In his new book, *The Marvelous Clouds*—which is a frustrating book to read because as usual its author has already had every good idea—John Durham Peters talks about expanding the definition of media to encompass much more than traditional devices of broadcast media (like radio, film, or television); and more even than networks of the digital media environment.

Media, for Peters, are *things in the middle*; they are the *means by which* we shape the world, and the means by which the world shapes us. Media are nothing less than the moorings of being: “Media are vessels and environments, containers of possibility that anchor our existence and make what we are doing possible.” (2015, p. 2)

This is an ambitious but essential move. Peters’s expansive vision of media would have us focus on this concept in the ablative case (see pp. 20-22). English does not have this grammatical case, which denotes movement or carrying away from something. (It comes from the latin ablatus, the (irregular) perfect passive participle of auferre “to carry away”). Thinking ablatively about media is not Peters’s invention—nor does he claim it as such. (Though to my knowledge he is the first to use this word in describing media theory). He is, as usual, very careful to acknowledge his intellectual debts. Peters talks at great length about a whole host of traditions — American pragmatism and cybernetics, German
idealism and medienwissenschaft, and Canadian medium theory as pioneered by Harold Innis.

Peters gives a lot of ink to Innis, and rightfully so — though he remains unfairly neglected (even in Canada), the economic historian provided a rich trove of conceptual and methodological tools for the study of media and communication history. And yet Peters, too (for all his careful reading of Innis), focuses almost entirely on his late-career turn to communication; a common error made by even those few of us that do read Innis. Let me explain what I mean.

Most scholarship on Innis places his light bulb moment about communication media far too late. It’s true that he did not use the terms media or communication until late in his career. Most notably, with 1948’s lectures at Oxford, published two years later as Empire and Communications, and 1951’s collection The Bias of Communication. In these works, Innis articulates his classic argument that the biases of dominant media shape the character of civilizations, marshalling social, political, and institutional life toward certain tendencies: spatial conquest, as with Rome and its parchment administration, or temporal endurance, as with monumental civilizations of Egypt or later religions of the papyrus book. But the ground for these insights was prepared much earlier. We should read these texts not as a conceptual rupture, as most do, but as the culmination of ideas and methodologies developed throughout the 1920s and 30s while conducting dirt research for his books on the fur trade and cod fisheries in Canada.
His field work on the fur trade led him to conduct ethnographic research on the beaver, and it was there that Innis discovered the ablative media concept (even if he did not yet have the language to describe this discovery). He took a decade to research the fur trade book, making annual summer treks into the Canadian hinterland. During these trips, he traced the vectors of circulation and exchange of the 17C fur trade by navigating the McKenzie, Athabasca, and Saskatchewan rivers of Western and Northern Canada in canoes and steamships, by portaging over marshland, and by camping out at mining towns and former trading outposts. For each of these journeys, he took meticulous notes. The Innis archive at the University of Toronto is full of hundreds of pages of ontical descriptions of his what he saw. [SLIDE x 3: hand-written notes, drawings of arrowheads and trapping techniques, typed up notes from Fort MacMuray]. This material varies wildly, speaking to the nature of Innis’s insatiable intellectual curiosity. He writes of conversations with locals, nuggets of oral histories about the slow, violent convergence of settlers and indiginous communities. He writes of the land and the waterways — the treacherous routes taken and the importance of navigation to economic and cultural activity. And he writes of the animal inhabitants of this land — beavers, most famously, but also Otter, Mink, Marten, Lynx, and Foxes.

The beaver is particularly important for Innis. He goes so far as to say that knowledge of the physiology and habitational patterns of the beaver is essential for any understanding — not just of the fur trade or Canadian economic history, but of Canada itself. Which is why he opens The Fur Trade in Canada with 5 pages of animal ethnography — notes about the composition of the beaver’s fur pelt, how it constructs dams, what it eats,
how it moves, and so on. (Similarly, his 1940 book on the cod fisheries opens with a discussion of the salinity and temperature of the Grand Banks off the southeast coast of Newfoundland and the specific gravity of cods’ eggs).

The beaver is privileged for Innis because it is a paradigm. In studying the beaver we understand the feedback loop between nature and culture—physis and techné—that propels social, economic, technological, and historical change. The beaver offers a window onto the development of technologies and techniques that establish civilizational infrastructures. Early fur trappers, Innis argues, learned from indigenous trappers. (“White men follow Indian methods,” he writes bluntly in his 1924 McKenzie River field notes). Both groups observed the beaver’s peculiar bodily and habitational techniques, mimicking them as they moved inland so as to adapt to inhospitable environments. (As Peters is fond of noting, it is an established biological fact that species flourish when exported to foreign environments—potatoes in Europe, bananas in the ‘new’ world, etc.; this is as true for culture as it is for agriculture (see Peters 2008, p. 3).

Cultivating and sustaining life in the Canadian wilderness—creating shelter and harnessing fire; preparing food; navigating terrain; engaging with local populations—required completely different cultural techniques than what European colonizers brought with them. They might as well have been on Mars. Unfortunately the story of their adaptation and flourishing is one of skimming knowledge from indigenous communities before systematically destroying their cultural practices and habits — a process of monopolizing
knowledge that would obviously inform Innis's later, more expansive explorations of historical monopolies of knowledge dating back 5000 years.

