The Political Economy of Communication
4(2), 73–114

http://www.polecom.org

Reconstructing the Political Economy of Communication for the Digital Media Age

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Keywords: political economy; intellectual history; communication history

Abstract

Within communication studies, the political economy of communication (PEC) approach is typically seen to be the sole preserve of Marxist scholars, with origins in the late 20th century. Such a view, however, obscures an older, trans-Atlantic political economy tradition forged by Europe and North American scholars who made communications media central objects of their analyses in the late-19th and early-20th centuries. This earlier tradition was imported into communication studies through the halfway house of sociology, mostly after the turn of the 20th century, thereby thoroughly entangling the intellectual history of communication studies with that of political economy from the beginning. Moreover, the formative years of the field were never the barren 'administrative wasteland' often thought. Indeed, combined with the research done beyond the field's borders by economists, business historians, legal and regulatory scholars, etc. throughout the 20th Century, a wealth of underused resources is close-to-hand that can help us to reimagine and reconstruct what we mean by the PEC traditions today. This article starts to recover these neglected elements, and the contributions of the institutionalist and Cultural Industries schools especially. It closes with a survey of recent PEC research and a handful of provocations that contemporary researchers might explore: (1) in an evermore internet- and mobile wireless-centric world, bandwidth is king, not content; (2) subscriber fees are now the economic base of the media not advertising, by roughly a 3:1 ratio; (3) rather than seeing media as a 'unified system', developments vary greatly across media: some are growing fast, others stagnating, and yet others appear to be in decline; (4) people create, consume and share a lot of media outside the market; and (5) contra neoliberal mythology, the role of the state remains vital: as regulator, a counter to market power, investor and in terms of surveillance.

Within communication and media studies, the political economy of communication (PEC) approach is typically seen to be the exclusive preserve of Marxist scholars, with origins in the latter half of the 20th century. This article, however, argues that such a view obscures the PEC's much older and more diverse backstory, including the institutionalist and Cultural Industries schools that are still important today.

That the political economy of communication is typically seen in the ways just suggested is clearly apparent. One of the most prolific contemporary writers in this tradition, Christian Fuchs (2012), for example, declares that "the political economy of the media is Marxist Political Economy". Eileen Meehan and Janet Wasko (2013) also state that "scholars who identify as political economists of the media generally work within Marxist traditions" (40). Jonathan Hardy (2014) similarly highlights the Marxist core of the PEC and links its origins to the New Left of the 1960s (189-190). While Vincent Mosco's (2009) *The Political Economy of Communication* surveys a broad range of approaches to political economy, ultimately he suggests that when it comes to communication and media studies, the main lines of development are variations on Marxist political economy.

Critics of the field agree. Timothy Haven, Amanda Lotz and Serra Tinic (2009), for example, chastise "several generations of academics who have maintained an unreconstructed Marxist theoretical framework" (238). Lisa Holt and Lisa Perren (2009) similarly charge that "the North American strand of critical political economy is reductive, simplistic, and too economistic" (8-9). Stuart Cunningham, Terry Flew and Adam Swift (2015) say much the same thing. Further examples could be piled like so many leaves in Autumn, but the point is clear.

These views have become entrenched over generations of adversarial debates, form the Administrative/Critical encounter of the 1940s to the recurring tensions in the last three-and-a-half decades between Cultural Studies and Creative and Media Industries Studies scholars on the one side, and Critical PEC scholars on the other. Many "new materialist", "infrastructure studies" and "platform studies" scholars do not mention political economy at all, seemingly wary of tainting their "new materialism" with a whiff of the "old" Marxist stuff (e.g. Gillespie, Boczkowski & Foot, 2014: 7; Gitelman, 2006: 8). The rough consensus on all sides is that the PEC emerged from the work of Dallas Smyth and Herbert Schiller in tandem with the rise of New Left politics in the 1960s, although some include Harold Adam Innis' *Empire and Communication* as well as *The Bias of Communication* (1950 and 1951, respectively). Theodor Adorno's chapter on the Culture Industry in *The Dialectic of the Enlightenment* (1947/2002) is also regarded as a founding text.

A closer look, however, reveals that an incipient approach to the PEC emerged in the late-19th and early-20th centuries, long before Smythe, Schiller, Adorno or Innis. This could be seen in the work of European and North American scholars such as Karl Knies, Karl Bücher, Albert Schäffle, Ferdinand Tönnies, Charles Horton Cooley, Edward Ross, Albion Small, Franklin Giddings, Richard Ely, Thorstein Veblen, amongst others. Indeed, arising during the 'progressive era' as it is called in the US, and the 'age of social reform' in Europe (Sklar, 1988; Rodgers, 2000), these scholars saw extended networks of communication and transportation, and the greater mobility of capital, goods, people, knowledge, news and culture they enabled, as central to the then-new age of capitalist modernity.

In short, communications and media had already become significant objects of inquiry within a loose, cross-Atlantic political economy tradition - a formation that predated the differentiation of the social science disciplines in the early to mid-20th century – and the emergence of PEC in its contemporary Marxist form. The earlier tradition was imported into communication studies through

the halfway house of sociology, mostly after the turn of the 20th century. To put it boldly, political economy is the mother of communication and media studies, if we look back far enough and carefully enough across the disciplines.

Moreover, many others who worked beyond the field's disciplinary boundaries - economists, legal and regulatory scholars, business historians and others - dealt directly with issues of monopoly, anti-trust and regulation in many communication and media industries (including news wire services, telecommunications, film, broadcasting, and computing). Their efforts bequeath to us a wealth of resources that can help us to reimagine and reconstruct what we mean by the political economy of communication.

The article concludes by surveying contemporary work being done by political economy scholars. I will attend to the broad structures and finer details of the telecoms, internet and media industries, while proposing some themes around which contemporary research might be fruitfully advanced. These can be listed as follows:

1. In an ever more internet- and mobile wireless-centric world, the media infrastructure industries [1] are now the centre of gravity around which the rest of the world and 'the media' revolves. Bandwidth is king, not content, and our research priorities should reflect this reality (Odylzko, 2001);
2. Subscription fees and the pay-per model have become the main source of revenue in the media economy compared to advertising by roughly a 3:1 ratio. They constitute the 'economic base' of the media. This has enormous implications for what we should be focusing on and how we should think about the 'audience commodity'.
3. While a heightened state of flux affects all media, the dynamics of such processes vary greatly - some media are growing quickly, others are stagnating and yet others (mostly advertising-based) may be in terminal decline (Miege, 2011; Noam, 2016; Preston and Rogers, 2012).
4. People create, consume and share a lot of media outside the market (Benkler, 2006; Garnham, 1990; Lobato and Thomas, 2015; Miege, 1989).
5. Against the discourses of 'neoliberalism' and 'deregulation', the role of the state remains vital. Such is demonstrated by the growth of telecoms and media regulators worldwide since 1990 (from 14 to 166), the increased state investment in broadband internet infrastructure, the responses to high levels of concentration in *some* media markets, and the spread of mass internet surveillance.

Back to Marx: Fragments on communication and capitalist modernity

There is no need to shy away from Marxist political economy so long as we accept that Marx offered partial fragments on communications rather than anything programmatic. Indeed, even stern critics, such as Joseph Schumpeter (1943/1996), praised Marx as the analyst of capitalism while pouring scorn on Marx the Prophet of Communism. C. Wright Mills (1953) also offered a very useful 'inventory of Marxist ideas' and 'rules of criticism' that still stand up well today.

Before Marx, Adam Smith saw communications media as evolving and expanding the market *within* the framework of the existing social order, national political cultures and institutional contexts. Smith also stressed the interaction between markets *and* states, in contrast to the free-market zealotry often attributed to him since. He saw 'varieties of capitalism' where others saw (and still see) capitalism as a 'universal system', a one-size fits all view (Smith, 1776/2000: 22-23; Arrighi, 2009; Garnham, 2011; Melody, 1987: 1318).

Unlike Smith, Marx (1867/1978) depicted capitalism as a revolutionary new kind of society driven by the universalization of commodity exchange and the "creation of a world market" (163). Improvements in communications expanded the reach of markets while deepening the division of labour, but, most importantly, they served as the information infrastructure of the capitalist mode of production (Calhoun, 1992). As Marx (1867/1972) put it:

> [c]apital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange -- of the means of communication and transport—*the annihilation of space by time* -- becomes an extraordinary necessity for it . . . . [T]he production of cheap means of communication and transport is a condition for production based on capital, and promoted by it for that reason (459, emphasis added).

While communication scholars typically stress the links between the development of communications networks and the practices of politics, war and imperialism (Headrick, 1991), Marx saw communications infrastructures as developing along the lines of commerce and trade. These infrastructures were primarily shaped by capital investment, mainly in the North Atlantic region. They were developed least, and last, within the underdeveloped territories of the British, European and Japanese empires. This occurred only after much state aid (not just by one 'government' but several in cooperation with one another). Private enterprise operated in relation to these institutional settings. The British-based Eastern Telegraph Company, for example, laid a series of submarine telegraph cables around the African continent only in the 1880s and 1890s -- decades after it had done so in the more economically developed areas of the world economy (Topik and Wells, 2012: 84-97; Winseck and Pike, 2007).

As the dynamic processes of capitalism unfolded, Marx saw the everyday life of people as becoming enmeshed in distant events, more specialized, more subject to constant change and more segmented. Greater social differentiation, not homogeneity (as encapsulated by the 'mass society') was the result. In contrast to 2000 years of thinking since Aristotle that saw economies as embedded within society and directed for multiple purposes (e.g. production for self-needs; for others with whom one shares a bond of love, kinship or proximity; and for impersonal exchange via markets), Marx saw capitalism as an end unto itself to which all else was subordinated, including people's lives (labour). Capitalist societies are based on conflict, not harmony, between those who push to expand the market against those who resist the subordination of the whole world to economic forces. Conflict is generated also between social groups over the control of resources. In Marx's view, the accumulation of wealth confers power, while efforts to conserve both can be used to deter technological, economic, political and cultural changes that might threaten the status quo. Capitalism, however, is an extraordinarily dynamic system. By incessantly revolutionizing the forces of production (technology), space and time are *annihilated* as barriers to capitalism's expansion and a class's given place in the world will ultimately be destroyed ('all that is solid melts into air') (Calhoun, 1992; Schumpeter, 1943/1996).

About the rise of 'big business' Marx offered both general and specific insights. He highlighted, for example, the rise of the joint stock company, the large capitalization (concentration) of individual firms, and the consolidation (centralization) of industries and markets. He also commented on the development of national and international wholesale news-wire services like Reuters, Havas, Wolff, and the Associated Press. He described their development in the *Grundrisse* as follows:

> . . . institutions emerge whereby each individual can acquire information about the activity of all others and attempt to adjust his own accordingly, e.g. lists of current prices, rates of exchange, interconnections between those active in commerce through the mails, telegraphs etc. (the means of communication of course grow at the same time) (Marx, 1867/1972: 99).

This observation also implies a critique of mainstream economists' assumption that buyers and sellers 'possess an encyclopedic knowledge of commodities' (perfect knowledge). If everyone had 'perfect knowledge', why would such services even exist? This was the first inkling of a persistent problem in economic theory that future economists would come back to time and again, as we will see. More than this, however, specialized news services are recursively implicated in economic processes as well, given their influence on readers' perceptions (and thus their actions). Information does not just reflect markets, but helps to *constitute* them. As Lloyds of London, a giant international maritime insurance firm, stated a few decades after Marx, "telegraphs and cables increase the *information component of business transactions* and provide businesses with knowledge about markets before they enter them" (Britain, 1899: 156, italics added).

Marx developed his critique of the political economy of capitalism while working as a highly respected journalist from the 1840s to the 1860s. For example, he edited the *Rheinische Zeitung* newspaper while studying political economy in France. He was also a regular contributor to the *New York Daily Tribune*, one of the largest-circulation dailies in the US. Marx also valued the liberal theory of the free press, but his own experience taught him that newspaper publishers, business interests, and governments routinely intervened in the work of journalists to influence public opinion. Those lessons appear to inform the passage in *The German Ideology* where Marx and Engels famously state:

> . . . The ideas of the ruling class are in every epoch the ruling ideas, i.e. the class which is the ruling material force of society, is at the same time its ruling intellectual force. The class which has the means of material production at its disposal, has control at the same time over the means of mental production, so that thereby, generally speaking, the ideas of those who lack the means of mental production are subject to it (1846/1932: 64-65).

