

Inequality: The Blind Spot of Western Communication Studies

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Abstract

Our study focuses on the prevalence of conceptualizations of communicative inequality in the field of communication studies after the end of World War II. While communication studies has adopted and been influenced by conceptualizations of inequality from related disciplines and fields, conceptualizations of communicative inequality seem to have played only a marginal role. By means of a network analysis conducted on a corpus of more than fifteen thousand articles published in eight prominent international journals in the field¹ between 1945 and 2018, this study aims to map the prominence and adoption of different conceptualizations of communication inequality. With the tools of network analysis, the study identifies particular conceptualizations by tracing the most co-occurring cited authors associated with a particular conceptualization across time. We identify four distinct clusters of conceptualizations: modernization theory, cultural imperialism, knowledge gap, and digital divide. Historically, approaches to communication inequality have been divided either along ideological lines—largely defined by support for (modernization theory) or opposition to (cultural imperialism) US foreign policy—or in terms of different levels of communication inequality. While both modernization and cultural imperialism focus on interna-

¹ *Journal of Communication; Communication Monographs; Public Opinion Quarterly; Journalism & Mass Communication Quarterly; Communication Research; Media, Culture & Society; European Journal of Communication; and Discourse & Society.*

tional communication inequality, the knowledge gap tradition focuses

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on interpersonal differences. We argue that the dominant approaches and paradigmatic shifts in conceptualizations of communication inequality have largely been driven by forces outside of communication studies. Modernization, which dominated the period until the late 1970s, grew from US interests in securing hegemony in the third world. Critiques of cultural imperialism emerged during the 1970s as a direct challenge to modernization theory, connected strongly to third-world opposition to US hegemony. The notion of a digital divide, which has become the predominant conceptualization of communication inequality since 2000, stems largely from the concerns of the US Commerce Department's National Telecommunications and Information Administration for providing "universal service" to US citizens, while the knowledge gap tradition relates to the effectiveness of top-down communication campaigns.

Resumen

Nuestro estudio se centra en las conceptualizaciones sobre la desigualdad comunicativa en el campo de los estudios de comunicación que han predominado tras el final de la segunda guerra mundial. Mientras que las conceptualizaciones sobre la desigualdad que provienen de disciplinas y campos afines han sido adoptadas o han influenciado a los estudios de comunicación, las conceptualizaciones sobre la desigualdad comunicativa parecen haber desempeñado solo un papel marginal. Mediante un análisis de redes a un corpus de más de quince mil artículos publicados entre 1945 y 2018 en ocho revistas internacionales de prestigio en el campo, este estudio pretende mapear la relevancia y adopción de distintas conceptualizaciones sobre la desigualdad comunicativa. Con el uso de herramientas de análisis de redes, el estudio identifica conceptualizaciones particulares al rastrear a través del tiempo a los autores citados más co-ocurrentes en asociación con una conceptualización particular. Identificamos cuatro grupos de conceptualizaciones: teoría de la modernización, imperialismo cultural, brecha del conocimiento y brecha digital. Históricamente, los enfoques de la desigualdad en la comunicación se han dividido en función de líneas ideológicas —definidas en gran medida por el apoyo (teoría de la modernización) o la oposición (imperialismo cultural) a la política exterior de Estados Unidos— o en términos de diferentes niveles de desigualdad en la comunicación. Mientras que la modernización y el imperialismo cultural se centran en la desigualdad comunicativa internacional, la tradición de la brecha de conocimiento se centra en las diferencias interpersonales. Sostenemos que los enfoques dominantes y los cambios paradigmáticos en las conceptualizaciones sobre la desigualdad

comunicativa han sido impulsados por fuerzas ajenas a los estudios de comunicación. La modernización, que dominó el periodo hasta finales de la década de los setenta, nació de los intereses de Estados Unidos por asegurar la hegemonía en el tercer mundo. Las críticas al imperialismo cultural surgieron en los años setenta como un desafío directo a la teoría de la modernización, conectada fuertemente con la oposición del tercer mundo a la hegemonía estadounidense. La noción de brecha digital, la conceptualización predominante de la desigualdad en la comunicación desde el año 2000, proviene en gran medida de las preocupaciones de la Administración Nacional de Telecomunicaciones e Información del Departamento de Comercio de Estados Unidos por proporcionar un “servicio universal” a los ciudadanos estadounidenses, en tanto que la tradición de la brecha de conocimiento se relaciona con la eficacia de las campañas de comunicación de arriba hacia abajo.

LET US SAY you were faced with the challenge of correctly positioning social scientists within different theoretical traditions or paradigms. The caveat is that you know nothing about them and are allowed to ask only a single question. Arguably, the best choice would be to query them about their views on inequality. If someone responds that the root cause of inequality is the exploitation of workers, made possible through the private property of the means of production, you would be quite justified in guessing that this person is not a huge fan of Friedrich Hayek or Talcott Parsons. If, on the other hand, the answer is that income and profit are just rewards of an unerring market, distributed according to merit, and that attempts to interfere with this mechanism of distribution would only bring calamity upon a society so foolish as to attempt it, then you would know better that to invite this person to join your monthly reading circle of *Das Kapital*.

Inequality is one of the key concepts in the social sciences around which the most fruitful academic debates have historically arisen, compared and related to concepts such as power, ideology, values, rights, and culture. Debates about the causes and consequences of inequality in society helped to articulate the most distinctive schools of thought in the social sciences, such as the functionalist and Marxist paradigms in sociology. These ideas have been central to critical theories related to class, race, gender, or sexual orientation, as we find in trajectories of thought inspired by postcolonialism, feminist theories, and LGBTQI critique. The fundamental point of divergence that constitutes the most prominent paradigms lies in their concep-

tualizations of inequality; while functionalism views inequality not only as inevitable but as a desirable and therefore functional element in the formation and evolution of (modern) society, critical schools of thought view inequality as dysfunctional, or rather, as a functional tool of the dominant class in its reproduction of power and maintenance of the status quo.

The situation within communication studies, however, seems to be different. We can certainly observe the influence of economic and sociological theories and critiques of inequality like Marxism or the social stratification theory of Pierre Bourdieu, as well as other critical traditions, which are most prominent in analyses of the ways in which dominant power relations and hierarchies are reproduced in mass media content. Examples include critical discourse analysis, framing analysis, and ideology critique.² However, all of these approaches deal with the ways social inequalities are represented or reinforced *through* the mass media; they do not focus their attention on the ways inequalities are present *in* systems of mass communication—that is, on communication inequalities.

In order to track the prominence, historical development, and relations between different conceptualizations of communication inequality, our study traces selected keywords as indicators of conceptualizations of communication inequality. Concepts enable adherents to communicate through the established linguistic system of codes, or a “shared body of words and meanings,”³ and evolve out of the need for more precise, practical, and economical communication among members of a scientific community. As such, concepts serve as mechanisms of reduction, each denoting a set of arguments that a community agrees upon and that distinguishes it from the concepts of other communities. Accordingly, the analysis of conceptualizations of communication inequality can also give insight into the prominence, historical development, and relations between different paradigms within communication studies.

Institutionalization of Administrative and Critical Paradigms in Communication Research

The institutionalization of the administrative paradigm in the US was largely supported by government and private actors, particularly the Rockefeller Foundation,⁴ the Ford Foundation,⁵ and various branches of the US administration,⁶ such as the Army, the CIA, and the State Department.⁷ By privileging research on media effects, media and communication research was gradually detached from other fields of communication research such as journalism and speech.⁸

² Boris Mance, “The Changing Role and Patterns of Critical Communication Scholarship in the Academic Journal Publishing System,” (doctoral thesis, University of Ljubljana, 2020).

³ Raymond Williams, *Keywords: A Vocabulary of Culture and Society* (1976; repr., New York: Oxford University Press, 2015).

⁴ Todd Gitlin, “Media Sociology: The Dominant Paradigm,” *Theory and Society* 6, no. 2 (1978): 228.

⁵ Peter Simonson and John Durham Peters, “Communication and Media Studies, History to 1968” in *The International Encyclopedia of Communication*, ed. Wolfgang Donsbach (Malden, MA: Wiley-Blackwell, 2008).

Government funding shaped the research programs of the most influential research institutes, which in turn shaped the emerging field of communication studies. Between 1950 and 1951, Lazarsfeld's Bureau for Applied Social Research (BASR), for example, gained 75 percent of its funding from government sources, primarily from the US Air Force's Human Resources Research Institute and the Department of State's Voice of America program. Between 1952 and 1953, the number rose to 84 percent.⁹ BASR was no exception in this regard, as at the same time, Hadley Cantril's Institute for International Social Research (IISR), as well as the Center for International Studies (CENIS), gained more than 75 percent of their income from contracts with the government.¹⁰ At this time (1952), a whopping 96 percent of federal funds for social sciences were provided by the military.¹¹ The influence of the military on the early institutionalization of the field can be seen as well in the fact that the four presidents of the International Communication Association (ICA) between 1953 and 1962 all had military backgrounds, while a third of *POQ* editors and editorial board members were financially dependent upon psychological warfare contracts.¹²

These circumstances shaped the understanding of communication in general and communication inequality in particular. The interests of the US government—and particularly the military—to use communication in order to reach its goals favored an understanding of communication as propaganda, reflected in a strong research focus on media effects, as well as the role of mass media as a tool of “modernization” in the developing world. In such a conception, communication inequality between the elites, who determine the goals and methods of communication campaigns, and the masses, who are the intended site for the production of media effects, is implicitly assumed and thereby naturalized. Those who receive such messages are not meant to actively participate in processes of mass communication; they are meant to be persuaded. The effectiveness of persuasion can then be measured by the emerging “science” of public opinion polling. As Simpson has eloquently put it:

As will become apparent, the “dominant paradigm” of the period proved to be in substantial part a paradigm of dominance, in which the appropriateness and inevitability of elite control of communication was taken as a given. As a practical matter, the key academic journals of the day demonstrated only a secondary interest in what communication “is.” Instead, they concentrated on how modern technology could be used by elites to manage social change, extract political concessions, or win purchasing decisions from targeted audiences. Their studies emphasized those aspects of communication that were of greatest practical interest to the public and private agencies that were underwriting most of the research. This orientation reduced the extraordinarily complex,

⁶ Brett Gary, “Communication Research, the Rockefeller Foundation, and Mobilization for the War on Words, 1938–1944,” *Journal of Communication* 46, no. 3 (1996).

⁷ Jefferson Pooley, “The New History of Mass Communication Research,” in *The History of Media and Communication Research: Contested Memories*, ed. David Park and Jefferson Pooley (New York: Peter Lang, 2008).