The beaver is a paradigm through which to observe such processes at a relatively small, Canadian scale. It shows that the story of Canadian colonization is not one of an idea (like manifest destiny), nor of a ‘productive’ convergence of ‘three founding nations’ (French, English, Indigenous; see Saul, 2008), but of cultural techniques of hunting and trapping, economic exchange and circulation. It is a logistical story about the movement of people, things, and data. This constellation of techniques is made intelligible by the paradigm of the beaver.

As they were hunted, beavers moved inland. As trappers followed, they left behind infrastructure. [SLIDE] They established trade routes, locations of exchange, and navigational patterns. As the colonial economy increasingly organized itself around fur as a ‘staple’ good, the temporary infrastructure of fur trappers became permanent: roads replaced paths, towns replaced trading posts, maps became standardized and institutionalized, enabling the eventual parcelling out of land plots, and steamships adopted the routes of canoes. The organization of economic activity around a single staple good that is relatively abundant in a peripheral colony (Canada) but highly desired in the central empire (first France, later Britain) established a pattern that continued long after the fur trade petered out. In later works Innis shows the importance of staples like lumber (1995) and cod (1940), while other scholars pursue Innisian research into oil and grain as staples (Watkins 1967). Canada's economy is still organized in this way. [SLIDE:
Athabasca Oil Sands). Staples, and the technologies and techniques used to extract them, are unseen operators that make a difference. They are the ‘hidden’ third party to any event or exchange; what Michel Serres calls the parasite (see Siegert 2008). For Innis, they are the most crucial objects of study for anyone interested understanding historical change.

Innis’s field work taught him to think ablatively, and by thinking ablatively he came to see infrastructure as the moorings of being. For Canada to became a nation with institutions and national identities and transportation systems and representative governments, it required a basic infrastructure upon which these second-order phenomena could emerge. He eventually applied these insights to the entire history of human civilization. Different historical situations offered him different paradigms for understanding: cuneiform tablets, hieroglyphs and pyramids, parchment and papyrus, newspapers and pulp. Each of these opened a window onto the infrastructure of civilization. They are the means by which people hold together in time and space (to borrow a phrase from Peters, 2013). And this is how the staples of his early work like fur, cod, or timber are related to his later interest in media of communication. They are paradigms.¹

¹ Paradigms, in Agamben’s (2009) reading of Foucault, establish a broader problematic context that they both constitute and make intelligible. They are not microcosms of an episteme but parts that stand in relation to other parts. Specific paradigms are privileged only to the degree that they establish a view over the relations of the entire episteme. There are many possible in a given historical moment. Each could be analyzed, but the logics encoded in them become clear through them and observable everywhere, e.g. the panopticon, the confession.

With Innis’s beaver we catch a glimpse of the ensemble of humans, techniques, environments, and animals that stands prior to Empire.
I have focused here on the media concept at the heart of Innis’s work, but much more could be said — in particular, about methodology and style. Dirt research is media archaeology *avant la lettre*. It’s about going ‘under the hood’ of networks of circulation, communication, and exchange in order to understand the ratios of time, space, and power that they produce and upon which they depend. It’s about emphasizing what typically remains hidden by conventional histories that focus on text/audience/institution. Innis’s field notes are a good template for this kind of work, which is surging to the foreground of media studies thanks to recent academic works like Peters’s and Nicole Starosielski’s *The Undersea Network* (2015), or journalistic studies like Mac McLelland’s (2012) ethnography of Amazon distribution centres. In Innisian fashion, they chart the spatial and temporal contours of contemporary networks of circulation, giving us insight into the ways that various devices (like infrared scanners and sorting machines), labour practices, and transportation systems intersect to establish the spaces (warehouses, highway systems, distribution centres) and times (time-to-delivery, seconds-per-transaction, etc.) of the new digital commerce.

Stylistically, Innis also offers a template. The late communication texts read almost like field notes from his archival journeys. They are unsynthesized lists of observations and quotations. James Carey called them “infernal quotation machines.”⁴ This style was, I think, Innis's deliberate attempt to develop texts with a generative, rather than analytical,

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⁴ “WH Auden wrote an essay ... in which he describes a poem as a contraption with a person hidden inside. Innis's prose is also a contraption – an infernal quotation machine of indirect speech – with its author elusively hidden within it. His work is both formal and chaotic, alternately disclosing and disguising the argument he seeks to register” (Carey 1999, p. 84).
bias; counterblasts against the mechanization of knowledge that capture something of the
dynamism and energy of orality on the page.

Media theory is ablative thinking about infrastructure. It identifies paradigms, like the
beaver, that offer a window onto this plane of activity. By going more granular, we open
up much larger questions of being and time; of ontics and ontology; of data and *Dasein*.
Second-order questions of meaning, content, device, ownership and identity are
important, but they cannot be asked properly if we are not aware of the infrastructures
and logistical operations upon which they rest. This is what Innis understood in 1930; this
is what the German tradition has re-discovered with the recent turn to Cultural
Techniques, and what thinkers like Peters are trying to do by forging a transatlantic
bridge between our traditions.

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