

# Of Stone, Books and Freedom

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*Harold Innis' original social theory has often been charged with 'technological determinism'. If this means that Innis ascribed social structure and historical developments to 'technology', the charge is false. By studying two widely separated examples we can see that Innis had a sophisticated ecological understanding of the many forces at work in social dynamics, of which technologies were but one set. The impact of stone and its competition with papyrus in ancient Egypt was, Innis showed, not totally deterministic. There were significant attempts to play one medium off against another and the related institution of politics off against religion. Millennia later, in modern Europe, Gutenberg's invention of the mechanical printing press led to the book's ultimately successful competition with the traditional medium, parchment manuscript, and to the decline of the Church. Here too freedom flourished in the social interstices, as the essay shows.*

"We have described...the tendency of each medium of communication to create monopolies of knowledge to the point that the human spirit breaks through at new levels of society and on the outer fringes." Harold Innis



Harold Innis' words undercut the view that a rigid technological determinism pervades his work. In contrast, I will argue, his concept of monopolies of knowledge involved freedom both in elite control of a dominant technology and popular resistance to their dominance. I will illustrate Innis' view of media and freedom in ancient Egypt (I) and modern Europe (II). Then I will discuss freedom in relation to the monopoly of knowledge and media bias (III). I will end with Innis' diagnosis of the "bias of civilization" (IV).

From the first I wish to stress that Innis' complex social ecology did not rest on a fatalistic metaphysics of technology in history. The Canadian conservative George Grant, deeply influenced by Plato's mind/body dualism, holds such a view (1965; see di Norcia, 1984a). Innis in contrast approached Plato in terms of the rise of prose over the oral tradition (1964, 8f; 1972, 56f). He treated dualism in terms of religion, magic, the "detachment of the self" and the split between living man and a mathematical nature; which he attributed to a "static, simultaneous, and spatial" philosophy (1972, 65; cf 18f, 49f, 71f). Nor did Innis share the optimistic faith in technology, held for instance, by James Mavor, his department head at the University of Toronto in the 1920s (Shortt, 1976, 130, 134f). His own view was more empirical and ambivalent. It was enriched by his awareness of the complex role of technology in Canadian economic history (cf Neill, 1972, ch. 1; Creighton, 1978, 40-71). The result was a rich social ecology, concerned to grasp the conditions of competition for the control of technologies and knowledge. It was illustrated in his study of ancient Egypt and modern Europe.



## 1. *Of Stone and Empire*

In ancient Egypt political and religious elites competed for power (1972, ch.2). In the pyramids, temples, and statues stone, a durable medium, gave continuity to the pharaoh's reign. Stone "left its stamp on the character of writing" even after the priests switched to papyrus. It restricted the development of a more flowing script and the phonetic alphabet. The Pharaoh's "dependence on stone" however "invited competition from papyrus", under the priesthood's control. "Words were imbued with magic power" by the priests, who controlled the "difficult and specialized art" of hieroglyphic writing. This favoured their monopoly of knowledge, for they alone could grasp the mysteries of the calendar and predict the Nile's flooding. Consequently, McCorduck and Feigenbaum note, the Pharaoh "had no way of knowing whether his scribe was representing his thoughts authentically. . . . He gave the orders and hoped they were transmitted accurately. The opportunities for mischief were great, because the real power lay in the hands of the scribes, the select few with the knowledge of writing" (1984, 46).

In Egypt kingly and priestly power rested on different media; but religion and politics and their media monopolies could reinforce each other as well as compete. The durability of stone helped the Pharaoh to control time and resist the priests. Indeed their switch to papyrus made the Pharaoh's administration and military more efficient. The distinctiveness of hieroglyphic writing, albeit under religious control, helped the Pharaoh to resist invasion. And despite the fatalism of Egyptian culture and the priestly monopoly of knowledge Akhnaton could still attempt to break the power of the priesthood. In seeking to promote monotheism in the service of the state he not only grasped the political significance of religion, but more significantly, he also sought to "bring the written and the spoken language into accord".

It is significant that Innis' study of Egypt did not reduce technology to a metaphysical abstraction. Rather he described the media materials, stone and papyrus, their physical properties, the complex writing system, and its instruments. His theory of technology sought to integrate these components and disclose their complex interaction. The Egyptian economy was tied to the Nile's flooding, whose prediction rested on the priesthood's monopoly of knowledge, which in turn reinforced a fatalistic traditionalism. Religion was supreme, as in medieval Europe; but the priesthood's very dominance required it to deal with competing elites. In Innis' ecology of media and power in Egypt many factors were at work, too: technology, agriculture, astronomical, geometric and economic knowledge, competing elites, re-

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ligion, politics, and a traditional culture. He showed that some freedom in the control of a dominant communications medium was possible under the most contrary circumstances, notably in the case of Akhnaton.