At the time Marx was writing - the mid-19th century - the forces of political reform and revolution were spreading across Europe. In those battles, governments, capitalists, conservatives, liberals, and elites of all kinds feared and loathed the political forces bubbling up from below and bent on changing the world. And they spared no energy in counteracting (suppressing) those forces. Liberal guarantees of a free press, free personal correspondence over the wires and through the mails, and the allied right of privacy (including the use of secret code) were delimited in practice. Governments, however, monitored and censored telegraphs and the press for reasons of national security, public order and moral decency. They anchored their authority to do so in international telecommunications law with the constitution of the Austro-German Telegraph Union (established 1850) and the West European Telegraph Union (1855). After those two entities merged, the International Telecommunications Union (1865) was formed. Similar threats to liberal guarantees persist to this day (Koskenniemi, 2002).

Few PEC scholars still adhere to the dominant-ideology thesis of *The German Ideology*. Although the idea that powerful interests use the media to achieve their goals is undeniable, in both Marx's time and today, the notion that the media are little more than the playthings of those who

own them is too crude. Evidence of editorial meddling is anecdotal (even if not infrequent) rather than systematic. The concept of a dominant ideology ignores the fact that media content can be created that runs *counter* to the perceived interests of media owners, governments or business. It is also unclear whether capitalism requires the kind of 'cultural glue' that the concept of a dominant ideology entails (Abercrombie, Hills and Turner, 1980, Thompson, 1990). Media are sites of contested meaning (between dominant, negotiated and oppositional readings, to use Stuart Hall's terms), rather than just tools of power. The focus on ruling-class ideology marginalizes analyses of the media as objects of economic and institutional analysis. To the extent that the PEC scholars reflect this tendency - in line with the emphasis in communication studies generally - they give excessive privilege to 'the text' and to questions about meaning at the expense of other pressing analytical concerns.

Crucially, the *structure* of media ownership that lent support to the 'dominant ideology thesis' when Marx was writing has changed. In the mid-19th Century, newspaper and book publishers were mostly individuals (media moguls). The media mogul, however, has been steadily cut down to size since, replaced by shareholders who provide capital in return for a cut of the profits, while hired expert managers and editors run daily operations (Murdock, 1982; Garnham, 1990). By 1984, only a third of media companies in the US were owner-controlled. By 2009, the proportion had fallen to 25 percent. The trend is global, even if it varies from place to place and from media to media. Of course, there are major exceptions to the rule, such as Rupert Murdoch (News Corp), John Malone (Liberty Media), Brian Roberts (Comcast), Sumner Redstone (CBS and Viacom), Larry Page, Sergei Brin and Eric Schmitt (Google/Alphabet), Mark Zuckerberg (Facebook) and Robin Li (Baidu). The trend still stands, however. The interests of shareholders, expert managers and editors tend to be more diffuse, cross-cutting, and aligned with the capitalist system generally (in contrast to the older tendency whereby powerful individuals used the media they owned to advance their own ideological agendas) (Murdock, 1982; Noam, 2009: 8; Noam, 2016: 1200-1201).

For these reasons and more, most Marxist political economists have spurned the dominant ideology thesis for decades (eg Garnham, 1990; Golding and Murdock, 2005; Murdock; 1982). Critics of PEC that still lob the instrumentalist charge in spite of such realities are being dishonest and acting in bad faith (see chapter 2 in Cunningham, Flew and Swift, 2015) [2].

After Marx: An intellectual history of the PEC, circa 1880-1920

While Marx was early to the scene, others soon followed, but not necessarily in his footsteps. And, in contrast to his passing observations (and those of Adam Smith before him), scholars such as Charles Horton Cooley, Edward Ross, Albion Small, Robert Park, Franklin Giddings and Thorstein Veblen put communications at the heart of sociology. For them, developments in communications networks involving the post office, telegraph and telephone, and the mass media were their central objects of inquiry. Key figures in communication studies actually cut their teeth doing research for early regulatory agencies. Cooley, for instance, worked for the Interstate Commerce Commission. Formed in 1887, this was the first agency in the US to regulate transportation as well as telegraphs and telephones and, after 1912, wireless communication (Cooley's father was the ICC's first director) (Simonson, 2012: 3).

As Cristobal Young (2009) observes, Americans flooded into German universities between the 1890s and 1910s, where political economy was rooted in historical sociology, the stages of social and economic development and the "*interrelation between cultural and economic history*" (94,

emphasis added). The Americans went abroad to study with political economists and economic historians such as Albert Schäffle, Karl Knies, Karl Bücher, Ferdinand Tönnies and Gabriele Tarde. They brought what they learned back to North America and into sociology. The new discipline thereby gained its independence from economics. In this cross-Atlantic traffic of scholars and ideas, sociology arose out of European approaches to political economy, and early versions of sociology put the study of communication at the centre of attention (Cooley, 1910; Hardt, 2001; Peters and Pooley, 2012: 403; Rodgers, 2000; Simonson, 2012; Young, 2009: 92-93).

In the US, these ideas initially took root in economics departments and were well represented in the American Economic Association (AEA). Richard T. Ely, a founding member and early president of the AEA, and a professor of political economy at the University of Wisconsin-Madison, had also been a student of Karl Knies at the University of Heidelberg. Ely, in his capacity as the president of the AEA, helped sociology slowly gain its autonomy from economics in the early decades of the 20th century. Ely and Ross were also colleagues at the University of Wisconsin-Madison; the latter's student, Albion Small, became a key force in the development of sociology and communication research. In fact, Small, Giddings, Cooley and Ross played lead roles in establishing the first separate sociology departments at Chicago (1894), Columbia (1924), Michigan (1929) and Wisconsin (1929). Each of these became influential centres of early communication research.

While some of these figures contributed to the early conceptual groundwork for communication studies and institutionalizing sociology within the US, it is less well-known that they self-identified as political economists and were trained as such. In other words, they are the first PEC scholars, and their work predates not only the formalization of the Marxist PEC, but also communication and media studies itself as a separate field of inquiry. While it is simplistic to categorize them under a single label, in this disparate group of individuals one finds the nucleus of the institutionalist approach to political economy.

A common focus for this early generation of political economy scholars was the development of national and international postal and telegraph systems, railways, low-cost printing, and the telephone. These innovations had all helped to enlarge the sphere of commerce, social interaction, and human experience, while potentially freeing people's minds of the parochialism found in small groups and localities (Calhoun, 1992; Hardt, 2001; Sklansky, 2000: 102). As Cooley observed, just as the "the railroad had transported Americans into an economy of abundance and interdependence; the communications revolution of the nineteenth century promised no less than 'the expansion of human nature itself'" (cited in Sklansky, 2000: 102-103). Likewise, Bücher stressed how the advent of national postal, railway, and telegraph systems had underpinned German economic and social development as well as the growth of newswire services and daily newspapers. In North America and Europe alike, corporations of unprecedented size, reach and capitalization built, owned and operated the large technical networks (systems) that facilitated the flow of messages, intelligence, and money. Effectively, they controlled the central conduits for the lifeblood of economy and society. This was the age of AT&T, Cable & Wireless, Marconi, RCA, Siemens and Western Union, and the complex technological systems they built lasted for decades, and even a half-century or more. They exemplified the centralization of ownership in the hands of well-capitalized and professionally managed firms alongside parallel efforts to avoid 'ruinous competition' (Veblen, 1921: 8-13; Danielian, 1939; Schumpeter, 1943/1996). An underlying concern in all of this was that of the crisis of control. Society had lost influence over these enterprises and the technological systems they had built, while governments struggled for at least a half-century to develop an

adequate response (Beniger, 1989; Chandler and Cortada, 2003; John, 2010; Kahn, 1971/1988; Melody, 1987; Polanyi, 1957/1996; Sklar, 1988).

There is a tendency in the existing literature to focus on the forces of monopoly, geopolitics, territory, states and nationalistic views of technology and culture. However, this downplays the role played by business and market forces, the technical details of the media, the informal media economy and the contribution of media audiences (users) to the development of the 'industrial media era' (Gitelman, 2006; John, 2010; John and Silberstein-Loeb, 2016; Lobato and Thomas, 2015; Stamm, 2011; Winseck and Pike, 2007). To the extent that competition is examined, it is too often treated as merely a prelude to consolidation. The 'anti-monopoly' voices that challenged this drift of affairs are too often cast as belonging mostly to populist and agrarian movements. However, the anti-monopoly creed actually appealed to a much wider cross-section of interests, including early PEC scholars. In fact, it was a mainstay of liberal and laissez-fair political economy in the US and Europe during the progressive era/age of social reform (John, 2010; Sklar, 1988; Rodgers, 2000). Later, institutionists who analyzed the political economy of the communication industries - as regulated utilities, common carriers, and the main information infrastructures of industrial capitalism during the 19th and 20th centuries - such as William Melody, Harold Trebing and Alfred Kahn, were staunchly anti-monopoly but not in the least populist (see further below).

Competition in telephony, for example, did not arise primarily from small, rural outfits after Bell's telephone patents expired in 1893 as conventional wisdom holds. The real competition occurred between the soon-to-be AT&T and Western Union a decade-and-a-half earlier in New York, Boston, Chicago and Montreal. In the process, both corporations threw vast sums of money at the leading engineers of their time – Thomas Edison, Elisha Gray, and Alexander Graham Bell. Together, they churned out a cluster of cutting-edge technological innovations that came to shape the communication and entertainment industries well into the 20th century. These were: the quadraplex technology that doubled the speed of telegraphs; the telephone; the phonograph; and cinematography equipment. As Richard John (2010) observes, all these innovations arose out of the odd conjunction of an anti-monopoly political economy *and* strong intellectual property protections (156-164).

Instead of continuing their cutthroat competition, however, Western Union and the backers of the soon-to-be AT&T agreed to wind down their rivalry in order to face a common enemy: Jay Gould, the infamous 'robber baron' who was seeking to acquire both firms. On account of their truce in late 1879, all of Western Union's telephone patents and municipal exchanges were given to Bell in return for annual royalties and pledges to stay out of one another's markets. Thereafter, the two fields were divided. In Europe, however, a different trend emerged: telegraphs and telephones were typically combined under state-owned Post Telegraph and Telephone administrations, thereby revealing a key lesson in political economy: the same technologies in various capitalist societies will generate different institutional arrangements and outcomes in each case (John, 2010: 160-170; Wallsten, 2005).

Competition in and between different 'communication carrier industries' - such as the telegraph and telephone, and wired and wireless technologies - drove technological innovation *across* the media. The heated rivalry between Western Union and AT&T, for example, led to fundamental advances in telegraph and telephone technology, and to institutionalization of the industrial research lab (Edison labs - Menlo Park). That enabled the growth of the recorded music, movies and parts of the broadcasting industries after this 'goliath versus goliath' battle subsided. It should be acknowledged that the 'end use' of each of these 'new media' was only established after being in

the hands of 'users' [3]. As a result of such processes, the entertainment industries in the Anglo-European world took off after the 1880s, and in Argentina, Brazil and India over the next two decades (Bakker, 2008; Gitelman, 2006; John, 2010; Parthasarathi, 2005; Silberstein-Loeb, 2008; Stamm, 2011; Winseck and Pike, 2007).

AT&T's role in the development of the broadcasting and the film industries in the US was huge. The company single-handedly rewired the movie business for sound in the late 1920s and early 1930s. It left radio broadcasting, however, because of inter-corporate agreements between itself and others (e.g. General Electric, RCA, Westinghouse) in the mid-1920s. The communications field was thereby carved up into areas of mutual exclusivity (with the government's blessing). A&T then exited the movie industry at the end of the 1930s in the face of threats of anti-trust litigation (Danelian, 1939; Wasko, 1981). In sum, yes, there was a long march from 'methodless enthusiasm' and 'ruinous competition' to 'consolidation', as R. L. Thompson (1947) states in *Wiring a Continent*, but the line from one end to the other was long, messy and more contested than he and many others asserted. Moreover, 'market segmentation' meant that consolidation was *never* complete, and the US government's communications policy - and that of Canada, the UK and others - kept things that way for much of the rest of the 20th Century.

While consolidation often occurred *within* specific communications sectors, business and governments supported market segmentation for a variety of reasons. Business interests did so because they wanted to dull the sharp edges of 'ruinous competition' [4]. Governments did so to constrain large corporations' capacity to use their market power to influence markets *within* and *across* different industries in order to "block private accumulations of power and protect to democratic government" (Hofstadter, 1965: 188-200). Protecting competition was also seen as a good thing because it spurred fundamental innovations in communications (Levin, 1969). Consequently, the communications field was divided up into four largely separate silos: telecoms, broadcasting, print and, a few decades later, computing (Adams, 1955; Babe, 1990; Barnouw, 1976; Kahn, 1971/1988; John, 2010: 168-170). These are the origins of 'media divergence'.

During these formative years of the 'industrial media age', circa 1900-1940, those who owned the means of dissemination generally stayed out of the media content industries; some newspaper and theatre owners invested in commercial radio where it was permitted (Australia, Canada, Latin America, the US, for example). Overall, the interrelated culture industries – film, music, radio, television, and news – developed in close relation to the state and post, telegraph and telephone systems, but operated independently. How technologies, markets and the state interact to shape the development and arrangement of communications media in any given time or place is a central task of the institutionalist approach (Babe, 1990; John, 2010; Kahn, 1971/1988; Melody, 1987; Miege, 1989; Stamm, 2011).

