture was dependent on irrigation, the prediction of harvests, seed-times, and floods provided political leverage:

> The selection of holy days necessitated devices by which they could be indicated and violation of them could be avoided. Dependence on the moon for the measurement of time meant

[59] Innis, *Empire and Communications*, p. 98.
[60] Innis, *The Bias of Communications*, p. xvii.
[61] Innis, *The Bias of Communications*, p. 62.

exposure to irregularities such as have persisted in the means of determining the dates for Easter. Sumerian priesthoods apparently worked out a system for correcting the year by the adjustment of lunar months but the difficulties may have contributed to the success of Semitic kings with an interest in the sun, and enabled them to acquire control over the calendar and to make necessary adjustments of time over the extended territory under their control.[62]

In Egypt, according to Innis, 'It is possible that the absolutism of Egyptian dynasties was dependent on the ability of kings to determine the sidereal year in relation to the appearance of the star Sirius'.[63] Likewise, the reform of the Roman calendar by Julius Caesar not only had significant political and economic consequences, but it also reflected the character of Roman culture. 'A fixed date of reckoning, that of the founding of the city, reflected the interest of Rome in the unique character of a single day or hour and the belief that continuity was a sequence of single moments. An emphasis on specific single acts at a unique time contributed to the growth of Roman law notably in contracts in which time is of the essence'.[64]

Although struggles over competing conceptions of space and time are important, more often space/time biases creep glacially and surreptitiously into a culture through a combination of historically contingent factors. For example, as with his contemporary Lewis Mumford, Innis emphasized a connection between technology, time, and the rise of modern industrialism:

Spread of monasticism and the use of bells to mark the periods of the day and the place of religious services introduced regularity in the life of the West. Sun-dials, whose usefulness was limited in the more cloudy skies of the north, gave way to water clocks and finally to devices for measuring time with greater precision. The modern hour came into general use with the striking clocks of the fourteenth century. . . . Regularity of work brought administration, increase in production, trade, and the growth of cities. The spread of mathematics from India to Baghdad and the Moorish universities of Spain implied the gradual substitution of Arabic for Roman numerals and an enormous increase in the efficiency of calculation. Measurement of time facilitated the use of credit, the rise of exchanges, and calculations of the predictable future essential to the development of insurance.[65]

In a passage strikingly similar to John Ruggie's recent overview of the rise of early modern notions of space and territoriality, Innis isolates several coincident touchstones that shifted the time bias of the Middle Ages towards the spatial bias of the modern period:

A new interest in space was evident in the development of the mariner's compass and the lens. Columbus discovered the New World, Magellan proved the earth a sphere, and in astronomy the Ptolemaic system was undermined especially after the invention and the improvement of the telescope. The architect Brunelleschi has been credited with first constructing a scene according to a focused system of perspective. Durer advanced from the empirical to mathematical construction. In Florence the new conception of space was translated into artistic terms as a counterpart of the modern notion of individualism. Its immediate effect on

[62] Ibid., p. 65.
[63] Ibid., p. 66.
[64] Ibid., p. 69.
[65] Ibid., p. 72; for Mumford's discussion, see Lewis Mumford, *Technics and Civilization* (New York, 1934).

architecture was evident in the baroque. In philosophy, Leibniz was the first to explain space as pure form, an order of existence, and time as an order of succession.[66]

Although Innis' concrete examples of space/time biases in history emphasized variability, contingency, and idiosyncrasy, he did make some overarching generalizations. It has been these generalizations, often articulated by Innis in ways suggestive of testable hypotheses, that have provided the grounds for those inclined to a more scientific-positivistic reading of Innis. Innis felt that most civilizations tend to have a bias in cultural orientation towards either space or time, and that rarely is a delicate balance achieved. Imbalances in one direction or the other create instability, and often invite challenges from the margins, which in the past have contributed to the collapse of empires or to epochal transformation.[67] Innis also believed that there was a close connection between the communication media available to a civilization and its bias towards either time or space. As he put it:

> Media that emphasize time are those that are durable in character, such as parchment, clay, and stone. . . . Media that emphasize space are apt to be less durable and light in character, such as papyrus and paper. The latter are suited to wide areas in administration and trade.[68]

One way to see Innis' formulations outlined above is in programmatic terms, as rigid theses on the rise and fall of empires or the invariable link between certain types of media and certain ways of apprehending space and time.[69] I think this would be to cast Innis mistakenly in an essentialist light. My impression is that Innis' space/time biases are better conceived of as shorthand designates for the supports and constraints presented by different communication media to prevailing *mentalités* and institutions through history. For example, to say, as Innis did, that a communications medium such as clay during the period of the Sumerian city-states had a bias towards time is not to reduce Sumerian culture solely to the mode of communication. Rather, it is to reveal the way the material context and available technology of the time constrained or supported existing institutions, social groups, and *mentalités*.[70] Treated this way, they provide a lens or window on to how different cultures at different times apprehend the categories of space and time, thus demonstrating their historical variability. Likewise Innis' comments about imbalances towards space or time inviting reactions from the margins can either be treated as a full-blown dialectical theory of history, or as a limited statement on forms of human struggle and the tendencies of opposing forces. My sense is that the latter is both the most fruitful and consistent with Innis' overall views on history.