As befits an ecological approach, balance was for Innis the secret: "A successful empire required adequate appreciation of problems of space that were in part military and political, and of problems of time that were in part dynastic . . . and religious." In fine his study neither said nor implied that technology predetermined Egypt's history. That change was slow did not make it inevitable. Rather, Innis discerned social interstices between competing social powers and media where freedom might arise.

## 2. *Of Paper and the State*

In *Empire and Communications* Innis described the epochal battle between parchment manuscript and paper book, which began in the late 14th century (1972, 135ff). The Church's monastic monopoly of knowledge rested on the parchment manuscript and the use of Latin. Humanists used the vernacular. Paper combined with the vernacular proved a force for the greater diffusion of knowledge, notably in new centres of secular learning.

Both Protestants and humanists, Innis maintained (1972, ch.7), grasped the potential of Gutenberg's mechanical printing press as a force against the old manuscript culture. It "mechanized communication" by simplifying and standardising information. It was a much more accurate and efficient medium; but it did not always improve understanding (1964, 191; 1972, 143f).

The rise of print from 16th to 18th century Europe proved an anarchically revolutionary force which could not be left uncontrolled. It intensified the old conflict between church and state and abetted the Reformation. The rising Calvinist bourgeoisie sensed the revolutionary potential of print and deployed it in order to create a theocratic state. The religious use of print was complemented by its literary use in the new humanism, and, notably, Machiavelli's secular political works.

Print hastened the fragmentation of Christendom. Within 50 years of Gutenberg's invention Christendom was dividing into powerful states. Since the churches were not able to control print, the state stepped into the vacuum. In 1578 their supremacy over religion was legitimised by Jean Bodin's paean to sovereignty. Almost simultane-

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ously, Montaigne's *Essays* set continental thought into a lasting individualistic mould. Bodin's ideas were implemented by the absolute monarchies of the 17th century, whose supremacy was reinforced by the new apolitical individualism (Keohane, 1980, ch. 1,2; di Norcia, 1984b).

The 17th century state fully joined the battle to control the powerful new medium, soon to be followed by commerce. To Innis the outcome was not foreordained. All elites — religious, political and commercial — sensed the importance of controlling the new medium. The state consolidated its position by proclaiming religious tolerance on the one hand, and regulating print media through restrictions and censorship, on the other.

Newspapers, Innis noted, began by printing political news: wars and parliamentary debates. This aided parliament against the King and encouraged rebellious elements. So the press was threatened by state censorship, taxes, and libel suits. State restrictions on political commentary encouraged the rise of apolitical writing from scientific treatises to literary essays. But competition arose on the outer fringe; books went uncensored in liberal Holland, where Descartes wrote. In 18th century France Rousseau sought to integrate private sentiment and democracy and was censored; and the Encyclopedists had to disguise their political critique as erudition.

Commerce, Innis noted, was soon involved in the book trade. Publishers had a monopoly over books through their perpetual copyright. Its undoing by an English court was a sign of the state's sensitivity to the new commercial elite's monopoly over the new communications medium. The absolute state controlled commerce by monopolies, economic regulations, stamps, and taxes. Advertising revenues, however, helped the commercial press to compete with the state to control this new form of print medium. The commercialization of the press reinforced a sensationalist and trivializing treatment of social issues. More marketable, private entertainments displaced a politically concerned readership.

In the 18th century North American hinterland a free press could flourish; for "freedom flourishes in colonies. Ancient usages can't be preserved. . . . Where every man lives on the labour of his hands, equality arises" (1972, 66). But here freedom had two senses, political and economic: uncensored expression and the mobility of private capital. Both were symbolized in Ben Franklin, a printer who worked both sides of the Atlantic, an explicit capitalist and a supporter of the political freedoms of speech and independence. Economics, not religion or politics, came to dominate media. Money had come to "permeate social relations and encourage political and economic freedom"

(1972, 70). Commerce had come to prevail over the state, whose prior victory over the church was coming undone.

In sum, Gutenberg's mechanized medium evoked a century of social and technological revolution. But Innis' description of the complex media battle and the victory of print over parchment did not imply that the technology itself predetermined the final outcome. Rather, he suggested, established elites and empires competed with rising elites and colonial hinterlands to control the new medium. In a way his was a Canadian insight, for his detached critical observation of the social effects of technology avoided both European fatalism and American optimism.

### *3. Of Media Bias and Freedom*

Innis' theory of technology and power was interesting inasmuch as he sought to discern the impacts of technologies in varied social milieus and their dynamic interaction with other social factors: knowledge, language, religion, politics and economics. Freedom, like social power, is mediated in many ways. For these reasons I term his theory a social ecology. In it freedom arises in three ways: through increased control in the social interstices or fringes, expanded choices, and understanding the bias of communications.