⁸ Juha Koivisto, *Mapping Communication and Media Research* (Tampere, Finland: Tampere University Press, 2010).

⁹ Timothy Glander, *Origins of Mass Communications Research During the American Cold War: Educational Effects and Contemporary Implications* (Mahwah, NJ and London: Lawrence Erlbaum Associates, 2010), 124.

¹⁰ Christopher Simpson, *Science of Coercion: Communication Research & Psychological Warfare, 1945–1960* (New York: Oxford University Press, 1994), 4.

¹¹ Simpson, *Science of Coercion*, 52.

¹² Simpson, *Science of Coercion*, 43.

inherently communal social process of communication to simple models based on the dynamics of transmission of persuasive—and, in the final analysis, coercive—messages.¹³

The decisive impetus for the rise of the critical paradigm, on the other hand, arrived from labor militancy and new social movements in the late 1960s, drawing on critique of the structural political and economic determinism of mass communication, historical materialism, and a questioning of the “hegemonic status of logical positivism.”¹⁴ While the administrative paradigm naturalized (communication) inequality, the critical paradigm embraced demystification and struggle against social inequalities, focusing on the ways the mass media serves to obfuscate and reproduce dominant power relations. Critical research had scant opportunities to obtain significant funding from national political and economic institutions.¹⁵ Key material resources for critical research were easier to obtain at the international level, where national economic and political interest had less influence,¹⁶ as for instance, with UNESCO’s New World Information and Communication Order (NWICO) initiative and the International Association for the Study of Mass Communication (IAMCR), which actively supported progressive thought by establishing a politico-economic section.¹⁷

Contested Concepts

The issues associated with conceptualizations have long preoccupied scholars. Numerous studies have qualitatively examined contested concepts, such as “capitalism,”¹⁸ “alienation,”¹⁹ “ideology,”²⁰ “hegemony,”²¹ “public opinion,”²² or “public sphere,”²³ and found that the original critical concepts have become neutralized. To trace conceptualizations of inequality, we believe quantitative analysis is more appropriate because it allows us to identify the relationships between conceptualizations and scholarly communities that appear to be (or actually are) unrelated and/or have been labeled differently.

The use of keywords as indicators of prominence of particular strands of research also has a long history in communication research, with indicator selection based on deductive and inductive approaches. The former uses corpora (e.g., the population of research papers) to identify the most prominent keywords and is particularly popular for identifying trends in longitudinal research.²⁴ The latter method, in which specific concepts are selected in advance, is better suited to identifying the dynamics of less prominent or non-mainstream research. Such methods have been used, for example, to examine the development of concepts in communication research and

¹³ Simpson, *Science of Coercion*, 62.

¹⁴ Kaarle Nordenstreng, “Ferment in the Field: Notes on the Evolution of Communication Studies and Its Disciplinary Nature,” *Javnost—The Public* 11, no. 3 (2004).

¹⁵ William H. Melody and Robin E. Mansell, “The Debate over Critical vs. Administrative Research: Circularity or Challenge,” *Journal of Communication* 33, no. 3 (1983).

¹⁶ Dallas W. Smythe and Tran Van Dinh, “On Critical and Administrative Research: A New Critical Analysis,” *Journal of Communication* 33, no. 3 (1983).

¹⁷ Kaarle Nordenstreng, “Being (Truly) Critical in Media and Communication Studies: Reflections of a Media Scholar between Science and Politics,” *Javnost—The Public* 23, no. 1 (2016).

¹⁸ Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism* (London: Verso, 2007).

¹⁹ Williams, *Keywords*.

²⁰ John Downey and Jason Toynbee, “Ideology: Towards Renewal of a Critical Concept,” *Media, Culture & Society* 38, no. 8 (2016).

²¹ Joe L. Kincheloe and Peter L. McLaren, “Rethinking Critical Theory and Qualitative Research,” in *Landscape of Qualitative Research: Theories and Issues*, ed. Norman K. Denzin and Yvonna S. Lincoln (London: SAGE, 1998).

²² Slavko Splichal, *Public Opinion: Developments and Controversies in Twentieth Century* (Lanham, MD: Rowman & Littlefield, 1999).

²³ Natalie Fenton, “Fake Democracy: The Limits of Public Sphere Theory,” *Javnost—The Public* 25, no. 1–2 (2018).

have found an increase in cognitive conceptualizations and a decrease in behavioral conceptualizations.²⁵

Since Eugene Garfield's institutionalization of citation indexing in 1964, bibliographic analysis, which views citations as indicators of the significance of scientific ideas, has become more important for identifying scientific communities.²⁶ In particular, its extension, co-citation analysis, has been used to map the connections of co-cited authors or works and to identify the structural patterns of scientific ideas. These analyses have been used in the field to detect, for example, differences between journals in co-citation patterns and topics,²⁷ or gender bias in citations, also known as the Matilda effect.²⁸

The digitization of content and the availability of bibliometric (meta)data, as well as the advancement of network analysis methods and community detection algorithms, have proven productive in tracing the long-term dynamics of conceptualizations, such as examining the genealogy of the concept of social capital across disciplines,²⁹ different strands of thought in agenda-setting research,³⁰ reconceptualizations of the concept of the public sphere,³¹ and/or mapping critical approaches in communication research.³²

To explore the presence of communication inequalities in the scholarly literature, we have conducted a network analysis on a corpus of more than fifteen thousand articles published in eight prominent journals in the field. We will attempt to map the prominence and adoption of different conceptualizations of communication inequality in communication studies. With the tools of network analysis, we attempt to identify particular conceptualizations by tracing the most co-occurring words and cited authors associated with a particular conceptualization across time. The contribution of the present paper to the existing body of research can be found in our identification of the dynamics and prominence of particular conceptualizations of communication inequality appearing in the period following the end of World War II. Furthermore, by coupling the concepts with the co-occurring cited authors in articles and treating them with the tools of network analysis, we identify relations between different conceptualizations of inequality, paradigms affiliated with particular conceptualizations, as well as relations between those paradigms.

Defining Communication Inequality and Identifying Keywords

As Yu notes, research on information and communication inequalities is highly fragmented and there is a notable lack of integrative research and theory building.³³ This leads to the fact that there is no single term used in the scholarly literature to describe the concept of communication inequality. Rather, there is a multiplicity of

²⁴ Mark A. Hamilton and Kristine L. Nowak, "Information Systems Concepts across Two Decades: An Empirical Analysis of Trends in Theory, Methods, Process, and Research Domains," *Journal of Communication* 55, no. 3 (2005); Julian Lin and Seow Ting Lee, "Mapping Twelve Years of Communication Scholarship: Themes and Concepts in the Journal of Communication" in *The Outreach of Digital Libraries: A Globalized Resource Network*, Lecture Notes in Computer Science 7634 (Berlin and Heidelberg: Springer, 2012).

²⁵ Hamilton and Nowak, "Information Systems Concepts," 529–53.

²⁶ Robert K. Merton and Norman William Storer, *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1998).

²⁷ Ronald E. Rice et al., "What's in a Name? Bibliometric Analysis of Forty Years of the *Journal of Broadcasting (& Electronic Media)*," *Journal of Broadcasting & Electronic Media* 40, no. 4 (1996).

²⁸ Silvia Knobloch-Westerwick and Carroll J. Glynn, "The Matilda Effect—Role Congruity Effects on Scholarly Communication: A Citation Analysis of Communication Research and Journal of Communication Articles," *Communication Research* 40, no. 1 (2013).

²⁹ Chul-joo Lee and Sohn Dongyoung, "Mapping the Social Capital Research in Communication," *Journalism & Mass Communication Quarterly* 93, no. 4 (2016).

³⁰ Zixue Tai, "The Structure of Knowledge and Dynamics of Scholarly Communication in Agenda Setting Research, 1996–2005," *Journal of Communication* 59, no. 3 (2009).

³¹ Adrian Rauchfleisch, "The Public Sphere as an Essentially Contested Concept: A Co-citation Analysis of the Last Twenty Years of Public Sphere Research," *Communication and the Public* 2, no. 1 (2017).

³² Slavko Splichal and Boris Mance, "Paradigm(s) Lost? Islands of Critical Media Research in Communication Journals," *Journal of Communication* 68, no. 2 (2018).

³³ Liangzhi Yu, "The Divided Views of the Information and Digital Divides: A Call for Integrative Theories of Information Inequality," *Journal of Information Science* 37, no. 6 (2011).

approaches, theories, and concepts dealing with its various aspects. To further complicate matters, the terms used to describe various aspects of communication inequality are historically specific, some of them emerging only relatively recently (for example, the term “digital divide”), possibly replacing other terms and concepts, while some concepts were prominent in earlier eras and have since almost disappeared from use (for example, Lerner’s modernization theory), possibly being replaced by other terms and concepts.

In order to be able to identify keywords for our analysis, we need first of all to construct a broad enough definition of communication inequality to take account of this paradigmatic fragmentation. For this purpose, we define communication inequality as differences in the access to and capacity to use the means of producing, manipulating, and receiving information. These differences can be observed on several levels: between individuals, between social groups, or at the level of whole societies, nations, or regions of the world. These levels are closely related to those identified by Yu (see Figure 1); however, with the addition of the international dimension, which featured prominently in the critical literature during the 1970s and 1980s, these differences can be related closely to non-aligned efforts at addressing perceived imbalances in global information and communication flows (the debates on the New World Information and Communication Order, or NWICO).

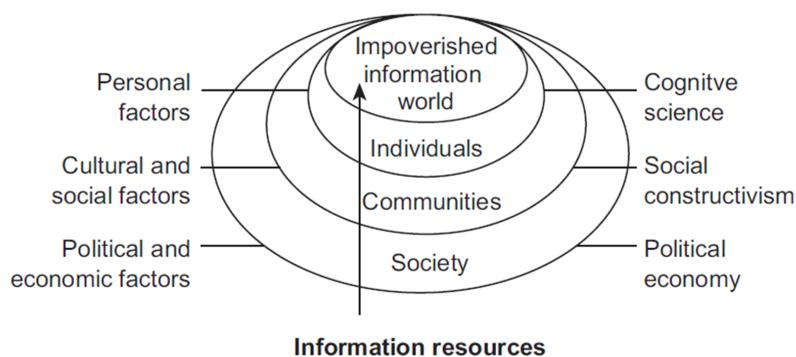


Figure 1: *Theoretical Perspectives of Information Inequality*. Source: Liangzhi Yu, “Understanding Information Inequality: Making Sense of the Literature of the Information and Digital Divides,” *Journal of Librarianship and Information Science* 38, no. 4 (2006): 229–52, <https://doi.org/10.1177/0961000606070600>.

