

Journalism via Systems Cybernetics: The Birth of the Chinese Communication Discipline and Post-Mao Press Reforms

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Abstract

In China's reform era (1979–), to revitalize the newspaper for economic modernization, journalism scholars turned to American mass communication study after Wilbur Schramm's visit in 1982. This familiar story of the birth of the Chinese communication discipline misses a critical thread. Faced with constant political contractions, systems cybernetics crept in: The supposed founder of communication, Wilbur Schramm, spoke in Claude Shannon's name; China's "King of Rocketry," Qian Xuesen, pledged to augment Norbert Wiener; and Engels's writing on dialectical materialism was seized upon as part of official Marxism. 1980s China is known for the revival of humanism. However, in the tightly controlled news sector, reformist scholars conjoined systems cybernetics and Engels's Marxist philosophy, dismantling the human subject in the process. This articulation of the epistemology and ethic of newsmaking, which has persisted to this day in the disciplinary assumptions of Chinese journalism-communication, allowed the regime to depart from Maoism and legitimate a state-managed marketization. Excavating an unknown episode in the global history of cybernetics, this revisionist study sheds new light on the post-Mao trajectories of journalism and media governance. It also dislodges the ossified binaries between science and political ideology, and between socialist centralism and capitalist liberalism, which are prevalent in (post-)Cold War narratives.



Resumen

En la época de las reformas en China (1979-), para revitalizar los periódicos con vistas a la modernización económica, los estudiosos del periodismo recurrieron a los estudios de comunicación de masas estadounidenses tras la visita en 1982 de Wilbur Schramm. A esta conocida historia sobre el nacimiento de la disciplina de la comunicación en China le hace falta un hilo conductor. Ante las constantes contracciones políticas, se colaron los sistemas cibernéticos: el supuesto fundador de la comunicación, Wilbur Schramm, hablaba en nombre de Claude Shannon; Qian Xuesen, considerado el “rey de los cohetes” en China, se comprometió a impulsar a Norbert Wiener, y los escritos de Engels sobre el materialismo dialéctico fueron tomados como parte del marxismo oficial. La China de los años ochenta es conocida por el renacimiento del humanismo. Sin embargo, en el sector de las noticias, fuertemente controlado, los eruditos reformistas unieron los sistemas cibernéticos y la filosofía marxista de Engels, desmantelando en el proceso al sujeto humano. Esta articulación de la epistemología y la ética de la elaboración de noticias, que ha persistido hasta hoy en los supuestos disciplinarios del periodismo-comunicación chino, permitió al régimen apartarse del maoísmo y legitimar una mercantilización gestionada por el Estado. Excavando un episodio desconocido en la historia global de la cibernética, este estudio revisionista arroja nueva luz sobre las trayectorias del periodismo y la gobernanza de los medios de comunicación posteriores a Mao. También desbanca los binarios incrustados entre ciencia e ideología política, y entre centralismo socialista y liberalismo capitalista, que prevalecen en las narrativas de la (pos)guerra fría.

IN THE WARM SPRING of 1982, as universities scrambled to rein-vigorate themselves from the ruins of the Cultural Revolution, the People's Republic of China (PRC) welcomed the American scholar-educator-administrator Wilbur Schramm (1907–1987). This was a time when the press, journalism scholarship, and government propaganda units, which later functioned more discretely, were still intimately entwined. Overlapping groups of academic researchers, news workers, and cultural cadres comprised the media sectors' "establishment intellectuals."¹ To reinvent journalism and revitalize the newspaper, these media thinkers turned to Western communication study, more precisely, the American mass communication tradition represented by Schramm. Today, this turn is the familiar story of the disciplinary formation of Chinese communication study or *chuanbo xue*.² While textbooks portray this formation as a moment of intense intellectual enlightenment, critical voices at the margin—mostly from scholars outside of China—consider it an unfortunate adoption of the positivist scholarship of liberal capitalism propelled by the resolution to negate socialist legacies.³

It is not an either-or story.

This article illuminates a key component that is missing from existing accounts. During sporadic political contractions, systems cybernetics crept in: The supposed founder of American communication, Wilbur Schramm, spoke in Claude Shannon's name; China's "King of Rocketry," Qian Xuesen, pledged to augment Norbert Wiener; and good old Engels's writing on dialectical materialism was seized upon as part of official Marxism. In the (often overlooked) absence of a countervailing social science tradition, I demonstrate, the post-Mao discipline of journalism-communication has been profoundly shaped by systems cybernetics. By "systems cybernetics" I mean a highly infectious mixture of ideas from cybernetic and information theories that was, crucially, accompanied by gusto for system-level visions.

This revisionist history of the Chinese communication discipline adds an important but neglected case to the global history of cybernetics and systems theory. For its interdisciplinary propositions, this set of knowledge acquired extraordinary political flexibility and appeal in the hands of historical actors. It fostered cross-pollination between knowledge fields in the postwar US,⁴ transcended the Cold War's divide as a "neutral" toolbox,⁵ and helped inoculate Soviet sciences from ideological attacks.⁶ In China's "post-Mao military-to-civilian conversation," systems cybernetics also informed the one-child policy.⁷ Complementing this extensive literature, I delineate the Chinese import of cybernetics through a kind of artful "rediscovery" of Friedrich Engels, exemplified in Qian Xuesen's writings. This history brings to the fore the resonance and overlapping ge-

¹ Carol Hamrin and Timothy Cheek, *China's Establishment Intellectuals* (Armonk, NY: M. E. Sharpe, 1986).