Early institutional PE scholars such as Karl Bücher and Edward Ross carefully chronicled the rise of the press as a capitalist enterprise on both sides of the Atlantic. Bücher, for example described the commercial press in Germany as a giant "capitalistic enterprise, a sort of news-factory within which a great number of people . . . are employed on wage, under a single administration, at very specialized work" (quoted in Hardt, 2001: 90). In the US, Ross (1910) [5] pinpointed "three economic developments in the field of newspaper publishing" that were fundamentally changing the ownership, financing, structure and function of the press (303). As he put it:

> . . . the editor who uses his paper to air his prejudices, satisfy his grudges, and serve his private ambitions, is going out . . . . The necessary plant is so costly, and the Associated Press franchise is so expensive, that the daily newspaper in the big city has

> become a capitalistic enterprise. . . . This drifting of ultimate control into the hands of men with business motives is what is known as 'the commercialization of the press' (303).

Leading up to the time he wrote, advertising revenue had soared from less than half of all revenue at a typical big city newspaper to between two-thirds and 90% over a thirty-year period. The "role of journalism as a cornerstone of liberty and democracy was becoming a mere convenience of commerce" (Ross, 1910: 304-305). Similar processes took place in Canada (Sotiron, 1997: 4-7), but only decades later than in the US or Germany. Greater reliance on advertising revenue and the need for higher levels of capitalization also led to the "subordination of newspapers to other enterprises", Ross observed (1910, 305). This broad characterization also anticipated Theodor Adorno's claim decades later that the *whole* 'Culture Industry' was positioned in this way. Ferdinand Tönnies encouraged his contemporaries to take "the press as a capitalistic enterprise" fully into account in studies of public opinion, and cited Ross's work as the basis for doing so (cited in Hardt, 2001: 123).

By the early-20th Century, government intervention in communications, media, and information markets had become extensive and routine. Governments allocated rights to private enterprise to use scarce public resources like streets, sewers, spectrum and utility poles, for example. They extensively subsidized some of the means of communication, such as the Post Office in the US (and elsewhere). This was the cornerstone of media and information policies explicitly designed to cultivate a vibrant universe of social correspondence and a 'free press'. Outside North America, governments also owned telegraph, telephone, wireless, radio and television services in some provinces/states and municipalities in Canada, the U.S, UK, France, Denmark and Sweden. While technology and economics were obviously key factors in each case, politics was decisive, and developments varied greatly from one place to the next because of that fact (Starr, 2004; John, 2010; Wallsten, 2005).

Governments also expanded and remade copyright and intellectual property laws to help bring about new forms of *informational property*. Indeed, the old physicalist regime of property rooted in the mutually exclusive possession of tangible things (e.g. land and other physical resources) that had held sway since the 17th Century [6] slowly ceded to the *bundle of rights* view formalized by US legal scholar Wesley Hohlfeld. In the 1920s and 1930s, this "dephysicalized", 'bundle of rights' model saw property as a cluster of competing claims to value from 'material property' and intangible things like goodwill, patents, information and news (Boyle, 1996: 73; Vandevelde, 1980: 333-345).

In the US, it was not until 1918 that the Supreme Court accepted that news was a form of 'quasi-property' (in the *International News Service versus the Associated Press* case) [7]. Ironically, the court drew on the Marxist labour theory of value to achieve this result, arguing that while the thing itself - 'news' - hardly fitted the model of property, the amount of journalistic labour expended plus the capital and machinery dedicated to making the news merited treating it this way. Justice Warren Brandeis warned, however, that superimposing the legal container of property over top of the news could constrict its circulation within the body politic. The idea of property could end up swallowing up the whole world as the courts were pressed to recognize every new source of value as property (Boyle, 1996; Tworek, 2016; Vandevelde, 1980).

Similarly, while governments did not recognize a property right to spectrum, once commercial radio was accepted the spectrum licenses they issued soon became de facto property. Their value was reflected in the price of buying and selling broadcasting stations, [8] as Thomas Streeter's (1996) *Selling the Air* recounts. Thus, as information and communication resources increased in

value, the law of property swung in behind to bolster the trend (Babe, 1995; Boyle, 1996; Melody, 1987; Vandevelde, 1980).

Governments also regulated market power, wholesale and retail prices for telecoms services, network interconnection agreements, and technical standards. Over a fifty-year period, they constructed an entirely new legal and regulatory edifice for the telecoms and media industries. Crucial concepts like common carriage that had been developed in common law for centuries were institutionalized. States intervened extensively to secure the economic base of other public goods as well such as libraries and education. The record of these efforts still stands as an underused trove of resources for researchers (Blondheim, 2004; John, 2010; Kahn, 1971/1988; Streeter, 1996).

Of course, governments also promoted trade and fought wars. Free trade as general policy became the basis for developing submarine telegraph cables for the UK and US. They were extended around the world from the late-1860s, with major boom periods in the 1870s and 1880s, and then again after the 1920s. Marconi and Telefunken - the German wireless company - set up their own branch plants in the US and other countries before the war as well. Indeed, the world was more open to foreign investment, and companies less closely tied to national interests, than is often assumed. An 'iron triangle' of information power – the surveillance of message flows, censorship (blocking traffic and cutting cables) and propaganda -- was imposed in WWI but then mostly dismantled afterwards [9]. Marconi's radio assets were taken over by the military and its patents pooled and divided amongst American telecoms and electronics companies to create the Radio Corporation of America. The Wilson Administration tried to formalize the free flow of information principle after WWI as part of its bid to restore the belle époche of liberal internationalism/imperialism that had existed before the War, but several of the big US communications companies hated the idea (e.g. RCA, the Commercial Cable Company, All Americas Cable Company). As most European governments and Japan opposed it as well, the idea was stillborn (Rogers, 1918; Winseck and Pike, 2007: ch. 8).

In sum, the late 19th and early 20th centuries saw essential elements of the industrial information age (Benkler, 2006), the control revolution (Beniger, 1989) and the ideology of corporate liberalism (Sklar, 1988; Streeter, 1996) put into place. With each expansion of the market and technology, countervailing pressures arose to keep them under human (social) control. Karl Polanyi (1957/1996) called this the "double movement". States and markets became forever intertwined as a result (Lindblom, 1977). New communications media held forth the prospect of enlarging the realm of mental imagination and social intercourse so as to bring personal life into line with the enlarged scale of the modern world. Whether anything like that would have been enabled by the then current arrangements of ''business", as Veblen (1921) understood the term, was an open question (Calhoun, 1992; Cooley, 1910; Tonnies, 1887/1955). Such prospects, however, were not very good in any case. As Walter Lippmann (1920) noted in his classic, *Liberty and the News*, the biggest factor limiting the flow of international correspondence and news was the high cost of telegraph and news wire services (3).

Here we have many familiar leitmotifs of the PEC, and they were there at the founding of communication studies. They tend to be missed in the exclusively Marxist focus the field has taken, but they are worthy works deserving of equal recognition within the PEC canon. In this early era, it was not Marxist PEC that was leading the charge but institutionalists. They took an inductive, empirical, mid-range theoretical approach to the issues (some say they were 'merely descriptive'). Their terms of critique were usually liberal and reformist, but occasionally quite radical, as in the case of Thorstein Veblen. Their politics aside, one thing is clear: all of these thinkers contributed to

the ongoing development of the PEC. How did these early versions of PEC get forgotten? Crucially, after World War I, the transatlantic intellectual exchange dried up, and methodological nationalism prevailed (Beck, 2005; Rodgers, 2000). Sociology's newly gained separate institutional status also cut against the interdisciplinary grain of early PEC work, as did administrative communications research from the 1940s.

Administrative and critical communication research: Antagonistic foes or strange bedfellows?

Administrative and critical research traditions were never as pure as some make them out to be. Consider, for example, Paul Lazarsfeld, the hero of early communications research, but the bête noir of critical scholars. As an Austrian, Lazarsfeld likely had a sense of the transatlantic intellectual currents mentioned previously. In 1939, he set up the Bureau of Administrative Research at Columbia University just as commercial radio was really taking off. Lazarsfeld stocked the Bureau with important scholars like Robert Merton, a leading sociologist and an expert on Marx. Theodor Adorno was brought on for the "Radio Studies" project, while C. Wright Mills, a critical sociologist and another expert on Marx, did some of the fieldwork for Katz and Lazarsfeld's (1955) classic *Personal Influence*. If we judge a person by the company they keep, then Lazarsfeld was clearly a man with a curious mind, and was receptive to critical theory, even if not enamored with it (Simonson and Weiman, 2003).

Lazarsfeld has been chastised by many for making the media industries 'off-limits', but Simonson and Weiman (2003) quip that his and Merton's analysis of media would "make a Marxist mother proud" (23). They pointed to the following passage to establish their point: "The present organization of business ownership and control of the mass media . . . have served to cement the structure of our society" (Lazarsfeld and Merton, 1948: 117-118). Lazarsfeld and Merton were clear as well that there are at least three conditions where media effects can be quite powerful: where information sources are monopolized, canalized and supplemented (when media messages conform to what people hear from the 'opinion leaders' they trust). This was not a view of 'minimal effects', in other words, but an effort to precisely state the social *and* structural conditions under which media power worked (Simonson and Weimann, 2003: 25-26).

For Adorno, however, feeding Lazarsfeld critical ideas that could be turned into practical research questions was never satisfying. In contrast to Lazarsfeld's precision, Adorno offered sweeping statements about the Culture Industry in the famous chapter of that name that he wrote for his and Max Horkheimer's (1947/2002) *The Dialectic of Enlightenment*. That he referred to the 'culture industry' in the singular was no minor matter. It signalled his central argument: all forms of cultural expression - movies, music, radio, theatre, books, the press - were new frontiers of economic growth and bore the unifying stamp of industrial capitalism. The culture industry had become a big business in its own right, he observed, but it was still a minor amongst the giants of the banking and electronics industries upon whom it depended for money and technology. In Adorno's eyes, Marx's base/superstructure model was passé because culture and commerce had become one and the same thing - each supporting the other in a self-referential and amplifying loop. And as culture lost its moorings as an autonomous space in the world for critical thought, life became just a series of personal adaptations to what *is* rather than what might *be.* This was the promise of the Enlightenment denied.

While Adorno's arguments resonate with Ross, Bücher, Cooley and Tönnies' focus on the industrialization of culture, he does not mention them. His thesis was also curiously separate from much else that was taking place when he wrote. The 'monopoly question' was indeed a problem, but not in the abstract way Adorno talked about in the 'Culture Industry'. The question played out in pitched battles through the courts and amongst economists and legal scholars.

Like Adorno, C. Wright Mills also thought that the Marxist concept of ideology was passé. In his view, to the extent ideology does exist, it functions as a kind of cultural glue that binds together elites so they can see the world in similar ways (Abercrombie, Hill and Turner, 1980; Thompson, 1990). Generally speaking, however, capitalism does not need cultural consensus to maintain itself over time. Conflict, not consensus, is the order of the day. Mills, however, did think that public opinion was still important, and agreed with Katz and Lazarsfeld's (1955) *Personal Influence* study that it had not been steam-rolled over by the mass media. He did, however, argue that Katz and Lazarsfeld's view of influence wrongly equated the power of 'personal opinion leaders' (individuals) with that of 'media sources' (institutions). He also argued that effective public opinion demanded a certain set of conditions:

> . . . (1) Virtually as many people express opinions as receive them. (2) . . . [T]here is a chance to immediately and effectively answer back any opinion expressed in public. Opinion formed by such discussion (3) readily finds an outlet in *effective action*, even against – if necessary – the prevailing system of authority. And (4) authoritative institutions do not penetrate the public, which is more or less autonomous in its operations (Mills, 1956: 326).

None of these conditions were close to being met, in Mills' view. The US communications media did not amplify 'the people's voice' - that is, the public conversation –-but rather stood arrayed against the American public as a one-way channel between the few and the many.