In what ways does an Innisian approach help illuminate the space-time biases in circulation today? At the time of his death in the early 1950s, Innis believed that there was an imbalance in Western civilizations towards the bias of space with a corresponding neglect of time:

> Lack of interest in problems of duration in Western civilization suggests that the bias of paper and printing has persisted in a concern with space. The state has been interested in the

[66] Ibid., pp. 128–129. Compare with Ruggie, 'Territoriality,' pp. 158–159.
[67] See Innis, *Empire and Communications*, p. 5.
[68] Ibid.
[69] See, for example, Dudley, 'Space, Time, and Number' for such an extrapolation.
[70] Certainly a glance at Innis' discussion of the relationship between clay, writing, and Sumerian culture on pp. 29–30 of *Empire and Communications* would bear out the subtlety of Innis' interpretation and rule out any attribution of determinism or reductionism to Innis.

enlargement of territories and the imposition of cultural uniformity on its peoples, and, losing touch with the problems of time, has been willing to engage in wars to carry out immediate objectives. Printing has emphasized vernaculars and divisions between states based on language without implying a concern with time.[71]

In these words can be discerned a picture of what might be called 'High Westphalia'—a condition of territorial exclusivity and spatial differentiation that marks the modern period.[72] In his essay, 'A Plea for Time', Innis urged a correction to this imbalance, believing that the time dimension had been reduced to a superficial 'present-mindedness' reflected in an obsession with statistics in the social sciences, and the fetish of newspapers with current events and catastrophes.[73]

Since Innis made these observations, however, profound changes in communication technologies have occurred in such areas as digitization, fibre optics, computer processing, and satellite transmissions. From an Innisian perspective, we would expect space-time biases to be reconfigured and transformed accordingly, forming a new horizon of power on the world political landscape. Although the preoccupation with space that Innis describes still persists, many have pointed to a new *temporal* bias superceding it, supplanting itself into the sinews of power and culture of post-industrial societies.[74] Indeed, Innis himself may have located some of the roots of this bias long before it was unleashed on a real-time planetary scale by digital-electronic-telecommunications:

The newspaper has been a pioneer in the development of speed in communication and transportation. Extension of railroads and telegraphs brought more rapid transmission of news and wider and faster circulation of newspapers; and newspapers, in turn, demanded further extension of railroads and telegraph lines. Cables, postal systems, express systems, aviation lines and radio have been fostered and utilized by newspapers. The concentration of the natural sciences on the problems of physics and chemistry concerned with speed reflects the influence of the newspapers. Educational systems and literacy have been subject to their influence directly and indirectly. Speed in the collection, production, and dissemination of information has been the essence of newspaper development.[75]

Moving from the newspaper and the telegraph to today's hypermedia environment, an *Empire of Speed* has emerged working in the direction of unleashing the velocity and flow of information across borders and around the world. At its heart are the swift currents of capital that circuit the globe twenty-four hours a day, shifting astronomical sums in a 'cyclonic' swarm of electrical impulses. It is manifested in the dream of 'friction-free' capitalism over the Internet, and the rise of 'E-commerce' and 'digital cash'. It is formed in and around the space-of-flows that define the just-in-time production networks of so-called *Kanban* capitalism. It is driven by the mass obsession for ever faster computing and communication technics, which has ripped through governments and consumer culture—greater bandwidth, more baud-rate,

[71] Innis, *The Bias of Communications*, p. 76.
[72] In his description of the spatial biases of the modern state, Innis' analysis evokes the more recent conceptualization of, for example, Rob Walker. See Walker, *Inside/Outside*, ch. six.
[73] Ibid., pp. 61–91.
[74] See, in particular, James Der Derian, *Anti-Diplomacy: Spies, Terror, Speed, and War* (Cambridge, 1992) and Paul Virilio, *The Art of the Motor* [translated by Julie Rose], (Minneapolis, 1995).
[75] Harold Innis, 'The Newspaper in Economic Development', in Harold Innis (ed.) *Political Economy in the Modern State* (Toronto, 1946), p. 32.

faster Ethernet connections, speedier processors. 'The power complex today is preoccupied only with acceleration'.[76]

This temporal bias is, in turn, transforming the basic character of power, security, and authority in world politics. In the Empire of Speed, 'having open and unconstrained access to flows, not closed domination of places, becomes a crucial attribute of power, perhaps as vital as juridico-legal sovereignty, in informationalized societies'.[77] Control of tempo and pace rather than territory and space, in other words, increasingly determines who gets what, when, and how.[78] In turn, the circuit 'crash' is becoming the predominant 'threat'—the network itself the primary referent of security. Guarding borders from possible penetration is becoming less important than protecting circuits from illegitimate violation.[79] *National* security is being transformed into *network* security, and the 'nerves of government' bristle in an accordingly new way.[80]