Based on this definition, we have used a two-pronged approach to create a list of keywords for the analysis. First, we have created keywords by combining the words information, communication, media, digital, internet, and ICT with terms designating inequality, such as inequality, gap, divide, poverty, access, rich, poor, haves, have nots, etc. Secondly, we have identified specific vocabularies used by various research traditions to refer to information and communication

inequalities using a literature review. To begin with, we have identified the relevant schools of thought or research traditions, relying mostly on Yu and Donsbach.³⁴ In addition to the approaches identified by Yu,³⁵ we have added the three most prominent paradigms within development communication (modernization theory, cultural imperialism, and participatory communication), as they deal with international communicative inequalities, and public sphere theory. We then conducted a literature review of each of the identified research traditions in order to identify specific terminology used to describe information and communication inequalities within those traditions.

In this way we have created a list of 144 potential keywords. In the second step, we have reduced the number of keywords by eliminating those that are very infrequent in our corpus ($n \leq 10$), as we are interested in identifying systematic patterns and not terms that appear only idiosyncratically. Forty-eight keywords have met this criterion. In the third step, we have reviewed the results and eliminated those keywords that lack specificity (i.e., are not used exclusively to refer to information and communication inequality). When keywords were found to be too broad, we have attempted to modify them to increase specificity when possible (e.g., substituting “unequal media access” for the non-specific “media access”); however, none of these modified keywords met the frequency criteria ($n > 10$) to be included in the analysis. In the case of the keyword “modernization,” we have added the requirement that either “Lerner” or “Rogers” (the two most prominent authors in this tradition) co-occur in the same article in order to achieve specificity.

In this way, we have reduced the initial list of potential keywords to twenty-four (see Table 1). In addition, we have searched for articles in the Web of Science “Communication” category containing any of the twenty-four keywords in their topics in order to supplement the sample of prominent keywords by any that we might have missed. By extracting the common phrases appearing in the titles, abstracts, and keywords of 8,024 resulting articles, the noun phrase detection analysis in the CiteSpace software package yielded 1,018 results (Appendix E). Manual inspection of phrases appearing at least ten times did not yield any additional keywords. We are therefore confident that our list adequately represents the most relevant keywords referring to communication inequality.

³⁴ Wolfgang Donsbach, *The International Encyclopedia of Communication* (Malden, MA: Blackwell Publishing, 2008).

³⁵ Yu, “Divided.”

Table 1. Final List of Keywords and Their Frequencies

<i>Keyword</i>	<i>N</i>
knowledge gap	270
cultural imperialism	213
digital divide	198
("modernization" AND "Lerner") OR ("modernization" AND "Rogers")	149
world system OR world-system	123
media imperialism	122
cultural domination	99
information gap	87
NWICO OR New World Information and Communication Order	71
communication gap	49
digital inequalit*	42
New International Information Order	42
information poverty	41
participatory communication	33
information poor	30
counterpublic	29
digital inclusion	25
equitable access	21
information inequalit*	16
access to ICT OR access to the ICT	12
balanced flow of information	12
communication inequalit*	11
digital exclusion	11
electronic colonialism	11

*Method**Sampling*

In order to identify the structural and dynamic features of conceptualizations of communication inequalities, our analysis detects the

patterns of co-occurrences of indicators—selected terms/concepts and cited authors—in the articles published in eight elite scholarly journals whose research scope is focused on the problems of media and mass communication and which are indexed in the SSCI bibliographic database Clarivate Analytics: Web of Science (WOS). The labor-intensive process of cleaning and standardizing more than five hundred thousand cited authors' entries, and acquisition and preparation of more than fifteen thousand articles, limited the number of journals in the sample. The selection of journals sought to reflect: a) the journal's prominence, indicated by relatively high impact factor, and b) distinctiveness of research communities, operationalized by affiliations with professional communication organizations, reflecting broader and substantial trends in communication research, thus providing a relatively long publication period for analysis (the case of US based journals). Apart from the commercial journal *Communication Research*, the sampled US-based journals include association journals, such as *Journalism and Mass Communication Quarterly*, published by the Association for Education in Journalism and Mass Communication (AEJMC); *Communication Monographs*, published by the National Communication Association (NCA); *Public Opinion Quarterly*, published by the American Association for Public Opinion Research (AAPOR); and the *Journal of Communication*, published by the International Communication Association (ICA). The European journals included are: the *European Journal of Communication*, oriented to publishing European research; *Media, Culture & Society*, which is critical in scope; and *Discourse & Society*, which relates to a specific epistemological community. These three journals appeared later than their US counterparts, together with the institutionalization of communication research in Europe. The population of journals that deal with communication cannot be defined, as research published in journals from other research fields such as sociology, psychology, linguistics, computer science, etc., also includes certain aspects of communication. On the other hand, the population of communication journals categorized in the SSCI database includes some very specialized journals that were considered to be less relevant to this particular research problem, such as *New Media & Society*.

The data range covers all published articles from 1945 through 2018, although some journals commenced publication later in this period. Included are only research and review articles and proceedings papers, as they contain relevant research outputs. Publications such as introductions/prefaces, book and software reviews, editorial material, abstracts, meeting abstracts, letters, forums, biographical items, obituaries, corrections, additions, and retraction notices were omitted from the analysis.

The study was conducted using selected journals from the North Atlantic region. It is therefore not representative of the entire field of communication research over the seventy-year period, nor of the entire North Atlantic region. The study is also limited by not including monographic publications. Despite its limitations, the study presents the main paradigms and conceptualizations of the communication of inequality in Western Anglophone journals that can be considered mainstream. However, further research on a different set of journals, especially outside of the main Anglo-saxon tradition, would be welcome as it might uncover how conceptualizations of communication inequality differ among scholarly traditions and social contexts. A further limitation of the study arises from the fact that conceptualizations of communication inequality were operationalized via specific keywords. This has meant that conceptualizations of communication inequality that are not or cannot be tied to specific keywords were not registered. For example, one could claim that concepts of capitalism, commodification, and social class, which are central to political economy of communication, necessarily imply communication inequality; however, as they do not explicitly refer to it, they were not included as indicators. In this sense, further qualitative work into conceptualizations of communication inequality would enhance and complement our quantitative findings.

Data Preparation, Analysis, and Visualizations

The automated search for selected terms was performed on the population of 15,180 articles using Boolean operators in search queries, where some were adapted to include and/or exclude certain words or phrases. The corpus was cleaned of the “left-leaning” and “right-leaning” characters, such as keys and symbols (., ! ? ; / « » ” ‘ ’ ; :), as they could mask terms from the search algorithm. All articles containing at least one mention of a term were included in the analysis.

Since the metadata of all publications published in the selected journals in the WOS database is not standardized to the fullest extent, the data files were exported and cleaned, including authors in 457,228 cited references. Special attention was devoted to standardization of synonyms (different name records belonging to the same author) and homonyms (exact name records belonging to different authors). The cases of cited works with multiple authorships contain only the first author, due to limitations of the WOS database which could not be overcome.

The sample consisted of those articles which contain at least one term, and 1,180 of such articles contained 48,549 references pertaining to 20,249 unique authors. Distinguishing among texts where a

particular term/concept obtains central position and those where the term is briefly mentioned is difficult. Since authors differ in their writing styles, the richness of their (English) vocabulary, publication length, etc., the relevance of the term in a particular article can not be determined by its frequency. Therefore, all articles containing a specific term were treated equally in the analysis (even when the term appeared only once). On the other hand, more weight was given to instances where a particular author held more references—as this information is a better indicator of the centrality of someone's ideas in the analyzed text.

By identifying the articles that contained the selected keywords, we were able to select all authors appearing in the references in those articles and generate networks containing only co-occurring terms and cited authors in the same article. In this process, the width of links contains the weighted information on co-occurrences of units, where links created between the same node—so-called loops—were removed.

The visualization layout of the network is performed with Gephi software with the use of a MultiGravity ForceAtlas 2 algorithm, which distributes the nodes within the network according to vector, produced by two opposing forces: the attraction force, based on the edge weights of the nodes, and the repulsion force, generated by adjacent nodes.³⁶ In this way, nodes co-occurring more frequently and co-occurring with a greater number of other nodes are drawn closer together, while those co-occurring more seldomly are drawn further apart. In the resulting graphs, the size of node labels is proportionally dimensioned to the number of all edges connected to the node. Analysis is conducted on the whole corpora and segmented according to the three identified periods and journals. Visualizations conducted of particular journals holding lower explanatory value are located in the Appendices (A–E).

Clusters, or modules of nodes within the network, are detected on the grounds of structural properties of the network—with their (uneven) distribution based on the number and weight strength of edges connecting them. Modules contain nodes with a higher density of stronger edges among themselves, separated from neighboring clusters by a weaker and lesser number of edges.³⁷ Modularity index designates the strength of division of a network into modules, where a higher modularity index indicates higher fragmentation of the network (more dense links between particular groups of nodes and weaker links between neighboring groups). The resolution parameter, on the other hand, adjusts the algorithm's sensitivity and defines the number of modules.³⁸

³⁶ Mathieu Jacomy, Tommaso Venturini, Sébastien Heymann, and Mathieu Bastian, "ForceAtlas2: A Continuous Graph Layout Algorithm for Handy Network Visualization Designed for the Gephi Software," *PLoS ONE* 9, no. 6 (2014): e98679.

³⁷ Vincent D. Blondel et al., "Fast Unfolding of Communities in Large Networks," *Journal of Statistical Mechanics: Theory and Experiment* 2008, no. 10 (October 2008).

³⁸ Renaud Lambiotte, Jean-Charles Delvenne, and Mauricio Barahona, "Laplacian Dynamics and Multiscale Modular Structure in Networks," *IEEE Transactions on Network Science and Engineering* 1, no. 2 (2015).

Results

Four Central Conceptualizations of Communication Inequalities

To better understand how the concepts of inequality under study are conceptualized, we examined the relationships between the keywords under study and the authors cited by identifying subtle structural properties of the network using a clustering procedure. By reducing the entire network to the most prominent nodes (a minimum degree value was set at 1,280, obtaining 0.37% of nodes with highest values), the network of keywords and cited authors obtained from 1,180 articles formed four clusters, mirroring four main conceptualizations/traditions of research on communication inequalities: “cultural imperialism cluster” (green, 42.1% of units), “knowledge gap cluster” (purple, 35.5%), “modernization cluster” (blue, 11.8%), and “digital divide cluster” (orange, 10.5%) (Figure 2).