Mills' critical theory of the conditions for 'effective' public opinion prefigures Jurgen Habermas' *The Structural Transformation of the Public Sphere* (1962) and the two volume *Theory of Communicative Action* (1987). Both books are animated by the concern that the liberal model of the public sphere and rational communication has been eroded by commercial forces. There is no longer the capacity to generate the kinds of public discourse and culture that will sustain modern democracies. Like Mills, Habermas never believed that public opinion had been neutered, just neglected, manipulated or squandered. Thus, twenty years after *The Power Elite*, he cites Mills (and Katz and Lazarsfeld) approvingly to make just that point: "the independent weight of everyday communication in relation to mass communication has been confirmed again and again" (Habermas, 1987: 435). Yet, for both Habermas and Mills, the key point is that people can talk all they want (free speech), and they do, but the real problem is, who will listen? Mills and Habermas also share the idea that 'systems of power' are no longer intelligible to people and have grown impervious to their input. To use Mills' terms, 'authoritative institutions' have also 'penetrate[d] the public'. Habermas critiques how the 'systems world' –technology, markets and the state – and the penetrative powers of 'instrumental rationality' have colonized the lifeworld and eroded the powers of communicative rationality. The critique of communication and power they offer marks a further step away from the 'dominant ideology' thesis [10]. Again, both of them (and Katz, Lazarsfeld and Merton, but each in their own way) continued to see the power of communication, reason and public opinion as essential to keeping the 'culture of democracy' alive.

The communications industries and the new anti-trust debates

While Lazarsfeld, Merton, Adorno, Mills and Habermas provided accounts of public opinion that presumed a certain view of media structure, they did not detail the structure and ownership of the media industries. Others did, however. Take N. R. Danielian's *AT&T: the Story of Industrial Conquest* (1939), for example. It is a well-informed and trenchant critique by a 'rogue' economist, who feared that his research for an early FCC inquiry into AT&T's dominance of not just the telephone industry but of the broadcasting, film and electronics industries would never see the light of day. The fact that the FCC's inquiry led AT&T to leave Hollywood by the end of the 1930s after it had carved out a large role for itself by rewiring film production studios and theatres in the late-1920s before financing films in the 1930s, revealed the extent to which the film industry had *not* been fully subordinated to the electronics industries. Mae Huettig's *Economic Control of the Motion Picture Industry* (1944) and Hortense Powdermaker's *Hollywood, the Dream Factory* (1950) were part of the zeitgeist as well. Michael Conant's *Antitrust in the Motion Picture Industry* (1960) written a decade later can also be added to the list. None of these sources or the questions they dealt with is mentioned in Adorno's account.

Actually, a decent PEC history of the communications industries could be written from the vantage point of antitrust. Such a history could start from the creation of the Motion Picture Patent Trust Company in 1908 until its break up on anti-trust grounds a decade later. This was followed by AT&T's Consent Decree with the Department of Justice in 1913 that required the sale of its controlling ownership stake in Western Union and exit from the telegraph industry. Such a history should also outline the origins of the then new 'natural monopoly' regime in telecoms regulation (the Kingsbury Agreement). Further sabre rattling by the US government in the 1930s led AT&T to exit the film industries, while an antitrust ruling by the Supreme Court in 1945 outlawed the Associated Press's exclusive contracts with metropolitan newspapers in city after city. The Supreme Court's *Paramount Decision* three years later led to the break-up of the vertically integrated Hollywood Studio system by requiring the film majors to sell their theatres. Subsequently, they turned to new sources of power, profit and control - distribution, finance, and copyright - while playing nice with the nascent television industry. All of this ushered in a new mode of development in the US film industry, and by extension the international film market (Aksoy and Robins, 1991; Christopherson, 2011; Wasko, 2004). In 1956, another Consent Decree prevented AT&T from entering the computing business. A 1967 FCC ruling, with push from the Department of Justice (DOJ), denied the international telecoms conglomerate ITT's bid to buy ABC because it could stifle 'internetwork competition' and undermine freedom of expression [11]. The FCC's trilogy of *Computer Inquiries* between the 1960s and the 1990s [12] had similar effects on the emerging computer, information and television services, while the breakup of AT&T in 1984 set the baseline for the *Telecommunications Act* (1996). This continues to govern telecoms, internet access, broadcasting and information services in the US, and has served as a model for liberalizing telecoms markets worldwide ever since. Such is evident in the World Trade Organization's 1997 *Basic Telecommunications Agreement*.

Many of these cases either had been decided upon or were being actively considered when Adorno wrote the Culture Industry chapter. While they bore directly on his topic, he does not mention them. Perhaps this is because they undercut his claims about a totally integrated society while showing that the state was no simple handmaiden of business. Sometimes 'the state' came down against some of the most powerful corporate interests to the point of breaking them up or

blocking their entry into emerging markets. In later cases, there is a concern to promote investment in new information infrastructures as well as diversity in new computing and information services. Another priority was to restrict telephone companies' ability to leverage their monopoly position in ways that could stifle the independent development of these new fields. By the 1950s, these choices were already being animated by visions of 'wired cities' and the integration of computing and electronics into all corners of society. Such visions come after Adorno's Culture Industry thesis; he can hardly be criticized for failing to 'predict the future'. Nevertheless, that none of the early legal cases nor *any* inkling of what is to come figure in his account suggests that the Culture Industry thesis was not well grounded empirically.

The steady flow of such cases fueled debates amongst economists and in law schools concerning the 'monopoly question' and, in particular, the 'new' Sherman anti-trust law. Conservative economists argued that expansive interpretations of anti-trust law belied hostility to 'big business' and they sought to roll back the tide. Schumpeter (1943/1996), for one, argued that limited monopolistic competition between large, well-capitalized firms was the new normal. This was nothing to be worried about. Such an arrangement was the most efficient means of *creating wealth* (i.e. a rising tide raises all boats). Major incumbents were kept on their toes by the constant threat of competition. In any case, monopolistic competition was transitory. Existing technologies and modes of economic organization would be swept away by a whole new cluster of technologies, businesses and institutions - a process he called "creative destruction" (83). Schumpeter did not care much about wealth distribution or how long it might take for existing market concentration to give way to more competition. He also ridiculed democratic principles. Indeed, Schumpeter's antipathy toward democracy entailed fascistic and pro-Hitler sympathies. This uglier side has been left unspoken by those who approvingly cite his views on creative destruction and innovation in our field, especially within the creative industries school (see Cunningham, Flew and Swift, 2015). This one-sided uptake of Schumpeter fetishizes technology and markets without considering the implications of his views for the public interest and political process.

Alfred Kahn (1988), in contrast, rejected the carte blanche condemnation of anti-trust laws, and the do-nothing approach to monopolies that Schumpeter counselled. For Kahn, such anti-trust laws applied mainly to basic infrastructure industries – such as telecoms, transportation, electricity, water and sewers. They tended to share economic and technical characteristics that made them proper targets of such regulation in the public interest. Infrastructure industries were characterized by large, complex technical systems that required high levels of capital investment, strong path dependencies that tied new technologies to past investments and high levels of concentration. They were the substrate upon which economy and society generally relied. Regulators had to be wary, however, that the pursuit of anti-trust policies did not enter deep political waters, or encourage capture by the industries they oversaw. To avoid the perils of 'politicization', anti-trust initiatives had to stick to basic economic principles and expertise rather than pursuing political values. That the state and market were inextricably linked, however, was not surprising to Kahn (1988). By the mid-1930s, Kahn agued, the US government could regulate industry pretty much as it pleased, so long as it had a clear legal basis from Congress to do so (7-8). Ultimately, in Kahn's vision, economics and regulatory expertise trumped politics. As time passed, Kahn became even more skeptical about the capacity of regulation to solve economic problems, and more of a defender of the market.

Walter Adams (1954), in contrast, fully endorsed the anti-trust rulings, and supported the need to deal with the politics head on. Over and against the critics of anti-trust, Adams believed that the

regulators were confronting the realities of market concentration and vertical integration at a time when industrial conglomerates were carving out ever-bigger places for themselves across the economy and society. What critics really wanted, Adams asserted, was to eliminate the obstacles that curtailed the ability of corporate interests to do as they pleased. In contrast to Kahn, who thought that the use of anti-trust law could lead to the politicization of the economy, Adams insisted that economics could not be disentangled from politics. While the goals of anti-trust were indeed about economics (i.e. to promote economic efficiency, competition and consumer welfare), they were also necessarily political (i.e. to prevent the private accumulation of power and protect democratic government). On this view, anti-trust laws, and economic decisions more generally, unavoidably anticipate a view of what the proper relationship between markets, politics and society should be. For Adams, unlike Kahn, it was the responsibility of economists to deal with that reality honestly and to the best of their ability, rather than trying to deflect attention from it, or to pretend that somehow economics could be cleansed of its political content.

Information economics and the 'post industrial society'

If anti-trust and monopoly questions led economists to stray from conventional economics, their attempts to grapple with the role of information in the economy further undermined the mainstream assumption regarding 'perfect knowledge'. Frank Knight (1921), for example, argued that, far from being ruled by 'perfect information', economies are riven by risk and uncertainty, both of which infer the *incomplete* state of information and knowledge amongst economic actors. While risks can be managed to generate profit, acquiring the knowledge and expertise to do so is not cost-free. Moreover, while risks can be known and managed, uncertainty is fundamentally unknowable. There is a substantial role for conventional wisdom, stereotypes and tacitly held 'stocks of knowledge' in economic life. This institutionalist understanding offers a far less 'rational' model of the economy. It is attuned to human fallibility as well as to the role that knowledge and institutions play in the management of complex systems.

Ronald Coase (1937) argued that rather than 'perfect information' being a zero-cost good that we can take for granted, there are costs to acquiring and managing information and those costs fundamentally influence the structure and behavior of firms and markets. When information is scarce and expensive, for example, markets are bypassed in favour of using internal resources to acquire and manage that information – this is the raison d'être of the modern corporation and organized bureaucracies. When bandwidth and information are plentiful and affordable, firms go back to relying more on the 'the market' to acquire the knowledge and expertise that they need. Consequently, the vertically integrated company undergoes a process of vertical *disintegration*. In other words, the balance between hierarchy and the market depends upon the availability and cost of information rather than economies of scale or the control of 'industry' (Garnham, 2011; Melody, 1987).

Friedrich Hayek (1945) also rejected the idea of perfect knowledge, but tried to circumvent the implications of doing so by narrowly defining market prices as a distillation of the relevant information buyers and sellers need to complete an economic transaction. Markets were perceived as communication systems that transmitted the information conveyed by prices from buyer to seller, and one place to another. It is easy to see how such a view easily lends itself to the idea that communication systems are, essentially, electronic marketplaces. Of course, if information is so central to the economy, it is no surprise that some economists like Fritz Machlup (1950) began to

engage in concerted efforts to systematically measure, catalogue and assign an economic value to 'knowledge workers' in the 'information economy' (relative to the national GDP). By the 1950s, economists were busy defining, counting, cataloguing and making the place of information within the economy visible not just to better understand the role it played but also to bring about the conditions that had long been held in theory but never achieved in practice: perfect information/knowledge as the basis of the information economy/society (Babe, 1995).

All of these efforts embodied a broader message: change the structure of information available in a society, and society itself changes. What had been a minor footnote for Marx was now a key determinant in the evolution of society, at least in some quarters. Babe (1995) argued that to appreciate these realities, economists would have to choose between force fitting information/communication into the limiting and unrealistic precepts of their worn-out economic models or accept that a realistic account required the wholesale transformation of economics into the political economy of communication. This implied an audacious turning of the tables that would put communication studies at the top of the intellectual pecking order while bringing the 'master discipline' of economics down a notch or two (of course nothing of the kind ever happened).

If changes in the information environment can change the structure of firms, markets and society, perhaps they also play a pivotal role in the destiny of civilizations? This is one way to think about Harold Innis' *Empire and Communication* (1950) and *The Bias of Communication* (1951). Later chapters in both books follow Ross, Bücher and Adorno by chronicling the rise of the press and radio as capitalist enterprises, although their works are not cited. He does cite others in the preface to *Empire and Communications*, however, who are part of the story told here: Thorstein Veblen, Frank Knight, George Herbert Mead and Robert Park. They were all part of the Anglo-Germanic intellectual traditions outlined previously and were faculty members at the University of Chicago, where Innis completed his Ph.D. Unlike Cooley, Small, Knies, Bücher and others, who were guardedly optimistic about the potential of communications to reconcile human experience with the enlarged scale and accelerated pace of modern societies. Innis offered a pessimistic view.

Later chapters in *The Bias of Communication* and *Empire and Communication* draw out the implications that monopolies of knowledge rooted in control of the dominant means of communication might have for civilizations. For Innis, monopolies of knowledge coalesce around specific media, conferring power upon those who control them against those whose power is anchored elsewhere. They are never secure, however, and are subject to pressure from rival (new) media - from newspapers to radio, orality to print. Industrialization of the press, for example, greatly magnified the outlay of capital needed to launch and operate a newspaper. This led to consolidation within the industry and sharply increased the number of copies produced -- all at much lower prices for each copy. The chain of newspaper production reshaped the economic geography of entire countries, as well, with entirely new company towns in French-speaking parts of Canada built up around pulp and paper mills whose sole raison d'être was to feed the voracious appetite of the New York and Chicago presses.