Firstly, an economics of communications lies at the centre of Innis' social theory (cf. 1964, xvii, 3f). Monopolies of knowledge, as market theory implies, "invite competition" from other groups and technologies (1972, 124; cf. 1973, 252-72). There were other monopolies, too: of force, transportation, goods, wealth, energy. Innis' view of this social dynamic is not determinist. Rather it is the context of his understanding of freedom. "In the clash between types of monopoly an unpredictable freedom can be achieved" (1964, 131). This conflict model contrasts starkly with metaphysical talk of the inevitable rise of one technology or group.

Indeed history to Innis was "a web of which the warp and the woof are space and time woven in very uneven fashion and . . . distorted patterns" (1964, 132). This is quite unlike a linear model of development, predetermined by technology. Rather, monopolies of knowledge go through cycles, developing and declining "in relation to the medium of communication on which they were built. They tended to alternate as they emphasized religion, decentralization, and time, and force, centralization and space" (1972, 166). We see the rise and fall of empires and media, e.g., in the decline of the manuscript and the rise of print (cf 1982, 5/121, 126, 137; 11/11, 132). Our era is similar to 16th century Europe; for the rapid rise of electronic media and computers threatens the ascendancy of print. Electronic communica-

tions have made today's global corporation possible (Tugendhat, 1971, 31). It competes with empires and nations to ride the reins of cybernetics, continuing the battle between commerce and politics.

Secondly, Innis's theory of media includes both its limitations and its potential. He viewed technologies with an empirical and detached eye, assuming neither fatalism nor optimism. Inasmuch as a new technology expands options, it can reinforce freedom and develop user powers in relation to others. Writing extended speech into different media: stone, papyrus, and paper, and from pictographic to phonetic script and print. However, Innis did not focus rosilily only on a medium's potential; he also noted its limitations. Media properties can inhibit as well as expand choices. However user freedom is not simply a matter of choosing the options which media automatically offer. Rather, one must understand the bias of a medium.

Third, as McLuhan suggested, to disclose the potential options and limits of a new medium requires that one understand its social dynamic (1964, viif; 1972, vf). But it is not easy to grasp the social effects of an unfamiliar technology; nor is it impossible. But such understanding is essential to control and freedom. Since media monopolies invite competition, understanding media is more complex still. Grasping the full potential and limitations of a medium then can doubly enhance one's freedom: both in using it onself and resisting its use by others. Now, Innis' theory of the bias of communications helps one to understand the social effects of media. ('Bias' note refers to an objective property of media, not subjective prejudices.) There are three such biases: a knowledge, power and a dimensional bias. I will take them in turn.

First, the knowledge bias. For Innis knowledge did not refer to thoughts locked inside a ghostly mind. Rather it signified information capable of being communicated and stored in some medium . This implies an interesting concept of knowledge as embedded in some interpretive code appropriate to the medium. Innis mentions various codes: linguistic (vernacular or foreign), numeric (Arabic or algebraic), or technical (physics and cybernetics), or even political (legal

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codes). Even the retrieval of sense information from memory may rest partly on the natural coding of sensory experience both in the neural traces of sense impressions and psychological rules, viz, of association. Communications media simulate and extend 'natural' linguistic, psychological and neural storage codes. Systematizing knowledge in interpretive codes made sense, for without systematic storage retrieving valuable knowledge would be unnecessarily difficult.

Knowledge then was for Innis systematically stored in various interpretive codes, linguistic, numeric and technical; it is also what elites monopolize through communications media. Now, a complex interpretive code facilitates the monopoly of knowledge, while simpler codes make it easier to diffuse knowledge. One's language, for example, affects one's social position, a not unfamiliar point to Canadians. Quebec opposed foreign rule by deploying the vernacular against English, the dominant imperial tongue. The user-friendly simplicity of some codes, like the spoken vernacular, is inherently knowledge-diffusive. The user-intimidating complexity of computer language, in contrast, facilitates the monopolization of valuable knowledge in the interest of elite power. Thus a medium has a knowledge-diffusion or knowledge-monopoly bias. The competition for power between social groups and empires rests then on the bias of the medium for monopolizing or diffusing the knowledge it stores.

However, since all storage must be systematic I suggest that it makes interpretation or decoding possible, if not always easy. Like knowledge then media are in principle communicative. The general bias of technology would therefore appear to be democratic. Innis' concept of a monopoly of knowledge also implied that knowledge is of value to someone, namely those who seek to control access to it. It is not, as James Mavor held, value neutral. Innis' theory avoided the fact / value dichotomy (Shortt: 128f). Now, what knowledge is valuable to whom varies widely. A concern with the value of the knowledge stored in a medium reinforces Innis' comments on the efficiency of media and the cost and supply of materials (1972, 98, 137f, 124ff, 141f).