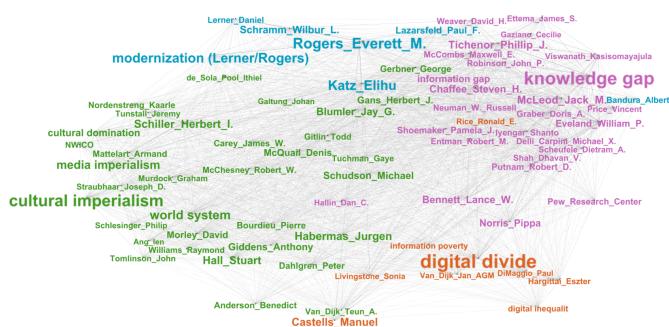


Figure 2: Clusters in the reduced network of 1,180 articles published between 1945–2018; min. degree = 1,280; resolution = 1.0; modularity = 0.264; nodes visible = 76 (0.37%). Cultural imperialism cluster (green), knowledge gap cluster (purple), modernization cluster (blue) and digital divide cluster (orange)

The mapped clusters reveal that the knowledge gap theories and theories of cultural imperialism are distanced furthest. Clusters formed around concepts and cited authors pertaining to theories of modernization, positioned between knowledge gap theory and theories stemming from critical tradition, show an overlap which indicates mutual patterns of co-citation.³⁹ This may indicate either a cohabitation of different scientific currents or a contestation between critical and dominant theoretical currents in the articles where the terms/concepts co-occur together. The clustering does not nec-

³⁹ When clustering procedures are performed on a relatively small number of units, cases where an author has been cited with multiple works in a single article may have a stronger influence on cluster membership, due to the different treatment of edge weights by the clustering and spatialization algorithms. Albert Bandura and Ronald E. Rice are examples where the placement of the spatialization algorithm and the cluster membership differ.

essarily indicate a similarity of ideas, as it may just as well indicate critique, i.e., negative citations. For example, the inclusion of Ithiel de Sola Pool in the cultural imperialism cluster (albeit on the periphery) alongside other, more prolific critical authors may be due to criticism,⁴⁰ or references to research work which the author acknowledges but does not endorse.⁴¹

The relative distance of the digital divide cluster from others suggests its conceptual distinctiveness, which to some extent can be attributed to the fact that it is a relatively new concept, emerging only with the advent of the Internet in the second half of the period under study, but drawing on three distinctive and prior perspectives: knowledge gap theory, critical tradition, and research on information richness.

The analysis of the entire corpora, containing all available information, provides a general perspective. However, it obscures the influence of specific journals with their unequal number of articles. Therefore, in order to minimize bias and gain better insight into the conceptualization of the digital divide, separate analyses are conducted for individual journals and presented in the section below concerning the era of the digital divide (2000–2018).

Three Eras in Conceptualizing Communication Inequality

In this section we will be adopting a diachronic/historical perspective and examining how the prominence of various conceptualizations of communication inequality has changed throughout the history of (institutionalized) communication studies. We will attempt to contextualize our results by connecting them with literature from the history of communication studies that identifies the dominant social interests that shaped the field of communication research and the ways it conceptualizes communication inequality.

The significant variability of the articles that mentioned the analyzed terms throughout the analyzed time period (Figure 3) indicates that the terms used to describe communication inequality are historically specific, not only in the case of the “digital divide,” a term that for obvious reasons could not have been in circulation in the 1960s, but also in the case of other terms like “modernization,” which has been prominent in an earlier era and has since gone out of favor. Based on this analysis, we propose that it is reasonable to talk about three eras in the post-war conceptualization of communication inequality: the era of modernization (1945–1978), the era of ideological struggle (1979–1999), and the era of the digital divide (2000–2018).

⁴⁰ Peter Golding, “Media Role in National Development,” *Journal of Communication* 24, no. 3 (1974).

⁴¹ Vincent Mosco and Andrew Herman, “Communication, Domination and Resistance,” *Media, Culture & Society* 2, no. 4 (1980).

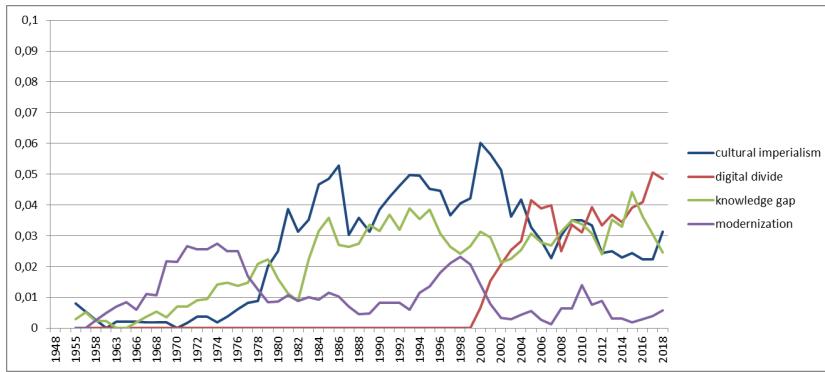


Figure 3: Chronological distribution of articles containing most prominent terms of communication inequality (normalized by the number of published articles and smoothed according to three-year average). The cultural imperialism line groups keywords: cultural imperialism world system, media imperialism, cultural domination, and NWICO. The knowledge gap line groups keywords: knowledge gap, information gap, and communication gap.

The Era of Modernization (1945–1978)

The first era began in the early sixties, as terms designating communication inequality were almost absent before that time. Its main characteristic is the hegemony of the term “modernization” to describe communication inequality, hence we call this era the “era of modernization.” Coined by Daniel Lerner, the term modernization implies that societies can be hierarchically ordered, with “traditional” societies representing a lower stage of social evolution than “modern” ones, with the US occupying the pinnacle of this hierarchy.⁴² The term modernization is therefore a projection of US hegemony toward the third world, its prevalence in scholarly literature reflecting the impact of geopolitics on scholarly literature. The relationship between so-called “traditional” and “modern” or “developing” and “developed” countries was of key geopolitical importance because winning the hearts and minds of people in the third world emerged as one of the key goals of US foreign policy.⁴³ Already in his 1949 inaugural address, when he laid out his Manichean view of the world, with its split between the irreconcilable forces of “communism” and “democracy,” President Truman named development of less developed countries as the fourth pillar of defense of the free world, alongside the Marshall plan, the United Nations, and NATO.⁴⁴

In modernization theory, communication inequality serves as an explanatory variable of social evolution, as Lerner believes that the presence of mass media is a key factor driving the transition from “traditional” to “modern” societies, while the relative absence of mass mediated content in a country can hamper its social evolution.⁴⁵ In this model, unequal global information and communication flows (from developed to developing countries) are assumed to be desirable, as the influx of media content and foreign investment in media infrastructure will help to “modernize” backwards societies. In this way, modernization theory expressed and legitimized

⁴² Daniel Lerner, *The Passing of Traditional Society: Modernizing the Middle East* (New York: The Free Press of Glencoe, 1958).

⁴³ Gilbert Rist, *The History of Development: From Western Origins to Global Faith*, 3rd ed. (London and New York: Zed Books, 2008), 69–79; Robert K. Olson, *US Foreign Policy and the New International Economic Order: Negotiating Global Problems, 1974–1981* (Boulder, CO: Westview Press, 1981).

⁴⁴ Harry S. Truman, “The Inaugural Address of Harry S. Truman,” transcript of inaugural address delivered in Washington, DC, January 20, 1949.

⁴⁵ Lerner, *Passing*.

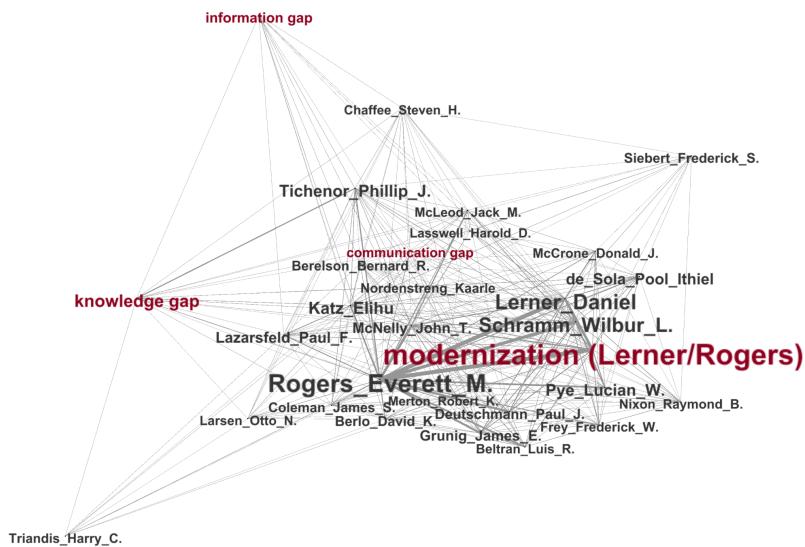


Figure 4: Era of modernization visualized with reduced networks of concepts (red) and cited authors (black) irrespective of journal affiliation, 1945–1978; n of articles = 118; min. degree = 123; nodes visible = 30 (2.65%).

US interests in increasing the reach and effectiveness of their propaganda throughout the third world. In fact, the empirical material for Lerner's *The Passing of Traditional Society*, the foundational text of modernization theory, was gathered as part of a government contract aimed at assessing the effectiveness of the State Department's Voice of America radio program in the Middle East.⁴⁶ Lerner himself believed the role of international communications should be to align the peoples of the "Free World" with US leadership and heaped scorn on "neutralists," who refused to take sides in the cold war, regarding them as either "privatized apathetics or apoplectic antagonists" to the world hegemon.⁴⁷

While modernization is clearly the hegemonic conceptualization of communication inequality during this era, we can see the knowledge gap cluster emerge and gain popularity especially during the second half of the 1970s. First formulated by Tichenor, the knowledge gap hypothesis posits that socioeconomic status is a mediating variable in acquiring information transmitted through the mass media.⁴⁸ Building on earlier research findings on the uneven spread of information in targeted communication campaigns, the focus of knowledge gap research was on social conflict, community social structure, and information control, which could optimize mobilization functions exercised by campaign planners, policy makers, and other advocates and actors.⁴⁹

⁴⁶ Hemant Shah explains that as the Voice of America was facing scrutiny in Congress, the government had no reliable data with which to demonstrate its effectiveness. The task of producing such data was given to Leo Löwenthal, who engaged the Bureau of Applied Social Science Research, where Lerner was employed at the time. The contract stated that the main goal of the project, commencing in 1949, was to "gain insights into the comparative effectiveness of the propaganda struggle between East and West [through] comparisons of reliability and popularity of VOA, BBC, USSR." Shah, *The Production of Modernization: Daniel Lerner, Mass Media, and the Passing of Traditional Society* (Philadelphia: Temple University Press, 2011), 13. Löwenthal later explained his views on the role of communication science and particularly opinion measurement in evaluating the effectiveness of "psychological warfare" in an article published in *POQ*; see Klapper and Löwenthal, "The Contributions of Opinion Research to the Evaluation of Psychological Warfare," *Public Opinion Quarterly* 15, no. 4 (1951).