In tandem with the fast growth of advertising subsidies, the daily press became more affordable and the size of the reading public grew, although none of this was necessarily a good thing, Innis thought. Electronic communications had further accelerated the speed with which news travelled, adding to the frenetic feel of industrial society. This tendency worked against the settlement of conflict, and triggered the recurrence of industrial scale conflict in in the 20th Century (Innis, 1950: 203-217). Innis was disturbed by these trends and worried about the rise of the American Empire, with its aggressive, militarist foreign policy governed by experts and cut loose from the influence of

public opinion. What Schumpeter celebrated, Innis feared, i.e. rule by experts, or technocracy. Like Mills and Habermas, Innis saw the exercise of power cut free from 'rational public opinion' as a central difficulty for capitalist democracies. However, unlike them he was not optimistic about the ongoing vitality of democracy.

Perhaps Innis' best-known idea is that different media have different economic and technical characteristics. Media, in his view, are not neutral channels through which messages pass unaffected but rather unique environments that privilege certain kinds of knowledge and communicative interactions over others. Innis (1951) called this the *bias of communication* [13]. Those systems (or environments), in turn, are the media in which economies, societies and people's experience unfold - subtly shaped by such environmental conditions all the while. In other words, 'the medium is the message', as his protégé, Marshall McLuhan later stated. The following passage below helps to illustrate this point:

> . . . [T]he use of a medium of communication over a long period will to some extent determine the character of knowledge to be communicated and suggest that its pervasive influence will eventually create a civilization in which life and flexibility will become exceedingly difficult to maintain and that the advantages of a new medium will become such as to lead to the emergence of a new civilization (34).

Once again, the idea that communications media are not simply tools for the dissemination of information arises. Like Marx, Coase, Hayek, Machlup and Knight, Innis emphasizes how they react back on and shape economic and social life. Like them, he rejects the idea of perfect knowledge, seeing 'monopolies of knowledge' instead. Thus, while economics generally had gone beyond innocent views of information, it is only the institutionalists like Innis and Veblen, and their brethren, who connected their reconceptualization of the role of information and knowledge in the economy (and society) to the critique of power. The Marxist PEC scholars followed later (Babe, 1995; Melody, 1987).

Post-World War II currents: Monopoly capitalism and Marxist PEC

We now stand at the threshold of the period when communication and media studies researchers engage with a distinctly Marxist approach to PEC. This school initially took Paul Baran and Paul Sweezy's (1966) book, *Monopoly Capitalism* as its touchstone. This uniquely American kind of Marxist analysis argued that oligopolistic and monopoly markets managed by a relatively small number of firms, technocrats, the state and military had eclipsed the competitive markets and classic liberalism of 19th century capitalism. Baran and Sweezy's monopoly capitalism framework had its most immediate influence on Herbert Schiller and Dallas Smythe, the 'founding fathers' of the postwar critical PEC tradition. But the book also helped shape subsequent generations of critical PEC scholars including Janet Wasko, Vincent Mosco, Dan Schiller, Eileen Meehan, Yuezhi Zhao, Dal Yong Jin, Robert McChesney, and this writer.

Smythe gained intimate knowledge of communication issues during his stint as the first chief economist of the Federal Communications Commission from 1943 until 1948, before moving to the University of Illinois. In Smythe's (1981) view, communication scholars focused too much on media content, culture, and ideology at the expense of the media as industries in the capitalist economy. Neglected too, he claimed, were the political and legal decisions that gave shape to media ownership, structure, regulation, and functions. The subfield of media economics, for its part, was too unrealistic in its assumptions about markets in general and the media in particular. Smythe and

Schiller set out to document the emergence of the telecommunications, media, and information industries as big business, and the policies and politics that shaped their rise. They investigated the allocation of scarce public resources, such as spectrum for radio and television, and the links between these industries and other centers of business, government, and military power.

The "central tendency" of communications and ICTs, as Vincent Mosco (2009) later put it, "is to deepen and expand the capitalist system" (120). The function of the media in this context is not political, cultural or ideological but commercial. Indeed, the main role of advertising-based media is to reconcile mass production with mass consumption and to sell audiences (the 'audience commodity') to advertisers. The main determinant of people's access to media and information, Schiller (1989) asserted, was not citizens' right to know or to communicate -- as theories of the free press and democracy presuppose -- but the ability to pay. And not all audiences are worth the same. They are sorted into categories of economic value based on income, race, gender, age and location, as later researchers argued in more detail (Gandy, 1993). Facebook audiences are a contemporary example that illustrates the point. In 2015, each Facebook user in North America was worth $2.60 per month. In Europe, a Facebook user was valued at $.90, in Asia $.34, while in Africa and the rest of the world, the average revenue per user (APRU) was just $.24 (Facebook, 2016: 37). The upshot is that when information is a commodity and all else takes a back seat, inequality is the norm. Following Marx's injunction that the critique of capitalism starts with the commodity, Schiller and Smythe began their respective analyses with the media economy's central commodities: audiences and information.

Communications generalize capitalism and the commodity form to more areas of people's lives, and to more markets and areas of the world. The process incorporated: Europe (the Marshall Plan); the 'third world' circa the 1950s through to the 1970s (modernization theory); Russia and the 'eastern bloc' countries' after the fall of the Berlin Wall in 1989 (third wave democracy); and the remaking of China into an authoritarian capitalist society reintegrated into the world economy since the 1990s (post Washington Consensus world). As Marx said, capitalism is a dynamic and forever expanding system, always seeking out new domains of accumulation, whether in the mind or in new geographical markets.

The fusion of telecommunications, computing and information technologies had advanced considerably by the time that Smythe and Schiller were writing. Fueled by the Cold War, close to three-quarters of all R&D funding in computing and electronics in the US up to the mid-1970s came from the US government and military. Of course, the latter stages of this period are when Arpanet, the military-led precursor of the internet, was developed. Although neither Schiller nor Smythe had anything to say about the internet, they illuminated the geopolitical and economic forces that were driving the 'information revolution' and the global expansion of capitalism.

Consequently, they regarded the ideals of a free press within the capitalist democracies of North America and Europe, and the free flow of information on the world stage as an ideological ruse used to divert attention from the media's power and the opening of world markets to U.S. and European firms. Whereas past forms of imperialism had rested on territorial occupation and military might, the US Empire of capital rested on cultural imperialism, backstopped by US military might. Britain's imperial power in the 19th and first half of the 20th century had stemmed from its control of a vast global system of submarine cable and wireless communications, Schiller and others argued. In the post-World War II order, with the US's unrivaled economic and military ascendency, the 'free flow of information' became the cornerstone of communication policy. US businesses, government, and media could thereby coordinate their efforts to recreate the world in their image

[14]. Communications technologies are hardly technologies of freedom; they are weapons of politics and guarantors of world hegemony (Headrick, 1991). We must regard communications technology in the context of the military doctrine of Communication, Command, Control and Information (C3I) (which recent writers refer to as the Military-Information-Media and Entertainment Complex) (Mirlees, 2015).

Smythe and Schiller's efforts helped to forge links between leftist researchers from North America and Europe with politicians, scholars, activists, and media workers in the Global South. This formed part of a late 1970s movement to redress imbalances in the distribution of communication resources between rich and poor countries. Efforts to establish a New World Information and Communication Order (NWICO) under the auspices of the United Nations Education, Scientific and Cultural Organization (UNESCO) made real headway, but lost force in the 1980s. The US, UK, and Singapore withdrew from UNESCO in opposition to NWICO and the 'politicization of global communication', and threaten to do the same to the ITU, the world's oldest multilateral governance organization.

Smythe and Schiller's work has inspired generations of scholars around the world ever since, although some criticized the pair's core assumptions. Graham Murdock and Peter Golding (1974; 1995), for example, argued that the industrialization of the media during the 20th century required a Marxist economic analysis of the media, linked to an understanding of how such processes left traceable consequences on, and set broad limits for, cultural expression. According to them, capitalist media development starts with the industrialization and commercialization of cultural forms that had once existed outside the market. They were previously supported by paying/participating publics, the patronage of wealthy backers, or subsidies (from the government and other sources). However, unlike Smythe or Schiller, Murdock and Golding were quick to note that the American experience was *not* the same as the British, Canadian or European experience, where public service media and the role of 'the state' was stronger. Newly commercialized media also confront an inevitable problem: the amount of time, money and attention people spend on media goods stays relatively fixed. Nicholas Garnham (1990) called this 'the law of relatively constant expenditure', and insofar that it is used to study household spending on media content and cultural services (e.g. concerts, plays, sports, etc.) the claim still holds up well (although not for expenditure on 'connectivity' and 'devices').

According to Murdock and Golding (1974), constrained by such realities, but spurred on by the never-ending imperative to grow or die, media companies adopt strategies of *consolidation* (horizontal and vertical integration), *diversification* into new areas (notably the leisure market), and *internationalization*. In later iterations of their work, they add that governments play a large role in expanding markets by *privatizing* publicly owned telecommunications enterprises and broadcasters, *commercializing* public service media and *liberalizing* market access to these industries to domestic and foreign investors (Golding and Murdock, 2005).

Murdock and Golding's view is that the logic of capitalism as an economic system drives and constrains developments in media (rather than the personal and political *interests* of media barons). While they point to the constraining influence of economics on cultural expression, they reject the instrumentalist idea of direct editorial control over content from media owners and executives. Along with other political economists, notably Nicholas Garnham (1990; 2011) and Bernard Miege (1989; 2011), they explicitly rejected the dominant ideology thesis. Murdock (1982) has observed these trends closely, and his 1982 piece on the subject cautions that such trends can be overdrawn. Whether ownership is by moguls or the great money managers at investment banks, the common

thread is that both control resources while making the big, long-term policy and resource allocation decisions that shape everything else that follows thereafter (Murdock, 1982; Murdock, 2016). This is *structural power*, the setting of broad constraints on what kinds of media content gets produced and how the whole enterprise generally operates in the long-term.

For more than three decades, the US scholar Janet Wasko has also made significant contributions to the Marxist PEC tradition through her work on the American and international film industries. She has paid close attention to the links between the movie industry and banks from the 1920s. The latter have consistently helped to finance films and, via interlocking directorships and control over the purse strings, maintained a large say in film company decision-making processes. Wasko has also tracked consolidation in the industry, horizontally and vertically, while documenting countervailing trends such as the breakup of vertical integration after the Supreme Court's 1948 *Paramount Decision*. This led the big Hollywood studios to sell-off of the theaters they had owned up until that point. Power within the film industry thereafter, as Wasko and others observe, shifted from film production and vertical integration over the entire supply chain to a focus on the control of distribution, finance, and copyright (Aksoy & Robins, 1992; Christopherson, 2011; Wasko, 2004). She has also emphasized the strategies used by the industry to manage risks in the face of technological change, the rise of new centres of production, and the vagaries of audiences' tastes. Such strategies include distributing fewer big-budget blockbusters but with ever larger promotional budgets, subcontracting to (semi-) independent filmmakers but often acquiring such firms once they reach a certain scale (as Disney, for example, has done with Pixar and Lucas Films) and relying on sequels with brand familiarity, cross-marketing, synergy and merchandising. Also important is the careful maintenance of the 'windows strategy' that separates media markets by geography, time and medium so as to protect the value of each market. The windows model remains the lynchpin of the audiovisual media industries to date, even if it is being challenged by over-the-top internet-based audiovisual media and piracy (Evans and MacDonald, 2014).

American scholar, Robert McChesney, has been one of the most influential critical PEC scholars, and has done much to popularize the approach across academic disciplines and to a broader audience. In his early historical work on radio, and his more recent analyses, McChesney has adopted a relatively straightforward, 'three-tier' model of national and global media systems. The first tier consists of six to ten major media conglomerates that dominate film, television, music, radio, cable and satellite, publishing, and the internet. Another fifteen to twenty firms in the U.S., and about three dozen worldwide make up the second tier. The third tier consists of thousands of voices that "fill the nooks and crannies of the media system" (McChesney, 2004: 183). Taken as a whole, the tiered system is also defined by strategic alliances designed to blunt the sharp edge of competition. Whatever independent voices there are tend to be marginal, precariously situated and far less effective than they might otherwise be in a 'real democracy'.

McChesney's most recent book, *Digital Disconnect* (2014), provides an up-to-date account of capitalism in the age of the internet. Here McChesney argues that despite all the hyperbole about how the internet would bring about a new economy, a new golden age for democracy, and break up the high levels of concentration in 'traditional media', none of this has come to pass. Indeed, as he argues, far from toppling the old three-tiered model of the traditional media in which power is concentrated at the top of the pyramid, internet giants like Apple, Facebook, and Google have come to dominate core elements of the internet in a similar fashion (through search, browsers, social media, operating systems, and devices). Well-established telecoms and media giants like Verizon, AT&T, Deutsche Telecom, Bell Canada, Time Warner, News Corp and Disney still dominate some

parts of the 'old' media alongside the internet. Drawing on extensive and authoritative data from the US Census Bureau and industry sources, McChesney also shows that these trends are not confined to the communication and media industries. The number of industries where concentration levels are high has grown, and concentration levels within industries have risen over time – the exact opposite of what the internet optimists predicted.