Secondly, media have a power bias. Each medium "invites realignments" in power, e.g., towards elite monopoly or popular diffusion of knowledge (1964, 4). Different media, then, are prone to favour some groups rather than others and different forms of social power. This depends on the cost, efficiency, and complexity or simplicity of a medium, combined with its encoded knowledge (1972, 24f). Oral media and the vernacular naturally diffuse knowledge and reinforce freedom; but complex writing systems, foreign languages and technical codes (e.g., in computers) inhibit interpretation or access to information. So they facilitate elite monopolies of knowledge (1982, 3/5, 5/84, 10/5).

The third bias is dimensional. It reflects a medium's capacity to store and transmit information through space and time (1964, 3f, 38f, 55f). The dimensional bias determines a medium's social value, too; for it can help a user group to control territory more than history, or vice versa. It rests on the physical properties of the medium; stone endures, radio signals don't. Stone is heavy and static; paper, light and portable. Descriptions of the physical properties of different media are frequent in Innis' works (1964, xvii-131; 1972, 16f, 27f, 59, 122f, 141f). The power bias, while related to values, is objective in a social sense. The knowledge bias of a medium is similarly rooted in the objective properties of interpretive codes. In each case then the bias of communications is objective.

A descriptive realism and ecological complexity lies at the heart of Innis' theory of freedom and the bias of communications. His conception of freedom rests on the concrete determinism of the causal principle, in contrast to a metaphysical dualism which sees freedom as transcending causality and often hypostasises Technology as Progress or Fate. The causal principle is assumed in the practical view that controlling media is a function of understanding how they function and what their effects are. With such control comes freedom; but it is limited and material, not infinite or spiritual. Freedom is situated in a specific, dynamic social space and time. It is inseparable from the dynamic ecology of knowledge, media, their biases, and social power.

#### *4. Appraising the Bias of Civilization*

Innis diagnosed a deep crisis in western civilization, resting on its spatial bias: "the conditions of freedom of thought are in danger of being destroyed by science, technology, and the mechanization of knowledge, and with them western civilization" (1964, 190). Indeed, Innis was concerned that his own essays were "a product of the instability which they attempt to describe as characteristic of a period in which time has been torn into fragments" (1964, xvii). The civilizational bias of western society, he held, is spatial; but wisdom takes time.

This crisis of civilization is epitomized in the rise of cybernetic media, which diffuse information rapidly, but involve esoteric expertise, complex codes and costly technologies. In speeding up information

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cybernetics has increasingly mechanized knowledge, but it may not have improved understanding or wisdom. Computers and artificial intelligence, Feigenbaum and McCorduck hold, involve knowledge of vital importance to civilization today. Indeed an epochal rivalry over high-tech has arisen between the U.S.A. and Japan (1984, chs. 4, 6, 7). This global competition to monopolize the new communications media fits Innis' model of empire and communications. It gives weight to Innis' concern about Canada's current position at the margin of cybernetic innovation and economic empire.

It also reinforces his concern about the difficulty of grasping the bias of one's own civilization; for this involves the "perhaps insuperable difficulty of assessing the quality of a culture of which we are a part" (1964, 132). Nonetheless, Innis' essays had already recognized the civilizational bias of his era. They even suggested how he transcended that bias; because he could observe today's dominant civilization, the U.S.A., from its Canadian periphery (1972, 4ff). Our freedom, I would infer, rests on diagnosing our situation and its historical roots, and disclosing its cultural, economic and technological potential and limitations.

Innis sought to diagnose the crisis of his civilization. The key to his approach was his concrete social ecology and a related insight into the links between understanding and freedom. His work contained a method for disclosing and projecting the space for freedom, however limited, within the global clash of empires and communications media: namely, by describing the material properties of competing media and then projecting their dimensional, knowledge, and power biases. One might then try to examine the dynamic of competing media to disclose the civilizational bias of the times.

Innis' appraisal of the "bias in the cultural development of civilization" rested on his insight into social balance, his emphasis on both space and time, politics and religion (1972, 170). On this reading the dominant spatial bias of our era suggests a need for temporally biased media "to check the bias of the first and to create conditions suited to the growth" of our society. "The ability to develop a system of government in which the bias of civilization can be checked and an appraisal of the significance of space time can be reached", Innis concluded, "remains a problem of empire and the western world" (1972, 170).

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1. 1972, 117. All references to items below are given in the text. In sections I and II unremarked quotations are respectively from the chapters 2 and 7 of *Empire and Communications*.

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