The hegemony of modernization theory in conceptualizing communication inequalities is symptomatic for the overwhelming influence of the US government and select private interests in determining the research agenda of communication studies in particular and social sciences in general. The era of modernization coincides with the institutionalization of the dominant or administrative paradigm in mass communication and media studies in the United States, embodied in the media effects tradition, which was initiated and supported by the “funding fathers”: the Rockefeller Foundation,⁵⁰ the Ford Foundation,⁵¹ and various branches of the US administration, such as the Army, the CIA, and the State Department.⁵²

In this paradigm, communication inequality could emerge as a problem in only a very limited sense. In order for propaganda to produce its results and for the mass media to produce “modernization” of the developing world, the persuasive messages needed to reach their intended audiences, and these audiences needed to be open to persuasion. However, the problem presented itself quite differently in the developing world as opposed to the US. In the developing world, underdeveloped communication infrastructure presented the main barrier to the effectiveness of persuasive communication, while in the US, the main issue was how audiences were receiving and processing information. Hence, Charles Glock argued for communication studies to adopt a two-pronged approach: “In the United States, where most of the mass media are accessible to everyone, the questions of exposure and resistances to exposure require primary attention. In a country, such as Jordan, where the distribution of the mass media is limited, accessibility and restrictions on accessibility are currently more crucial problems.”⁵³ Our results indicate that communication studies did indeed develop according to this two-pronged approach, with modernization theory focusing attention on limited media access in developing countries and the knowledge gap hypothesis emerging to understand issues of exposure and “resistance” to exposure within the US.

The Era of Ideological Struggle (1979–1999)

The second era begins in the second half of the 1970s. We have chosen 1978 as the cut-off point, as it represents the sharpest decline in the dominance of modernization theory and the starting point of the ascendance of theories of cultural imperialism (defined by the keywords “media and cultural imperialism,” “world-system” and “cultural domination”), which have emerged to directly challenge modernization theory. That is why we call this era the “era of ideological struggle,” as paradigms are divided on the basis of political

⁴⁷ Daniel Lerner, “International Coalitions and Communications Content: The Case of Neutralism,” *Public Opinion Quarterly* 16, no. 4 (1952): 687.

⁴⁸ Philip J. Tichenor, George A. Donahue, and Clarice N. Olien, “Mass Media Flow and Differential Growth in Knowledge,” *Public Opinion Quarterly* 34, no. 2 (1970).

⁴⁹ Katam Viswanath and John R. Finnegan, “The Knowledge Gap Hypothesis: Twenty-Five Years Later,” *Annals of the International Communication Association* 19, no. 1 (1996): 205.

⁵⁰ Gitlin, “Media Sociology.”

⁵¹ Simonson and Peters, “Communication and Media Studies.”

⁵² Gary, “Communication Research”; Simonson and Peters, “Communication and Media Studies”; Pooley, “New History.”

⁵³ Charles Y. Glock, “The Comparative Study of Communications and Opinion Formation,” *Public Opinion Quarterly* 16, no. 4 (1952): 515.

ideology, with modernization remaining to be aligned with US foreign policy goals, and the cultural imperialism cluster emerging to challenge and oppose US hegemony.

While the struggle over international communication inequalities is the defining feature of this era, we can also notice the continuing presence of the knowledge gap cluster, which develops relatively independently from both the modernization and cultural imperialism traditions. In this sense, another line dividing scholarly communities emerges: While the modernization and cultural imperialism clusters both engage with international communication inequality, albeit from opposing ideological positions, the knowledge gap cluster engages with communication inequality primarily on an interpersonal level. Unlike the case of international communication inequalities, where our analysis revealed a polarization between the critical and administrative paradigms, research into interpersonal communication inequality does not exhibit such ideological polarization. Rather, throughout this era, the knowledge gap cluster is gaining in prominence and is consolidating as a separate research tradition around a group of key authors—the most prominent being Phillip J. Tichenor.

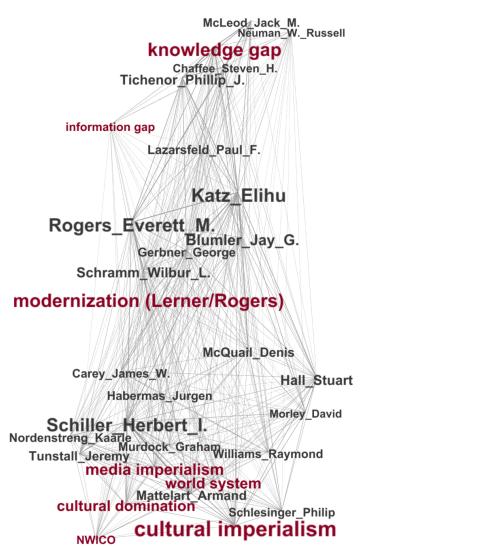


Figure 5: Era of ideological struggle visualized with reduced networks of concepts (red) and cited authors (black) irrespective of journal affiliation, 1979–1999; n of articles = 486; min. degree = 833; nodes visible = 30 (0.39%).

The sharp decline in the prevalence of modernization theory in the late 1970s took place during the crisis of US hegemony,⁵⁴ which gave rise to challenges to the dominant theories in the social sciences in general, as well as in communication studies in particular. Consequently, the promises of development and modernization, which

⁵⁴ See Giovanni Arrighi, *Adam Smith in Beijing* (London and New York: Verso, 2007); Robert Brenner, *Economics of Global Turbulence: The Advanced Capitalist Economies from Long Boom to Long Downturn, 1945–2005* (London: Verso, 2006), 143–80.

informed the dominant conceptualizations of communication inequality in the preceding era, started to lose their power. They were becoming harder to defend as the gap between rich and poor nations was widening,⁵⁵ while rural populations in the third world stubbornly refused to be “modernized.” Consequently, scholars began to modify Lerner’s highly exaggerated claims regarding the effectiveness of mass media by theorizing limited media effects and including theories like diffusion of innovation to explain the limited success of modernization campaigns. However, lacking the practical success of modernization campaigns and facing increasing scholarly scrutiny and critique, modernization theory was slowly abandoned even by its erstwhile proponents.⁵⁶

Theoretically, opposition to US hegemony took the form of interest in the notion of imperialism, as well as the highly related strands of dependency and world-systems theory. While theories of development and modernization assumed that each country individually followed a predetermined evolutionary path from tradition to modernity, the critical theoretical traditions recast global economic inequalities not as different stages of social evolution on the path to the pinnacle of US-style capitalism, but as inequitable relations between a center and periphery of a globalized economic system—between exploiter and exploited, colonizer and colonized. These perspectives are inspired by and tightly interwoven with the process of decolonization and the voices from the periphery who drew attention to the continuing impact of colonialism on colonial subjectivity and culture.⁵⁷ Critiques of US hegemony also extended to the economic dominance of the US and its multinationals,⁵⁸ as well as to the dominance of the center of the global economy over a subordinated periphery, as theorized by the “Latin American school of development,”⁵⁹ which offered alternative theoretical viewpoints to the predominant neoclassical and Keynesian analyses of development and modernization.

While these theories emerged from the field of economics and political economy, they soon became very influential in the field of communication, which can be seen in the way critical communication scholars adopted the vocabulary of imperialism and world-systems theory to describe communication inequalities.⁶⁰ Theories of the cultural imperialism cluster attempted to recast global inequalities between societies not as stages of social evolution, but through an antagonistic relationship between exploiters and exploited. Global communication inequality is reframed as a mechanism of ideological and cultural domination of the informationally poor by the informationally rich, rather than as a benevolent tool of social advancement.⁶¹ Critical scholars have begun to question unbalanced global information and communication flows and the power of Western media corporations both internationally and domestically.

⁵⁵ Karl P. Sauvant, “Toward the New International Economic Order,” in *The New International Economic Order: Confrontation of Cooperation between North and South?*, ed. Karl P. Sauvant and Hajo Hasenpflug (Boulder, CO: Westview Press, 1977), 4.

⁵⁶ See Everett M. Rogers, “Communication and Development: The Passing of the Dominant Paradigm,” *Communication Research* 3, no. 2 (1976).

⁵⁷ Frantz Fanon, *Wretched of the Earth*, trans. Constance Farrington (New York: Grove Press, 1963).

⁵⁸ Kwame Nkrumah, *Neo-Colonialism: The Last Stage of Capitalism* (London: Thomas Nelson & Sons, 1965).

⁵⁹ Cristóbal Kay, *Latin American Theories of Development and Underdevelopment* (London and New York: Routledge, 1989), 2.

⁶⁰ E.g., Herbert I. Schiller, *Mass Communication and American Empire* (Boston: Beacon Press, 1969), 5–19.

⁶¹ See Ariel Dorfman and Armand Mattelart, *How to Read Donald Duck* (1971; repr., New York and London: OR Books, 2018).

Challenges to the hegemony of modernization theory came from several sources. The first came from within the rich capitalist countries, where labor and racial conditions contributed to protests and strikes and the rise of new social movements, which were further fuelled by international events such as the Vietnam War. These circumstances brought about profound changes in academia as well, with greater emphasis applied to the social relevance of research, to political economy, and to critique of the hegemonic status of logical positivism.⁶² While we cannot speak of an institutionalization of the critical paradigm within the US academy, the expansion and professionalization of the field, which allowed for some degree of autonomy from the government, did open a space for critical and even radical voices, like Herb Schiller, the most prominent author of the cultural imperialism cluster. In Europe we do see steps toward institutionalizing the critical paradigm, particularly in the United Kingdom. The legacy of British colonialism became an object of the emerging paradigm, which nurtured a critical imperative based on historical criticism and personified by authors such as Stuart Hall, Raymond Williams, and Richard Hoggart; and by institutions such as the Centre for Contemporary Cultural Studies at the University of Birmingham and the Glasgow Media Group; but also by newly founded journals such as *Screen and Media, Culture & Society*, which are part of our sample. In our analysis, scholars from the cultural studies (Stuart Hall) and political economy of media (Graham Murdock) traditions emerge as prominent names in the cultural imperialism cluster.