The central paradox of our times, according to McChesney (and others), is that while the internet and smartphones have given us more capacity than ever to access, share and create different kinds of media, those same capabilities are threatening the economic development of markets for books, news, music, movies and education (while also facilitating new access to them in the sense that they are essential to the viable functioning of democracy). The collapse of advertising as a viable business model as well as challenges to other kinds of media and cultural production is threatening professional journalism and some other forms of media production like never before. As the advertising-based model collapses the void that has opened up is being filled by sponsored content and a deluge of public relations material. Meanwhile, faltering newspapers are acquired by rich patrons (e.g. Jeff Bezos of Amazon's 'rescue' of the *Washington Post*).

Even from the perspective of liberal political theory, information and media products are public goods. This is due to their historical and philosophical association with human development and democracy. Additionally, journalism bears other core traits of a public good from the perspective of mainstream economics: the cost of reproducing news and information is typically next to nothing, or little more than the 'container' in which they are stored (in the internet age, this cost is effectively zero). News is also not 'used up' when consumed, there is more than enough 'left' to go around. The theory and practice of both copyright law and democracy reflect these realities, as does information policy in general - at least to some extent. McChesney's project in the US context resonates with American political traditions that can be mobilized to justify political and policy measures to support, for instance, a more democratic, non-commercial internet and media sector. His ideas also comport with people's experience. Having been socialized for over a century into a reality where journalism and universal access to broadcasting have been heavily subsidized by advertising and government funding, is it any wonder that people are unwilling today to pay for content that is streamed or downloaded over the internet? (Evans and McDonald, 2014: 168-169; Laboto and Thomas, 2015). While such considerations are often overruled by the fact that information is traded in a market, with the public good aspects swept under the rug, these realities are never fully erasable. Hence, the politics of information/knowledge that such realities give rise to are never-ending (Babe, 1995; Benkler, 2006; Melody, 1987).

From the monopoly capitalism school to recovery: Institutional PEC + the cultural industries school = heterodox PEC

While Marxist approaches to PEC have much to offer, they also tend to rely on an overly unified view of the media. Mosco (2009) has tried to address such concerns, for instance, by stressing the dynamic processes of capitalism, i.e. commodification, spatialization and structuration. In so doing, however, he largely abandoned the media industries as serious objects of analysis. The effort substitutes an overly unified view of the *processes* of capitalist integration for a unified *structural* view of the media. The result tends to be that the general model of the economy in Marxist PEC does not pay sufficient attention to the complexity of the media industries, the reasons for this and

the pervasive role of uncertainty across all levels of the media (Bustamante, 2004: 805; Garnham, 2011).

Writing a quarter-of-a-century ago, Bernard Miege (1989) crystallized the gist of these criticisms in a slim, but extremely valuable volume, *The Capitalization of Cultural Production* [15]. Of these, four stand out:

- First, referring to the industry or 'system' "in the singular misleads one into thinking that we are faced with a unified field, where the various elements function within a single process . . . The cultural industries are complex, and an analysis must bring out the reasons for this diversity";
- Second, the line between culture and commerce drawn by Marxist PEC ignores the fact that culture has developed *within* industrial capitalism for the past one hundred and fifty years.
- Third, the "distrust of technology and artistic innovation" implied by such views is excessive and unnecessary.
- Finally, "new communication technologies . . . contribute to tightening the hold of capitalist production over culture as well as communication, however, this does not mean that the capitalist industrialization of culture has been fully realized . . ." (10-11).

While critical PEC scholars have insisted on taking a holistic approach to the social totality of capitalism (Fuchs, 2011; Golding and Murdock, 2005; Mosco, 2009), such a focus risks obscuring too much detail. Zygmunt Bauman (2000) and Luc Botanski (2011) argue that taking the 'social totality' as a starting point obscures the more pressing fact that modern capitalist societies, social institutions and individual life biographies are precarious, fragmented and riven with cross-cutting complexities and instabilities. For all the talk of commodification, neoliberalism, deregulation, privatization, globalization, and so on, none of these processes comes in a one-size-fits-all form. Instead, they need to be seen as differentiated across time, space and media. Moreover, they do not unfold uni-directionally, and are subject to reversal and failure -- the arrow of change points in more than one direction (Arrighi, 2009; Brenner, Peck & Theodor, 2010).

Just as there are 'varieties of capitalism', so too there are 'varieties of PEC'. Besides critical or Marxist PEC, the institutionalist and Cultural Industries schools are the most important. Many scholars identify with one or the other. Take, for example, the institutionalist scholar William Melody. Like Dallas Smythe before him, Melody was also the chief economist at the FCC from 1966 to 1971. He was also Smythe's colleague at Simon Fraser University in Canada in the 1970s and early-1980s. For a half-century, Melody has mentored several generations of students at Simon Fraser University, the Annenberg Program at the University of Pennsylvania and Oxford University. While at the latter institution, he was appointed Director of the Program on Information and Communication Technologies at the Economic and Social Research Council (ESRC) which created programs at six universities in the UK. He was also involved in the Centre for International Research on Communication and Information Technologies in Australia, Delft University in the Netherlands as well as Aalborg University in Denmark. Melody's research, teaching and policy interventions have significantly advanced institutionalist approaches to the PEC. Many of his students have become leading scholars and active participants in the ongoing battles to shape the institutional ecology of the telecoms, internet, media and information landscape over the last quarter-of-a-century. Such people include Robin Mansell, Anders Henten, Amy Mahan, and Rohan Samarajiva, to name a few (Mansell, Samarajiva and Mahan, 2002; Lemstra & Melody, 2014).

Melody's work also links to that of Robert Babe and Harold Trebing, and looks backward in time to leading figures in the early institutionalist versions of political economy set out previously: Thorstein Veblen, John R. Commons, Frank Knight, Walter Adams, Richard Ely and Harold Innis.

In the canonical text outlining the PEC approach, however, Mosco (2009) mentions Melody's work only twice, and only in passing insofar as it intersects with Smythe's career (77, 84). Yet, such omissions are symptomatic of what passes for PEC in general in our field – an impoverished view of its past and contemporary contributions. Consequently, many scholars no longer identify with the PEC tradition, largely because they reject the prevalent idea in the field that it is merely thinly veiled code for a Marxist view of the world, and bristle under pressure to conform to that fiction.

We can see the consistent outlines of Melody's approach in *The Dynamics of Broadband Markets in Europe*. In this book, he and co-editor Wolter Lemstra (2014) insist that while the development of broadband information infrastructures is now common throughout the world, the precise ways in which they unfold is contingent upon how technology and markets intersect with regulation, policy and existing institutional arrangements in each country. We need an inductive approach, historical understanding, and case studies to reveal how the same technology develops and is used by people in different places. Does this mean, however, that "we should conclude that every broadband market is unique and very little can be learned and shared across" countries and in terms of "common objectives", Lemstra and Melody ask (2-5)? Of course not. The trick is to meld both common features and the distinctive aspects of time and place to generate insights and realistic policy proposals. This is a reformist rather than a radical approach, in keeping with much of the institutionalist tradition.

A current American version of the institutionalist approach can be seen in Richard John's work on postal, telegraph, telephone, press and news history (John, 2010; John & Silberstein-Loeb, 2016). John, a business historian at Columbia University, has emerged as an influential member of the 'information nation' school of historiography in the US (Chandler & Cortada, 2003). This school argues that understanding the institutional arrangements that have been adopted to manage information, communication and news since the 18th Century is essential to understanding the development of US-style capitalism and republican democracy. The approach is also indebted to Beninger's (1989) view that systematic efforts by governments and industry from the 19th century onward to better gather, store and manage information were responses to early perceptions of a 'crisis of control'. This concept had been thrown up by the sheer scale of the US, and it profoundly shaped its national development. In line with long standing divides in the social sciences, the approach is more Weberian than Marxian.

Yochai Benkler's account of the ongoing transformation of the 'industrial media era' of the past one hundred and fifty years to the network information economy and network public sphere of the 21st Century is also relevant here. He is another scholar who explicitly self-identifies as a political economist, but of the liberal rather than Marxist kind. Indeed, there is a great deal of this type of research in law schools at Columbia (Tim Wu), Stanford (Lawrence Lessig) and Harvard (Yochai Benkler, Susan Crawford, Jonathan Zittrain) [16]. Their work, however, hardly ever figures in the accounts of critical PEC scholars except as a foil (a supposed reservoir of internet exceptionalism and technotopian views) against which Critical PEC scholars aim to set things right. Their ideas are not so easily reduced to such caricatures, however, and have gained a warmer reception by media industries scholars who study the internet as the infrastructure of the emerging system of 'connected viewing' for TV, film and other audiovisual media (Holt and Sanson, 2014). They are also in line with some critical political economists like Peter Thompson (2011) and Scott Fitzgerald (2011),

who highlight the institutional factors that distinguish media enterprises and industries (and their associated operating logics, policy regimes, and place within the broader political economy).

Rethinking our objects of analysis: Infrastructures and things

Information infrastructures of the past supported a limited range of communications activities and media - telephone networks for voice phone calls and some data; broadcasting networks for radio and television; postal networks for mail. Today the information infrastructure of the 21st Century is being rebuilt for an all-IP networked world. These general purpose networks support a wide and expanding array of activities. People access the internet via mobile phones or hardwired desktop computers, TVs, gaming stations, cars, appliances, etc., for example, in order to talk to other people, watch television, play games, upload and download videos, photos, memories, interact with others on social networking platforms, watch pornography, buy goods, and a myriad of other things.

Consistent with the field's preoccupations, the critical PEC tradition has focused on the mass media and the audience commodity. It also analyzes the 'giant media corporations' that are central to the TV and film industries, like Comcast, Bertelsmann, Disney, News Corp, Sony, Time Warner and Vivendi. Recent studies have also examined the world's biggest internet giants: Amazon, Apple, Baidu, Facebook, Google and Microsoft (Birkinbine, Gomez and Wasko, 2016; Jiang, 2012). New voices, like Peter Jakobsson and Fredrik Stiernstedt (2011) have cut through the ethereal idealism of the internet imaginary to stress its physical, place-bound infrastructure (also see Andrejevic, 2009). Pointing to a data center built by Google in Finland out of a retrofitted Cold War bunker beneath a mountain, they show that even the geology of data centers matters (alongside other variables that determine their location and operation, such as cool climate, access to running water for energy and cooling purposes as well as tax abatements from the government). Proximity to Russia, where internet markets are dominated by two Russian digital media giants - Yandex and VKontakte - also means that the bunker-cum-secure-data center could serve as a base for Google's future forays into that country, if prospects for doing so improve. Mosco (2014) also hones in on the history, location and ownership of the giant digital factories that accumulate, store, process, and disseminate the vast streams of data upon which the internet economy is being built. His research here serves to debunk the metaphor of 'cloud' computing.

Such efforts to dig up the material infrastructure that make up what we call 'the Internet' offer new directions for PEC research. However, more needs to be done. In this regard, critical/Marxist approaches to PEC must engage in more open-ended discussions with institutionalist and Cultural Industries research, as well as with 'platform' and 'infrastructure' studies scholars who are examining how the algorithms, software designs and terms of service agreements deployed by Facebook, Google, Amazon, Baidu and Weibo influence our experiences and perceptions of the world (Pasquale, 2015; Plantin, Lagoze, Edwards and Sandvig, 2016; Gillespie, Boczokowski and Foote, 2014). Some of these efforts draw on political economy (Pasquale, 2011), but most do not. Indeed, while many of the scholars trying to open the 'blackbox' of digital media refer to themselves as 'the new materialists', they seem quite reticent about identifying with the 'old materialism'. Perhaps they are wary of being associated with dogmatic Marxist efforts to force-fit an understanding of the whole of technology, and what it means to be human, into an analysis of 'the capitalist system' (Gitelman, 2006; Gillespie, et. al., 2014).

Bounding our objects of analysis: What's in, what's out and why

In order to outline a research agenda that is do-able, I refer here to about a dozen or so of the largest telecoms, internet and media industries, based on revenue: i.e. mobile wireless services, wireline telecoms services, internet access, cable, satellite and IPTV distribution infrastructures, broadcast TV, pay TV, film, music, video games, radio, internet advertising, newspapers, books and magazines. I call the sum total of these elements the network media ecology.

In this context, the media infrastructure industries have become the centre of gravity around which the rest of the media turns. Indeed, revenues for such industries are nearly three times those of the media content sectors (Noam, 2016: 1054; Winseck, 2015: 6) [17]. This is the 'economic base' of the evermore internet- and mobile wireless-centric media universe, where bandwidth is king, not content.