The affinity between an Innisian perspective on speed and power and those of postmodern theorists, such as Paul Virilio, is readily apparent. Both share the view that, in Innis' words, 'The concepts of space and time must be made relative and elastic and the attention given by the social scientists to problems of space should be paralleled by attention to problems of time'.[81] However, some important differences remain that distinguish an Innisian from a postmodern perspective. For example, rather than treating the Empire of Speed as a purely discursive construct, an Innisian approach locates it firmly in the material and technological context of post-industrialization and the hypermedia environment. This not only reveals the depth and extent of the constraints imposed but also suggests potential avenues by which counter-movements might begin—something postmodernists are reluctant to do. For Innis, concerned as he was with balance, a recovery of a deeper sense of time than the 'eternal present' of the Empire of Speed—perhaps in some form of spirituality—remains a critical issue.

Conclusions

At the end of his recent essay on 'Territoriality', John Ruggie suggested that understanding contemporary transformations requires a different analytical and epistemological posture. To illustrate the type of posture he thought would be appropriate, he quoted Quentin Skinner to the effect that it must embody 'a willingness to emphasize the local and the contingent, a desire to underline the extent to which our own concepts and attitude have been shaped by particular

[76] Lewis Mumford, *The Pentagon of Power: The Myth of the Machine*, vol. 2 (New York, 1970), p. 148, plate 4.
[77] Timothy Luke, 'Sovereignty, States, and Security: New World Order or Neo-World Orders?' (Working Paper 95–1, Adlai Stevenson Program on Global Security, University of California, Santa Cruz), p. 19.
[78] Der Derian, *Anti-Diplomacy,* pp. 129–30.
[79] See David Mussington, 'Throwing the Switch in Cyberspace', *Jane's Intelligence Review* (July 1996), pp. 331–4.
[80] Karl Deutsch, *The Nerves of Government: Models of Political Communication and Control* (New York, 1966).
[81] Ibid., p. 34.

historical circumstances, and a correspondingly strong dislike . . . of all overarching theories and singular schemes of explanation'.[82] In this article, I have attempted to show how an excavation of the work of Harold Innis might help point the way to just such an approach. Although it is often a cliché to say so, Innis was a theorist very much out of his time. He emphasized contingency and historicity at a time when the momentum of the social sciences was in the direction of modernization and teleology. His sophisticated incorporation of natural and material factors was written at a time when 'the expulsion of nature from social science' was the dominant trend.[83] His attentiveness to symbolic forms and the social constructs of space and time in different cultures and epochs presaged the writings of postmodern theorists, such as Michel Foucault and Paul Virilio. In these respects, re-visiting Innis is not a stale resuscitation of an old-fashioned theorist but a revival of a vital and imaginative thinker who had much to say on world politics and human history.

As might be clear from the preceding analysis, however, Innis would be difficult to situate within the pantheon of contemporary IR schools of thought. His historicism would certainly differentiate him fundamentally from the vast majority of IR theorists working within an essentialist framework. For example, while Innis' scholarship concentrated on empires through history, his approach was entirely different from those who have done so from a realist or neo-realist perspective. He would have considered the search for timeless causes of the rise and fall of great powers or empires to be misguided. The lesson of Innis' historicism is that while regularities can be discerned in particular historical contexts, general explanations that stand apart from history are unattainable. Likewise, Innis would have regarded the examination of imperial systems of rule as specific models or world ordering principles standing between anarchy and hierarchy as spurious throwbacks to a kind of Aristotelian essentialism. For Innis, the character of individual empires—though perhaps sharing some very general orientations towards space or time—are always shaped idiosyncratically depending on the specific material, technological, and cultural context of the time in question.

Although his thoroughgoing historicism in this respect, and his skilful attention to the social construction of time and space, aligns him with social constructivists, postmodernists, and others in the so-called 'reflectivist' camp, Innis' incorporation of natural or material factors into his analysis would set him apart here as well. In the IR field, such an approach's closest approximation is probably to be found in the Gramscian school developed by Robert Cox. Perhaps that is why Robert Cox has, in turn, recently rediscovered Innis' writings as a source of inspiration. Yet even here, Innis' broad encompassing of natural, technological, and cultural factors would distinguish his analysis from those employing the economistic categories of Marxist thought. Such a sophisticated materialist approach—one that privileges neither material, technological, or cultural factors—seems especially *apropos* at a time when the unintended consequences of modern industrialism are materializing in ozone depletion and global warming, and when earth-circling satellites and webs of fibre-optic cable bind the planet together in a hypermedia environment. While Innis did not live long enough to provide his views on these developments, his approach at least suggests a lens or framework with which to investigate them.

[82] Ruggie, 'Territoriality', pp. 169–70. The original quotation is from Quentin Skinner, *The Return of Grand Theory in the Human Sciences* (New York, 1985), p. 12.

[83] Deudney, 'Bringing Nature Back In', p. 11.