The second challenge to modernization theory resulted from the internationalization of communication studies, as authors from the periphery of global capitalism came to prominence. The name of Armand Mattelart, who was active in Chile until the coup of 1973, emerges as one of the prominent names in the cultural imperialism cluster. While Mattelart moved to France after the coup, his research interests continued to be shaped by the Chilean anti-imperialist experience, focusing on the global dominance of the US and its multinationals.⁶³

The third challenge arose from non-aligned international efforts which sought to oppose “cultural imperialism” by establishing a New World Information and Communication Order.⁶⁴ Several authors in the cultural imperialism cluster were either directly involved in the NWICO initiative (Kaarle Nordenstreng, primarily as president of the International Organization of Journalists) or have explicitly supported the initiative like Herb Schiller did. UNESCO proved to be a fertile ground for the growth of the critical paradigm, as it provided a site for critically reflecting on the national and international inter-

⁶² Nordenstreng, “Ferment in the Field,” 7.

⁶³ Armand Mattelart, “Cultural Imperialism in the Multinationals’ Age,” *Instant Research on Peace and Violence* 6, no. 4 (1976); Armand Mattelart, *Multinational Corporations and the Control of Culture: The Ideological Apparatuses of Imperialism* (Brighton, UK: Harvester, 1979).

⁶⁴ See Tran Van Dinh, “Non-Alignment and Cultural Imperialism: The Black Scholar,” *Journal of Black Studies and Research* 8, no. 3 (1976).

ests of “developed” (e.g., the member states of the Trilateral Commission) versus “less developed” countries (e.g., the Non-Aligned Movement [NAM]).⁶⁵ Through the UNESCO critical tradition, which addressed issues of inequality in information flows, the concepts of “development” and “modernization” were challenged as ways to cover up problems rooted in colonialism.⁶⁶

The connections between critical scholarship and the NWICO initiative can be seen in their shared vocabulary—for example, the NAM’s use of “imperialism” to describe “alien ideological domination over the peoples of the developing world,”⁶⁷ with imperialism and cultural domination also being some of the most prominent keywords of the cultural imperialism cluster. It is also notable that the initial surge of the cultural imperialism cluster in our sample (from 1974 to 1986) roughly corresponds to the era of NWICO: from 1973, when its agenda was first coherently articulated at the Fourth Summit of the Non-Aligned Movement in Algiers, to 1985, when it was crippled by the US, UK, and Singapore leaving UNESCO in protest against it.

The Era of the Digital Divide (2000–2018)

The final era, which we call the “era of the digital divide,” begins around the turn of the millennium with the emergence of the term digital divide, which becomes the most commonly used term to describe communication inequality in the last years of this era. In 2000 we also saw the cultural imperialism cluster reach its peak and then quickly decline, while still remaining relevant and even increasing in prominence again towards the end of the analyzed period. Throughout this era, the knowledge gap cluster does not exhibit a trend, but remains consistently relevant. Modernization, on the other hand, has now almost completely disappeared as a way to make sense of communication inequality. It exhibits a short resurgence in 2010, but this is due to interest in the history of the concept rather than proof of its continuing relevance.⁶⁸

In this era the digital divide cluster is most closely associated with the knowledge gap cluster. This finding is in line with reviews of the literature on the digital divide, which point to the knowledge gap tradition as its precursor,⁶⁹ while the origin of the term is most often traced back to the National Telecommunications and Information Administration of the US Department of Commerce and its concern for providing “universal service” to US citizens. According to this origin, the major focus of digital divide scholarship has been on unequal access to the internet, with less attention on unequal digital skills and outcomes of internet use.⁷⁰ The focus of digital divide research has

⁶⁵ Smythe and Van Dinh, “Critical and Administrative Research,” 125.

⁶⁶ Sunril Amirth and Glenda Sluga, “New Histories of the United Nations,” *Journal of World History* 19, no. 3 (2008): 252.

⁶⁷ Documents of the Fourth Summit Conference of Heads of State or Government of the Non-Aligned Movement (September 1973).

⁶⁸ Thomas L. Jacobson, “Amartya Sen’s Capabilities Approach and Communication for Development and Social Change,” *Journal of Communication* 66, no. 5 (2016); Angel Barbas and John Postill, “Communication Activism as a School of Politics: Lessons from Spain’s Indignados Movement,” *Journal of Communication* 67, no. 5 (2017); Evan Elkins, “Powered by Netflix: Speed Test Services and Video-On-Demand’s Global Development Projects,” *Media, Culture & Society* 40, no. 6 (2018).

⁶⁹ Matthew S. Eastin, Vincent Cicchirillo, and Amanda Mabry, “Extending the Digital Divide Conversation: Examining the Knowledge Gap Through Media Expectancies,” *Journal of Broadcasting & Electronic Media* 59, no. 3 (2015): 419.

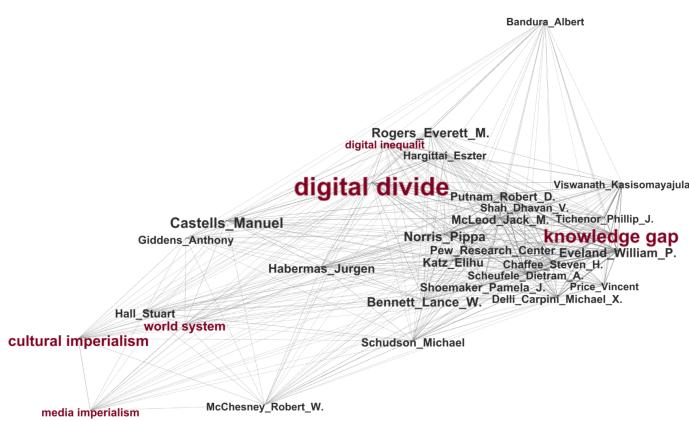


Figure 6: Era of the digital divide visualized with reduced networks of concepts (red) and cited authors (black) irrespective of journal affiliation, 2000–2018; n of articles = 576; min. degree = 1,284; nodes visible = 30 (0.22%).

been primarily on individual characteristics, as “the most common determinants studied across all digital divides are sociodemographic and socioeconomic.”⁷¹ Structural factors shaping the digital divide, like “social and cultural differentiation or individualization, rising income differentials, privatization and cutbacks in social and public services,”⁷² have been receiving much less attention. Similarly, political-economic analyses focusing on the ways that the privatized, commercialized, and monopolized nature of the internet is shaping communication inequalities are quite rare in this tradition.⁷³

These findings point toward associating the term digital divide with the administrative paradigm. The ongoing prominence of the cultural imperialism cluster likewise hints at the fact that critical scholars have not found in the digital divide a neutral term that can be used to describe aspects of global communication inequalities, suggesting that the term digital divide remains slanted towards analyses that do not take into account the structural factors shaping communication inequality, which have traditionally been the focus of the political economy of media approach. Reviewing several early monographs on the digital divide, Graham Murdock points out that they do not pay “much attention to corporations as key actors in shaping e-Societies, which is odd since there is plenty of evidence to show that their concerted lobbying, extensive public relations activities and the well-oiled revolving doors connecting cabinet rooms to board-rooms have moved them to the center of policy formation.”⁷⁴ Other

⁷⁰ Anique Scheerder, Alexander van Deursen, and Jan van Dijk, “Determinants of Internet skills, Uses and Outcomes: A Systematic Review of the Second- and Third-level Digital Divide,” *Telematics and Informatics* 34, no. 8 (2017): 1608–09.

⁷¹ Scheerder, van Deursen, and van Dijk, “Determinants,” 1614.

⁷² Jan Van Dijk and Kenneth Hacker, “The Digital Divide as a Complex and Dynamic Phenomenon,” *The Information Society* 19, no. 4 (2003): 324.

⁷³ Ilse Mariën and Jernej Amon Prodnik, “Digital Inclusion and User (Dis)empowerment: A Critical Perspective,” *info* 16, no. 6 (2014).

⁷⁴ Graham Murdock, “Review Article: Debating Digital Divides,” *European Journal of Communication* 17, no. 3 (2002): 389.

critical scholars claim that the concept of the digital divide carries a “new moral authority which legitimates intervention in the affairs of places which are deemed to be on the wrong side of the divide,”⁷⁵ or believe it to be closely aligned with modernization theory.⁷⁶

It is therefore unclear whether—given its still increasing popularity—the term digital divide will come to encompass all aspects of communication inequality and be adopted by various scholarly communities, or whether these communities will remain divided and the study of communication inequality continue to be fragmented, both along normative/ideological lines and along different aspects of the problem (most notably between interpersonal and intergroup differences, international communication inequality, and structural aspects like commodification).

To further shed light on these questions, we analyze how the term digital divide is represented in the different analyzed scholarly journals, mirroring the debates of different scholarly communities.

Digital Divide: A Shared Term Dividing Scholarly Communities

Further introspection on the conceptual differences in adopting the concept of digital divide within particular research communities is offered in analyses performed on specific journals where the differences are most evident (Figures 7–9, Appendices A–E).

The notion of the digital divide has been taken up differently by different communities in communication research, with the differences being most evident in three journals (if we leave out of this analysis perhaps the most specific discourse analytic approach contained in *Discourse & Society*, Appendix E). While digital divide functions as the most prominent term in the European critical journal *Media, Culture & Society* (Figure 7) and gains roughly the same prominence as the knowledge gap in the *Journal of Communication* (Figure 9), its prominence is relatively low compared to the term knowledge gap in *Public Opinion Quarterly* (Figure 8). Based on the cited authors most associated with the concept, we find that there is almost no overlap between the three journals, suggesting that the research is unrelated and therefore differently conceptualized.

In fifty-nine articles published in *Media, Culture & Society* (6.5% of all articles published in the journal within the period), the concept is theoretically grounded in the traditions of the critical paradigm, namely the research on theories of democracy and the public sphere, French structuralism, and political economy of media.

On the contrary, seldom occurrences in eight (1.2% of all articles published in the journal within the period) articles published in *Public Opinion Quarterly* and the pattern of cited authors point to the

⁷⁵ Veva Leye, “UNESCO, ICT Corporations and the Passion of ICT for Development: Modernization Resurrected,” *Media, Culture & Society* 29, no. 6 (2007): 979.