The economic base of the network media is now also based mainly on subscriber fees and the pay-per model (Mosco, 1989). Indeed, subscription fees and *direct commodification* outstrip advertising by roughly a 3:1 ratio. As a rule, the platform-based and pay-per media are growing fast. They also tend to be highly concentrated in certain areas (e.g. internet access, mobile wireless, pay TV, video games). In contrast, content-based media have stagnated or grown slowly in recent years (e.g. radio, movies). They are generally less concentrated than 'platform media', mostly because they are less capital intensive. In addition, the more a medium relies on advertising and content, the more likely it is to be in trouble (e.g. newspapers, magazines, broadcast TV in some countries) (Miege, 2011; Noam, 2016: 1264-1266; Preston and Rogers, 2012). Moreover, pay-per media have generally weathered economic crises and the transition to the internet- and mobile-wireless centric media ecology better than advertising-supported media. Of course, internet advertising is a major exception to that general rule. We must also bear in mind that some media that have recently been at death's door (e.g. music, books and postal services) appear to be recovering. The directions of the changes taking place are, in short, cross-cutting, and not all of a single kind.

For example, as journalism undergoes a wrenching crisis and firms scale back, spin-off assets and, in some cases, go bankrupt, the newspaper industry has become *less* concentrated as some new players enter the scene to pick up the wreckage. In addition, in the late-1990s, the trend toward vertical integration involving telecoms-internet operators, on one side, and media and entertainment companies, on the other, has turned. Many telecom-internet-media conglomerates formed at the time have been dismantled (e.g. AOL Time Warner, AT&T, Vivendi, Adelphia, CBS-Viacom, News Corp, etc), while levels of vertical integration between carriers and content is now much lower than it was at the turn-of-the-21st Century in many countries. To be sure, many have highlighted the crisis of journalism (e.g. Almiron, 2010; McChesney, 2014), and some have encapsulated the break-up of vertically-integrated telecoms-internet and media conglomerates in terms of 'deconvergence' (Jin, 2011), but the idea of "a settled structure" for the telecoms, media and Internet sectors still "remains a mirage" (Curwen, 2008: 3).

Moreover, not all media firms are conglomerates. In the music industries, for example, 'diversified' and/or 'media' conglomerates once ruled but no longer do. There are only three of the big recorded-music giants left: Sony, Warner and Universal. Only Sony is part of an ICT-based conglomerate, while Warner and Universal were spun off from their conglomerate overlords long ago. The Big Three's share of 'total music industry' revenue (i.e. recorded music, publishing, concerts, digital/online) has also contracted greatly, largely because the 'recorded music' segment

of the industry that they have historically dominated has shrunk drastically. It should be acknowledged here that music publishing has held steady while digital and live music have soared. This means that the industry as a whole has stayed about the same size on the basis of revenue, even ticking upwards in the last few years (Fitzgerald, 2012; IFPI, 2015; Winseck, 2015).

Take another example: Canada, where four vertically integrated telecoms and TV giants account for nearly 60% of all revenue in the 'network media economy'. In fact, in Canada, all the major pay and conventional television services, except those of the CBC, the public broadcaster, are owned by the telephone-ISP companies. Levels of vertical integration in Canada have also grown greatly over time and within a much bigger media economy. Such trends are also unusual by international comparative standards (Winseck, 2015: 16). The only comparable example in the US, for example, is Comcast. Its share of a roughly drawn 'total network media economy', however, is 11% - a third of that of the largest player in Canada, Bell Canada Enterprises. And unlike Canada, Comcast is not a mobile phone company. In addition, none of the major TV services in the US, other than NBC Universal (owned by Comcast), are owned by the telecoms operators. Vertical integration in the US is lower now by far than at the turn-of-the-21st century (Skorup and Thierer, 2012; Noam, 2016). AT&T's acquisition of DirecTV in 2015 is important, but it is a distributor with no appreciable stakes in TV content other than some small stakes in a few regional sports services. In the US, the vertical integration that does exist takes on a different form whereby the major film companies have big stakes in the television industry. Such differences fundamentally shape the nature of different media economies, and must be accounted for rather than glossed over by abstract models of capitalism and the culture industries.

Changes in the economic base and implications for critique: From the audience commodity to what people really want

Over the past decade, many scholars have focused political-economic critique on the unpaid digital labor that 'prosumers' provide as they Tweet, post to Facebook, upload videos to YouTube, and otherwise produce content that feeds internet companies' bottom line (e.g. Fuchs, 2012; McGuigan and Manzerolle, 2015; also see the special issue of the *Information Society*, 2015). In other words, today's prosumers are to the internet what living room audiences were to commercial mass media: a commodity. Seen from this view, the terms of service agreements of Facebook, Google or Twitter, or Yandex and Baidu in Russia and China, are embodiments of alienation, given that all users must click on, and accept, them before using the 'platform'. There is no choice: click yes or leave. The intimate spaces of people's lives have been colonized as a result by the systematic collection, retention and use of their data for commercial ends, data which has also ended up, unwittingly or otherwise, serving the national security interests of Western intelligence services and governments around the world.

Shoshana Zuboff (2015) sees these activities as being a part of "surveillance capitalism", based on a process of primitive accumulation, where things held in common or as an integral part of one's being are taken without permission and made into commodities and private property. In a recent example of this Google ingested 11,000 books from an online repository available to all in order to use the large corpus of literature to train its artificial intelligence systems. None of the authors whose books were used were consulted. However, once some did discover that their work was being used in this way without their knowledge or consent they were predictably not pleased, yet felt helpless in terms of meaningful recourse (Lea, 2016). Samuelson (2011) argues that a similar

logic underpins Google's 'Book Project', in which the company basically does an end-run around existing copyright law in the hope that it will be able to subsequently remake the law in light of the new facts it has created on the ground. This is hubris on a monumental scale operating at the edges of the 'rule-of-law' (itself a basic precondition of a democratic society).

The idea of audience labour and the audience commodity offers a critical perspective on the internet and the economic model supporting it. Focusing on advertising-supported, 'free media', however, when such media are already vastly outstripped by media that people pay for directly, hitches the 'audience commodity' thesis to a receding part of the media economy. Moreover, there is *no* relationship between the time people spend on Facebook and profit levels for example; the company accrues around $31 per user *per year* in North America. This is less than half the ARPU (average revenue per user) for mobile wireless services that Verizon, AT&T, BT, or Bell, for example, obtain in a *single month* (Facebook, 2016: 37). The thesis also reduces human experience to a one-dimensional view of labour. Yet, rather than toiling away for nothing, people continue to create, share and consume a lot of information, culture and media goods for many reasons that have little to do with market forces and much to do with pleasure, human interaction, status, intimacy, goofing off and other forms of expression (Benkler, 2006; Garnham, 1990; Miege, 1989; Lobato and Thomas, 2015).

Instead of critique resting on the labour theory of value (or on how the structure of the media influences content), it may be more useful to set out new anchors for 'immanent critique' based on how people think about and use the communications media at their disposal. In this view, the stress is on what technologies and business arrangements enable and what they constrain through, for example, the 'pricing mechanism', as Veblen might say. Such matters include subscriber fees, data caps on mobile phone and internet access, the zero-rating of some services by ISPs and mobile wireless carriers but not others, and steep 'overage charges' when those caps are exceeded (as if people are using 'too much' internet). Immanent critique would also take what people say, and how they use media, in relation to privacy, control over their personal communications and surveillance to heart - pace Mills and Habermas - by institutionalizing markets, technology designs and regulatory frameworks that respond to people's expressed interests (see Nissenbaum, 2010). As Turow, Hennessy and Draper (2015) have shown, the vast majority of people *do* care about the loss of control over their personal data and communications, but are resigned to the fact that they can do little about it. In other words, they are *alienated* from their own personal communications and data, and *powerless* to do much about it -- except leave, which is no choice at all.

Political economists could also look at the design of media in terms of how they enable some uses while constraining others. For example, digital locks, which are backed by the force of the state through copyright are used by the US to make countries adopt new copyright laws that are longer, broader and stronger than ever (Haggart, 2014). In this view, immanent critique takes the distance between what people do with media versus the technological, economic, legal and other constraints that limit their activities as its basis. Standards of critique could be derived from studies of the social uses, and critical theories, of technology found in, say, Mansell and Silverstone's *Communication by Design* (1996), Andrew Feenberg's *Critical Theory of Technology* (2010) and Gerard Goggin's *Global Mobile Media* (2011). Critical social theories of communication, trust and labour, as articulated by, for example, Jurgen Habermas, Axel Honneth, and Karl Marx, also offer a guide, although one should not rely on any one of these sources exclusively.

Return of the state: Concentrated media (Internet) markets and common carriage

Despite neoliberal fantasies, the role of the state has never disappeared. As a matter of fact, the number of telecoms and media regulators worldwide has soared from 14 in 1990, to 90 a decade later, and 166 as of 2015 (Broadband Commission, 2015). While the origins of this vast growth stems from commitments that countries made when signing on to the World Trade Organization's (WTO) 1997 *Basic Telecommunications Agreement*, they have not, ultimately, turned out to be the mere handmaidens of industry. Part of this is because there is no solid phalanx of 'capital' or 'giant media conglomerates' lining up to support common goals. Instead, there are deep rifts between telecoms carriers and internet access providers, on the one side, and content owners, on the other, across many issues. Meanwhile more people than ever are stepping forward in the name of public interest to take part in the ongoing battles to shape the institutional ecology of the internet (Benkler, 2006; Haggart, 2014). In short, the contemporary politics of communication are hotly contested. The state intervenes in this context, with an eye to ensuring the 'general conditions of capital accumulation', to be sure, but in ways that must be studied closely rather than presumed from overly abstract conceptions of 'the capitalist state'. I will now briefly review four circumstances that illustrate the need for carefully examining how governments intervene in and shape the communications landscape: regulatory responses to high levels of concentration, efforts to strengthen common carriage (aka network neutrality [18]), broadband investment, and internet surveillance.

Critical PEC scholars are correct to insist that market concentration in the telecom, media and internet industries continues to be a significant issue. They are, however, remiss in assuming an overly collusive relationship between business interests and the state. Eli Noam's (2016) summary of a thirty-country study of trends in a dozen-and-a-half sectors of the telecoms, internet and media industries shows that concentration levels in many of these industries are "astonishingly high" (Noam, 2016: 8). Of course, regulators have aided and abetted such trends at times, but in recent years they have rediscovered market concentration and taken significant steps to do something about that.

That this is so began in the US during 2011 when regulatory authorities turned back a proposed merger between AT&T, the second largest wireless provider, and T-Mobile, the fourth biggest, stand-alone mobile wireless operator. Regulators' doubts also stopped a proposed deal between Sprint and T-Mobile dead in its tracks three years later. The proposed amalgamation of Comcast and Time Warner met a similar fate in 2016, with the Federal Communication Commission's (FCC) and Department of Justice's 'raised eyebrow' alone enough to scupper the deal. Even the 2011 approval of Comcast's take-over of NBC Universal came with ongoing regulation designed to discourage the company's ability to abuse its dominant market power (FCC, 2011).

The FCC's *Charter decision* in 2016 might be seen as a counter example to the point being made because allowing Charter to acquire Time Warner Cable and the Bright House cable company did lead to a significant increase in concentration. However, the other half of the picture is that the FCC only approved the deal after *banning* the use of data caps for seven years and imposing other conditions. The effect of the ban on data caps and the other conditions placed on Charter is to clear the way for the internet to become more of a rival gateway to television services that people want independent of a cable TV subscription. Finally, the FCC's 2015 landmark ruling to reclassify broadband internet access as a common carrier also clearly signaled that regulators would step in to

counteract the effects of concentration in the information infrastructure industries. Such interventions also ensure that carriers' practices do not overrule the values associated with uses of the internet, namely people's right to express themselves freely, maintain privacy, and to access a diverse range of internet services (FCC, 2015).

The Canadian Television-Telecommunications and Radio Commission (CRTC) has also dealt with similar issues. For instance, it implemented wholesale access rules and regulated rates for wireline and mobile wireless operators after finding that both industries were defined by: (1) persistently high levels of concentration; (2) high barriers to market entry; (3) little evidence of competitive behaviour between the incumbent operators; and (4) evidence that the companies were using their power to deter new rivals from entering the market (CRTC, 2015a; CRTC, 2015b). The federal government has used spectrum policy and quashed a few proposed mergers to induce greater competition as well. There is also a relatively strong common carriage (network neutrality) regime in Canada, and that regime has recently been strengthened by a successful case brought by a Carleton University Ph.D. student, Ben Klass before the regulator and the Federal Court of Appeal (the 2016 *Mobile TV Decision*). It is still too early to tell, however, how this will play out because there are other proceedings now in motion that could strengthen things further - or have the opposite effect.