⁷⁶ Elkins, “Powered by Netflix”; Leye, “UNESCO.”

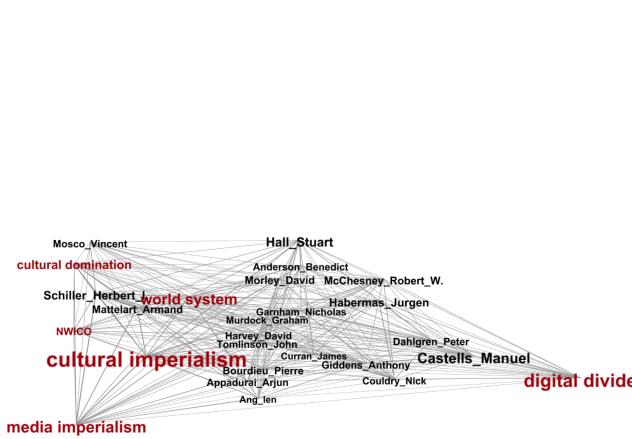


Figure 7: Reduced network of keywords (red) and cited authors (black) in articles sampled in *Media, Culture & Society*; min. degree = 614; nodes visible = 26 (0.39%).

absence of theoretical reflections on the concept, since the majority of authors with the strongest links are affiliated with the field of social psychology and/or methodologies of social surveys. Digital divide thus appears in the context of measuring the impact of the internet on civic engagement,⁷⁷ development of web surveys as investigative tools,⁷⁸ or comparisons of web and telephone surveys.⁷⁹

The third distinctive conceptualization of the digital divide, identified in forty-three articles (5.5% of all articles published in the journal within the period) from the *Journal of Communication*, stemming from the works of Eszter Hargittai (19) and strongly associated with political science- and/or political communication-affiliated researchers. The relative closeness between the concepts of the digital divide and the knowledge gap (Figure 9) argues for the importance of the "second level" conceptualization of the digital divide,⁸⁰ which is grounded in the arguments that the binarization of inequality into haves and have-nots has been oversimplified and traditional socioeconomic and demographic indicators are of insufficient explanatory power.⁸¹ Research on the digital divide, which falls into this second category, uses the segmentation of social classes along their identified ability to communicate digitally, and shifts the analytical focus from a critical consideration of structural social inequalities to the individual, giving the concept a strong resemblance to "knowledge divide" theory.⁸²

⁷⁷ Kent M. Jennings and Vicki Zeitner, "Internet Use and Civic Engagement: A Longitudinal Analysis," *Public Opinion Quarterly* 67, no. 3 (2003).

⁷⁸ Mick P. Couper, "Web Surveys: A Review of Issues and Approaches," *Public Opinion Quarterly* 64, no. 4 (2000).

⁷⁹ Scott Fricker, Mirta Galesic, Roger Tourangeau, and Ting Yan, "An Experimental Comparison of Web and Telephone Surveys," *Public Opinion Quarterly* 69, no. 3 (2005).

⁸⁰ Eszter Hargittai, "Second-level Digital Divide: Differences in People's Online Skills," *First Monday* 74 (2002).

⁸¹ Margaret Richardson, C. Kay Weaver, and Theodore E. Zorn, "'Getting on': Older New Zealanders' Perceptions of Computing," *New Media & Society* 7, no. 2 (2005).

⁸² Eastin, Cicchirillo, and Mabry, "Extending the Digital Divide"; Colin Sparks, "What is the 'Digital Divide' and Why is it Important?" *Javnost—The Public* 20, no. 2 (2013); Sharon Strover, "The US Digital Divide: A Call for a New Philosophy," *Critical Studies in Media Communication* 31, no. 2 (2014).

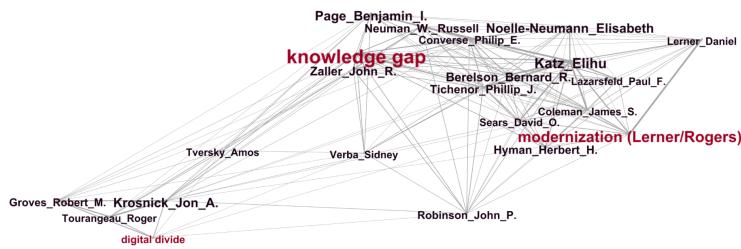


Figure 8: *Theoretical Perspectives of Information Inequality*. Source: Liangzhi Yu, "Understanding Information Inequality: Making Sense of the Literature of the Information and Digital Divides," *Journal of Librarianship and Information Science* 38, no. 4 (2006): 229–52, <https://doi.org/10.1177/0961000606070600>.

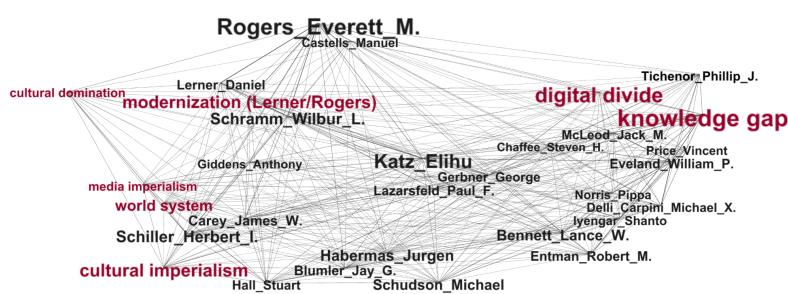


Figure 9: Reduced network of key-words (red) and cited authors (black) in articles sampled in *Journal of Communication*; min. degree = 649; nodes visible = 31 (0.47%).

Summary and Discussion

We have identified four distinct clusters of conceptualizations of communication inequality. The first to emerge was modernization theory, which was closely tied to US foreign policy interests in influencing the hearts and minds of peoples in the third world. Modernization theory was part of the administrative paradigm, sharing its conceptualization of communication as a tool of power and its research focus on media effects. Theories of cultural imperialism emerged in the late 1960s to directly challenge modernization theory and were tied to changes in global geopolitics (crisis of US hegemony, NWICO), domestic politics in the US and Europe (social movements, labor militancy), the institutionalization of the critical paradigm, as well as the internationalization of communication studies. The antagonism between the two was constitutive for the critique of cultural imperialism and created a relationship of “dialogical-dialectical coherence.”⁸³

Parallel to these two approaches, the knowledge gap tradition emerged and began to consolidate in the 1970s. While modernization and cultural imperialism focused on international communication inequality, the knowledge gap tradition focused on the interpersonal differences in acquiring and processing mass-mediated information, particularly the mediating role of sociodemographic variables on the effectiveness of targeted information campaigns. With its focus on media effects and the effectiveness of communication campaigns, we can assign the knowledge gap tradition to the administrative paradigm.

Finally, the notion of the digital divide emerged around the turn of the millennium and quickly became the most frequently used concept referring to communication inequality. However, the notion of the digital divide was developed with little historical context and with only weak references to previous theoretical and empirical research into the concept of communication inequality. As the name already implies, the digital divide seems to be a *sui generis* phenomenon, not a manifestation of communication inequality in digital information and communication technologies.

The case of the digital divide illustrates how the dominant approaches and paradigmatic shifts in conceptualizations of communication inequality continue to be driven by developments outside of communication studies and informed by theories from other fields, when not lacking a theoretical basis altogether. Modernization grew out of US interests in securing hegemony in the third world and was theoretically informed largely by economic historians like Cyril Black and Walt Rostow who advanced social evolutionist ideas.⁸⁴ Concepts of the knowledge, communication and information gap have

⁸³ Robert T. Craig, “Communication Theory as a Field,” *Communication Theory* 9, no. 2 (1999): 123–24.

⁸⁴ Rist, *History of Development*, 93–108.

gained prominence as a way of explaining sociodemographic barriers to the effectiveness of persuasive communication. The challenge to the idea of modernization was driven by third world opposition to US hegemony and was theoretically informed by critical political-economic ideas (primarily dependency theory, world-systems theory and the marxist notion of imperialism). The notion of a digital divide emerged from the concern of the US Commerce Department's National Telecommunications and Information Administration (NTIA) for measuring to what degree the goal of "universal service" was being achieved by US telecommunications policy.⁸⁵

This lack of a solid theoretical foundation (of integrative empirical research and theory building) is not accidental; it is a direct consequence of the instrumentalisation of the field of communication. As research goals within communication science were largely determined by the administrative interests of the US government, conceptualizations of communication inequality have remained largely implicit and unexamined because it was never in the interest of the holders of political and economic power to have that very power questioned. Hence, the dominant paradigm in communication naturalized the structural inequalities of a society deeply divided along the lines of class, race, and gender, and implicitly assumed that communication must be, by its nature, unequal and imbalanced: originating from social elites and distributed to the large mass of society, whose members are seen as passive recipients of media messages and targets of media effects. The same implicit view colored the understanding of international communication, where the foreign policy goals of the US determined research efforts. In modernization theory, the history of imperialism and colonialism was entirely removed from view, and global inequalities between countries were reframed as different stages of social evolution. Finally, digital divide scholarship only rarely questions the way global telecommunications policy—which has led to the internet developing as a commodified, commercialized, and increasingly monopolized system—has reinforced and reshaped old inequalities and created new ones in the process.

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⁸⁵ National Telecommunications and Information Administration (NTIA), *Falling through the Net: A Survey of the "Have Nots" in Rural and Urban America* (Washington, DC: US Department of Commerce, July 1995).

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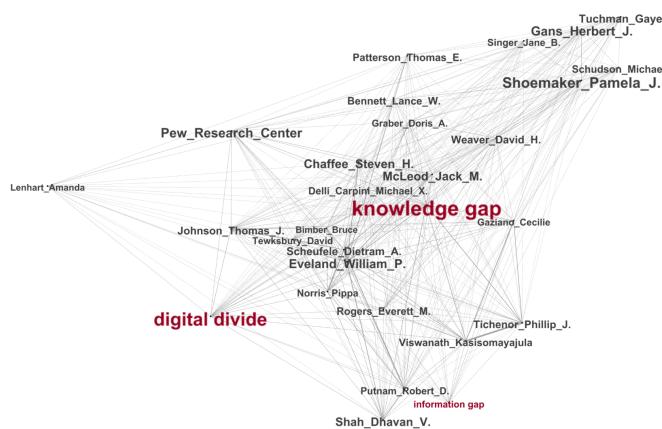
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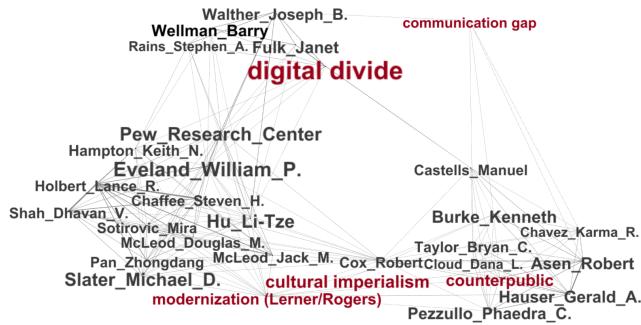
Appendices

Figure 10: *



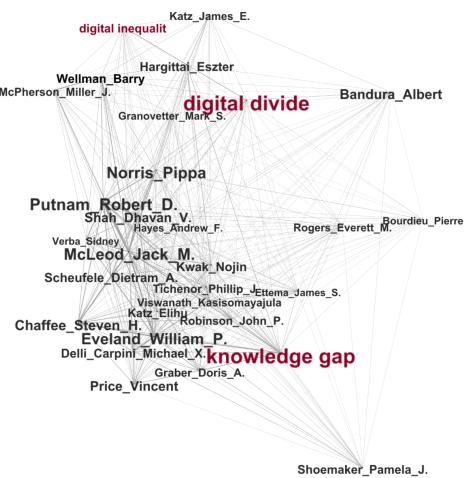
Appendix A: Reduced Network of Keywords (Red) and Cited Authors (Black) in Articles Sampled in *Journalism Quarterly*; min. degree = 333; nodes visible = 31 (1.14%)

Figure 11: *



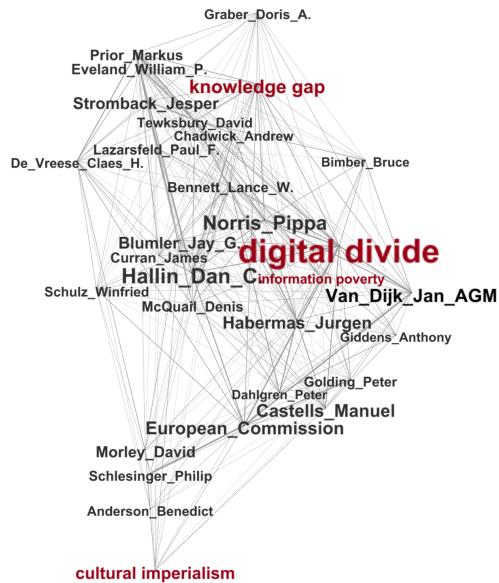
Appendix B: Reduced Network of Keywords (Red) and Cited Authors (Black) in Articles Sampled in *Communication Monographs*;
min. degree = 117; nodes visible = 30 (3.44%)

Figure 12: *



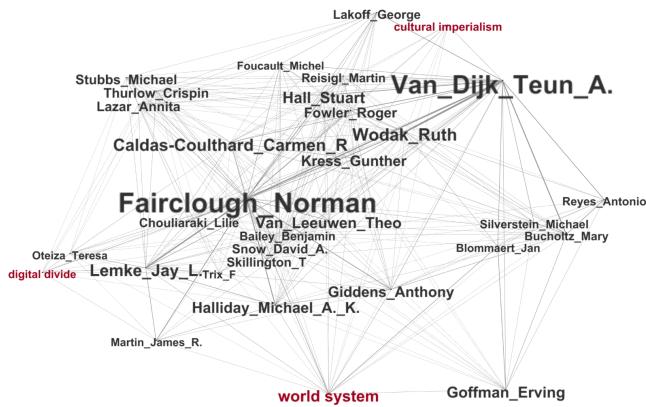
Appendix C: Reduced Network of Keywords (Red) and Cited Authors (Black) in Articles Sampled in *Communication Research*; min. degree = 345; nodes visible = 30 (1.34%)

Figure 13: *

**Appendix D:** Reduced Network of Keywords (Red) and Cited

Authors (Black) in Articles Sampled in *European Journal of Communication*; min. degree = 259; nodes visible = 86 (2.33%)

Figure 14: *

**Appendix E:** Reduced Network of Keywords (Red) and Cited

Authors (Black) in Articles Sampled in *Discourse & Society*; min. degree = 97; nodes visible = 32 (5.33%)

Appendix F: List of Sampled Journals with Publishing Years, Number of Sampled Articles, and the Country of Origin

<i>Journal name (Period)</i>	<i>Founding year</i>	<i>No. of articles in sample</i>	<i>Country of origin</i>
JOURNALISM QUARTERLY (1924–1994) / JOURNALISM & MASS COMMUNICATION QUARTERLY (1995–)	1924	4,322	US
SPEECH MONOGRAPHS (1934–1974)/ COMMUNICATION MONOGRAPHS (1975–)	1934	1,691	US
PUBLIC OPINION QUARTERLY	1936	2,499	US
JOURNAL OF COMMUNICATION	1950	2,403	US
COMMUNICATION RESEARCH	1973	1,346	US
MEDIA, CULTURE & SOCIETY	1978	1,497	UK
EUROPEAN JOURNAL OF COMMUNICATION	1986	724	UK
DISCOURSE & SOCIETY	1989	756	Netherlands

Appendix G: List of Noun Phrases Detected in CiteSpace Software Package

No.	Count	Keyword
1	872	social media
2	589	digital divide
3	318	internet
4	276	communication technology
5	265	content analysis
6	214	digital media
7	211	social network
8	207	journalism
9	190	new media
10	183	media
11	177	internet access
12	168	news media
13	167	in-depth interviews
14	164	mass media
15	153	young people
16	145	twitter
17	144	communication
18	138	health information
19	128	political communication
20	125	mobile phones
21	125	new technology
22	121	facebook
23	120	public sphere
24	113	public relation
25	108	digital technology
26	107	social networks
27	103	public relations
28	102	developing countries
29	95	china
30	93	traditional media
31	93	gender
32	92	practical implications
33	92	internet user
34	89	universal service
35	85	everyday life

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
36	85	political participation
37	85	media literacy
38	84	digital inequality
39	81	television
40	81	social media platforms
41	81	previous research
42	79	media system
43	78	mobile devices
44	76	covid-19
45	72	knowledge gap
46	70	media coverage
47	68	social capital
48	68	digital age
49	68	globalization
50	67	digital inclusion
51	66	youth
52	65	focus group
53	64	news
54	62	public opinion
55	61	case study
56	61	big data
57	60	health communication
58	58	covid-19 pandemic
59	57	democracy
60	57	south africa
61	55	theoretical framework
62	55	online survey
63	54	information technology
64	54	social change
65	53	european union
66	53	broadband
67	53	privacy
68	51	science communication
69	51	education
70	51	political knowledge
71	50	latin america
72	49	social movements

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
73	49	technology
74	46	mobile communication
75	45	online news
76	44	mainstream media
77	44	news consumption
78	44	civil society
79	43	research question
80	43	digital platforms
81	43	participation
82	43	climate change
83	43	fake news
84	42	crisis communication
85	41	digital literacy
86	41	social networking site
87	40	qualitative analysis
88	40	ict
89	40	mobile phone
90	39	news coverage
91	39	political information
92	39	political economy
93	39	media education
94	39	online media
95	38	icts
96	38	spain
97	38	information society
98	37	information flow
99	36	survey data
100	35	new forms
101	35	rural area
102	34	mobile technology
103	34	literature review
104	33	public policy
105	33	social interaction
106	33	framing
107	32	telecommunications
108	32	news production
109	32	representative sample

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
110	31	research gap
111	31	social support
112	31	previous study
113	30	significant difference
114	30	semi-structured interviews
115	29	discourse analysis
116	29	open access
117	29	interpersonal communication
118	29	internet use
119	29	news stories
120	28	wide web
121	28	disinformation
122	28	global south
123	27	identity
124	27	social networking
125	27	digital communication
126	27	youtube
127	26	cultural imperialism
128	26	digital inequalities
129	26	inequality
130	26	mobile media
131	26	thematic analysis
132	25	universal access
133	24	india
134	24	information flows
135	24	policy
136	23	qualitative research
137	23	communications technology
138	23	computer-mediated communication
139	23	media content
140	22	social network site
141	22	coronavirus
142	22	transparency
143	22	health literacy

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
144	22	comparative analysis
145	22	media effects
146	21	children
147	21	university students
148	21	ethnography
149	21	africa
150	21	digital journalism
151	20	empirical research
152	20	south korea
153	20	ethics
154	20	surveillance
155	19	21st century
156	19	newspapers
157	19	regulation
158	18	social networking sites
159	18	digital skills
160	18	artificial intelligence
161	18	socioeconomic status
162	17	race
163	17	access
164	17	young adults
165	17	infrastructure
166	17	empirical analysis
167	16	general public
168	16	rural communities
169	16	new ways
170	16	information
171	16	critical discourse analysis
172	16	communication theory
173	16	news source
174	16	politics
175	16	algorithms
176	16	health care
177	15	public access
178	15	survey
179	15	online communication
180	15	limited access

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
181	15	media policy
182	14	main objective
183	14	crucial role
184	14	personal information
185	14	conceptual framework
186	14	everyday lives
187	14	civic engagement
188	14	video games
189	14	new zealand
190	14	web 2.0
191	14	advertising
192	14	social inclusion
193	14	mobile internet
194	13	digital environment
195	13	daily lives
196	13	web site
197	13	empirical evidence
198	13	journalism study
199	13	new challenge
200	13	virtual reality
201	13	european countries
202	13	growing body
203	12	qualitative interviews
204	12	media environment
205	12	significant role
206	12	mass communication
207	12	activism
208	12	search engine
209	12	new opportunities
210	12	digital era
211	12	network analysis
212	12	political engagement
213	12	knowledge gaps
214	12	migration
215	12	access to information
216	12	international communication

<i>No.</i>	<i>Count</i>	<i>Keyword</i>
217	12	national trends survey
218	11	knowledge gap hypothesis
219	11	online activity
220	11	mobile communications
221	11	strategic communication
222	11	citizen journalism
223	11	citizenship
224	11	pandemics
225	11	audiences
226	11	convergence
227	11	election campaigns
228	11	digital
229	10	mental health
230	10	telecommunications policy
231	10	power relation
232	10	online communities
233	10	public relations practitioners
234	10	macbride report
235	10	media representation
236	10	television news
237	10	international news
238	10	existing literature
239	10	significant impact
240	10	virtual environment
241	10	culture
242	10	business model
243	10	economic development
244	10	political actors
245	10	college students