Likewise, the UK regulator, Ofcom, has taken similar steps to limit consolidation in the mobile wireless and broadband internet markets. For example, Ofcom did not simply turn a blind eye to the 2011 merger between Orange (France Telecom) and Deutsch Telecom that created EE Ltd, but rather conditioned its approval on the new entity divesting significant, and valuable, spectrum holdings to foster a fourth competitor who would be the beneficiary of the released spectrum (Ofcom, 2012). The European Commission has also taken a circumspect view of consolidation in the mobile wireless market when doing so would reduce the number of players from four to three. In 2016, for instance, it rejected a proposed merger in the UK between O2 (Telefonica) and Hutchison 3, while putting others across the European Union (EU) on notice that it would do the same in the face of other mergers that could lead to a drop in the number of mobile wireless competitors (from four to three). Many OECD and EU countries – 40 altogether – now follow such principles, suggesting something of a regulatory consensus when it comes to dealing with the reality of highly concentrated markets.

One last example helps illustrate the point: the Telecommunications Regulatory Authority of India's (TRAI) decision to ban zero-rating in India. Zero-rating is a practice where an ISP or mobile phone company lifts its data caps for some services, apps or websites selected by the carrier while still applying data caps to everything else that people (subscribers) use their mobile phones and broadband internet connections for. In this case, Facebook tried to roll out its Free Basics program, which is basically a bundle of services selected by it and offered in tandem with mobile phone companies which agree to not apply their data caps to the services in the bundle. Some claim the practice benefits people by giving them 'free internet access', but others argue that it turns phone companies/ISPs and the world's biggest internet giants into editors who pick and choose what services and content people will be able to get on their phones, computers and other devices for 'free' (while everything else they access over the internet counts against their data caps). Punishing 'overage charges' can be applied when those monthly data allowances are exceeded - again with the insinuation that someone has used 'too much internet'. TRAI's pro common carrier (network neutrality) decision in the spring of 2016 effectively banned the 'zero-rating' of services. In doing

so, it stood down one of the biggest internet giants in the world, Facebook, as well as the company's hired guns drawn from the ranks of US think tanks and economic consultancies.

In sum, regulators are not just paper tigers. In many countries, they are a significant counter to market power and they act in the name of values that are worth supporting. Their actions also suggest that the 'free market' orthodoxy of neoliberal globalization no longer reigns supreme. PEC scholars must grapple with the messy details of technical and regulatory matters like bandwidth, data caps, common carriage, spectrum and the arcane rules and procedures of regulatory processes. Only then will they influence the results of ongoing battles over the institutional ecology of the emergent internet-mobile-wireless-centric communications across the media landscape.

Return of the state: Building broadband internet infrastructures

Government investment in broadband internet infrastructure has risen sharply in recent years, especially after 2008, to counter the effects of the global financial crisis. Indeed, the number of national broadband plans has soared from 38 in 2007 to 148 in 2014 (Broadband Commission, 2015, 85). While some of those *are* paper tigers there has been a surge in state investment in telecommunications and internet infrastructure throughout the EU, the US, Australia and New Zealand especially (but also in many countries around the world). One early tally of these efforts showed that governments had committed $71 billion in capital investment for national broadband projects between 2008 and 2020 (Benkler, Faris, Gasser, Miyakawa, and Schultze, 2010: 229-231). In fact, so great has been the surge of government investment that some observers have wondered whether we are seeing the renationalization of telecoms after 30 years of privatization and neoliberalism (IDATE 2009: 16).

Government investment in international fibre-optic cables has also soared from 1% of all investment before 2008 to roughly 8% since then. The trend has been led by China and other governments across Asia, the Arab world and Africa. This has involved both state funding and participation from government-owned carriers and international development banks, although in the Asia-Pacific Region, two other key players have become significant players in these projects: Facebook and Google. They are working hand-in-glove with state- and private-owned telecoms operators, and with liberal democratic and authoritarian capitalist states alike, in a flurry of submarine fibre optic, cable network building efforts. Both companies are also building massive data centres in several places at the ends of these networks. Thus, we cannot understand contemporary developments without grasping the central role that states are playing within them. Those roles, suffice it to say, hardly comport with neoliberal fictions that cast the state as diminishing or as simply the handmaiden of capital.

Return of the national security and mass surveillance state

The 'return of the state' is neither to be celebrated nor denigrated as a starting point of analysis. Instead, the task is to recognize, describe and explain the phenomenon, and then critique it. Nowhere is the return of the state more obvious than in Edward Snowden's disclosures of mass internet surveillance by the NSA in league with five-eyes partners (Australia, Britain, Canada, New Zealand) and European intelligence services (Germany, France, Spain, Sweden) attests (European Parliament, 2014).

Such actions have not only called into question the technical integrity of the internet but also a baseline presupposition of democracy - the rule of law. Snowden's disclosures go well beyond

revealing the extent of US hegemony over the internet to illustrate that the internet is a jointly-constructed set of nearly 50,000 interoperating networks (e.g. autonomous system numbers, or ASN), all of which are under varying degrees of government oversight. The five eyes agreements between the Anglo powers (the US, UK, Australia, Canada and New Zealand) at the heart of the Snowden revelations are analogous to similar operations by the intelligence services in Germany, Switzerland, Sweden, France, Russia, China, and, probably every country that has the resources to do such work.

The assemblage of submarine fibre optic cables, cable landing points, IXPs, ASN and data centres that comprise the hardware of the internet is, in fact, becoming more polycentric in terms of the countries where it is based and the type of players that own and control it. Tata, for example, is an Indian mega-industrial conglomerate that is also the owner-operator of one of the biggest submarine fibre optic networks in the world (and one of the largest mobile wireless networks in India). Indeed, so much has the centre of gravity shifted towards Europe, Asia and the rest of the world, that allegations of US-internet imperialism seem far-fetched (Powers and Jablonski, 2015; Fuchs, 2010; Jin, 2014). The US government and the giant American internet companies continue to dominate some core elements of the internet (e.g. operating systems, internet content, social networks and search engines). However, the influence of American capital and the US state is receding when it comes to the hard infrastructure of the internet. In addition, claims of US internet imperialism obscure the complex web of global alliances and transactions that underpin the global internet infrastructure in the 'real world'.

Conclusion: Now where?

Relations of power have become more complicated, and obscure in the 'age of the internet' and the post neoliberal order. Yet when we bear in mind that mass internet surveillance and a fortified national security state are being hardwired into the internet infrastructure of 21st Century at a frightening and universal rate - often beyond the rule-of-law - things do not look bright. In the words of Yochai Benkler (2006), who identifies as a liberal PEC scholar, there is a battle over the institutional ecology of the information environment in full swing. How it plays out will shape the mobile wireless and internet-centric communications ecology – and all of the life activities it supports - for a century or more - if the lessons of the 150-year long 'industrial media age' are any indication.

Conflict and power are at the heart of these issues and interactions, creating winners and losers at every step of the way. So far, however, communication and media scholars have provided a conceptual apparatus and empirical base poorly attuned to the realities of our time. The fictional view of the PEC that the field has traded on for nearly half-a-century has served no one well, and is in need of a good burial, for all the reasons set out in this article.

Author Bio

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Dal Yong Jin, of *Political Economies of the Media* (2011) and several other edited and sole-authored books.

Endnotes

[1] 'Media infrastructure' industries refers to mobile wireless, broadband internet access, basic telephone service and cable, satellite and Internet-Protocol Television (IPTV) services. They provide people (subscribers) with access to services over the internet (networks) and are generally paid for mostly through subscriptions versus advertising.

[2] Cunningham, Flew and Swift do not cite *any* literature from the PEC tradition to support their charges on this point (see chapter 2).

[3] For instance, Edison originally thought of records as a way to preserve speech for future playback, not music, and telephone companies in Hungary, Italy, Canada, the UK, US, etc. all experimented for years with 'broadcasting services', including live theatre, church sermons, newspaper readings, etc. The ultimate use of both media were considerably different than these early visions imagined (Gitelman, 2006, Balbi, 2010).

[4] One of the founding figures in the institutional PEC tradition, Thorstein Veblen (1921), might explain this as a process by which 'industry' - basically, the application of the sum-total of a society's 'practical' knowledge, creativity and efficiency to technology, automation and machines - is subjugated to 'business', This is the organizational form of capital; the firm keeps prices and profits high, to exercise control over an uncertain environment, and over society's productive capacity, creativity and efficiency (i.e. technology) for as long as it can (Nitzan and Bichler, 2009). Veblen's view of technology as a society's stock of knowledge accords with Marx's views regarding technology as the embodiment of the 'general intellect' in his 'fragment on machines'. Such a view differs from those held in some Marxist circles whereby technology is reduced to being the embodiment and tool of capitalist interests. Thanks to Illijan Shehu, a PhD student in the Institute of Political Economy at Carleton University, for helping me clarify Veblen's ideas on this point, and for pointing to Nitzan and Bichler's book on Veblen.

[5] Ross received his Ph.D. in political economy at John Hopkins University in the US in 1891. In the three years before, he had been a visiting scholar in Germany, the UK and France. In France, he was greatly influenced by Gabriele Tarde, a highly respected early theorist of public opinion. In his book *Social Psychology* (1908), Ross paid a "heartfelt homage to the genius of Gabriel Tarde" (viii). In *Social Control* (1901), he refers to Albion Small, another key figure in the development of communication studies, in a similar way (vii).

[6] The old legal construct was known as the 'Blackstonian' model of property, named after the English legal scholar Lord Blackstone who formalized it.

[7] A similar process took place in the UK two decades earlier, largely around cases involving specialized financial market and sporting information services (Winseck, 1999: 150).

[8] Today, we see much the same thing on the balance sheets of mobile wireless operators.

[9] The 'iron triangle of information power' was put on a permanent wartime footing after WWII when the National Security Agency was formalized in 1952 (it was publicly unknown until decades later). Cooperative arrangements were already in place five years earlier between its predecessor and the rest of the US 'Five Eyes' partners (Australia, Canada, New Zealand and the UK) for international 'signals intelligence' work. Putting 'the iron triangle of information power' on a permanent wartime footing after WWII laid the basis for mass internet surveillance in our own time.

[10] Note that by this point that we have four different moments when the critique of ideology has been eroded or abandoned: (1) Ross and Bucher, on the grounds that the personal and political interests of the media mogul were being replaced by capitalist enterprise and the pursuit of profit; (2) Adorno by turning from the critique of ideology to the critique of instrumental reason; (3) Mills, because people have retained independence of mind and the ability to speak and form public opinion, despite the "system" being deaf and dumb to their views; and (4) Habermas, who we might charitably say combines elements from all of above.

[11] By which the DOJ and FCC meant the effect that the transaction would have on both ITT and ABC's influence as separate, competing enterprises on (1) advertising markets; (2) the TV market where ITT had the resources to enter as a new TV network, and thus to increase diversity; and (3) the then fundamentally new information infrastructures being imagined as the foundation of "wired cities". These infrastructures included CATV and satellite systems. The DOJ and FCC's standpoint was consistent with the long-standing policy principle regarding market segmentation/media divergence outlined earlier (Levin, 1969: 466).

[12] Cannon (2003) sees the *Computer Inquires* as fundamental to the development of the internet by controlling the telephone companies' role in the nascent computing and information services field.

[13] Yochai Benkler (1998) later referred to Innis' work in this regard as "a fountainhead of . . . the political economy of communication" (184, fn 3).

[14] The historical basis and theory of geopolitics upon which claims about cultural imperialism and the American Empire are based are problematic for reasons hinted at earlier. The free flow of information did not emerge after WWII, but was a part of US international communications policy since the late-19th Century, and in a formal but failed effort immediately after WWI. Seeing the US state and businesses as joined at the hip ignores the fact that there were cleavages within the latter, and between some communication companies and the US Government. This meant that Wilson's bid to promote the free flow doctrine as the basis for restoring liberal internationalism/imperialism immediately after WWI was dead on arrival. The tight coupling between the nation-state and business interests neglects the more cosmopolitan, multinational and collaborative nature of global capitalist imperialism and modernity (Conant, 1898; Rogers, 1920; Winseck and Pike, 2007).

[15] Miege's criticisms were related directly to Theodor Adorno's Culture Industry thesis, but it is clear that the criticisms can be applied to neoclassical economics and the Monopoly Capitalism School as well.

[16] Not to be confused with the free-market proselytizing kind of 'Chicago School' law and economics approach of Hayek, Friedman, etc.

[17] In Canada, the figures were CDN$54.8 billion and $20.4 billion in 2014, respectively. For the 30 countries representing 90% of the world media economy included in the International Media Concentration Research Project, the figures are USD$1,700 billion and $735 billion.

[18] Common carriage and network neutrality are not the same thing. The latter is largely a scaled back and derivative version of the former, but because network neutrality is widely recognized, and comes close to capturing *some* of the core elements of its more capacious predecessor, I use the two interchangeably for ease of reading.

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