² To prevent confusion, the discipline of communication focuses on humans not machines (e.g., "telecommunications"). The Chinese term for the then-newly imported concept of "communication" is *chuanbo*, a translation that evokes certain meanings while displacing others. *Chuan* means "transmission" and *bo* "to propagate far and wide." *Chuanbo*'s closest English equivalent is perhaps "dissemination." While the English word "communication" connotes exchange between actors not necessarily different in power, *chuanbo* centers on the ability to distribute to a wider audience, assuming a powerful disseminator. *Chuanbo* thus conveys a narrow focus on the operations of broadcast media or "mass communication," a distinct though dominant subarea of communication study. John Durham Peters, "Institutional Sources of Intellectual Poverty in Communication Research," *Communication Research* 13, no. 4 (1986). This terminological equivalence effectively steered the Chinese field away from other communication phenomena. After all, unlike "anthropology" or "sociology," "communication" designates the discipline's intellectual focus. Also notably, *chuanbo* suggests a proximity to *xuanchuan*, the signature phrase for doing socialist cultural work that is typically translated as "propaganda." However, Chinese *xuanchuan* is really a broad, non-pejorative concept that refers to authoritative entities making something known to and resonant with the people. In the socialist context, "propagation" is a closer phrase: to promote what one believes to be true, with a centuries-long tradition wherein scholar-officials "propagated" the dynasty's moral line in the orthodox language of the day. Timothy Cheek, *Propaganda and Culture in Mao's China: Deng Tuo and the Intelligentsia* (London: Clarendon Press, 1997).

nealogies between systems cybernetics and dialectical materialism,⁸ which have been written off in the history of science and technology because the Cold War lens views Marxist philosophy as “ideology” and “unscientific.”⁹ With it, I highlight the structural and discursive conditions conducive for contemporary Chinese social governance to incorporate systems cybernetics, a broader historical process in need of collective research efforts.

This is also a sociohistorical study of how the moral and political commitments of journalism, a normative interpretive institution, found their articulations in languages of science and technology. What unfolded as China transitioned to post-socialism, however, bears little resemblance to the historical discovery of objectivity in American journalism.¹⁰ In the Mao era, it was understood that, despite its claim to represent reality objectively, the capitalist nature of the Western press inevitably led to thoughtless reproduction of fragmented appearances, which was at best “superficial truth” (*biaoxiang zhenshi*). The Chinese socialist press, in contrast, was aimed at assisting class struggle by delivering “substantial truth” (*benzhi zhenshi*), which exposed the fundamental state and relationships of society according to official Marxist insights (i.e., “the inherent logic of reality”). After Mao, Chinese journalism theory appropriated systems cybernetic ideas, but this appropriation never led to pronouncing any form of “scientific objectivity” in reporting. Rather, it held onto the cybernetic notion of ontology and, contingently, control.¹¹ The rise of these normative conceptions of news media in the 1980s has been lost to the extant historiography on Chinese media reforms, which centers on media marketization and advocacy for liberal professionalism in the 1990s.

Indeed, this history troubles not only the binary of science and political ideology, but also the binary of socialist centralism and capitalist liberalism that characterizes many post-socialist narratives. Known as China’s “New Enlightenment,” the 1980s is defined by a “humanism fever”—beginning with Marxist humanism and taken over by liberal humanism.¹² Even science’s wide appeal in the 80s has been examined for breeding humanist values amenable to democratic politics. Many scientists, such as Fang Lizhi, became liberal dissidents and spearheaded the 1989 pro-democratic movement.¹³ In the meantime, critics on the left see the roots of China’s neoliberalism: “the abstract concept of human subjectivity and the concept of human freedom and liberation, which played significant roles in the critique of Mao’s socialist experiment, lack vigor in the face of the social crises encountered in the process of capitalist marketization and modernization.”¹⁴ What happened to the news sector, which the Party placed under its most intense, unwavering scrutiny, deviates

³ E.g., Chunfeng Lin and John Nerone, “The ‘Great Uncle of Dissemination’: Wilbur Schramm and Communication Study in China,” in *The International History of Communication Study*, ed. Peter Simonson and David W. Park (New York: Routledge, 2015); Hu Zhengrong, Ji Deqiang, and Zhang Lei, “Building the Nation-State: Journalism and Communication Studies in China,” in *The International History of Communication Study*, ed. Peter Simonson and David W. Park (New York: Routledge, 2015); Yuezhi Zhao, “批判研究与实证研究的对比分析” [Comparing critical and empirical approaches], *国际新闻界* [Chinese journal of journalism and communication], no. 11 (2006); Liu Hailong 刘海龙, “‘传播学’引进中的‘失踪者’: 从1978年–1989年批判学派的引介看中国早期的传播学观念” [The ‘missing persons’ in the import of communication], *新闻与传播研究* [Journalism and communication], no. 4 (2007).

⁴ Peter Galison, “The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision,” *Critical Inquiry* 21, no. 1 (1994); Hunter Heyck, *Age of System: Understanding the Development of Modern Social Science* (Baltimore, MD: Johns Hopkins University Press, 2015); Ronald R. Kline, *The Cybernetics Moment: Or Why We Call Our Age the Information Age* (Baltimore, MD: Johns Hopkins University Press, 2015).

⁵ Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende’s Chile* (Cambridge: MIT Press, 2014); Egle Rindzeviciute, *The Power of Systems: How Policy Sciences Opened Up the Cold War World* (Ithaca, NY: Cornell University Press, 2016); Benjamin Peters, *How Not to Network a Nation: The Uneasy History of the Soviet Internet* (Cambridge: MIT Press, 2016).

⁶ Slava Gerovitch, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics* (Cambridge: MIT Press, 2004).

⁷ Susan Greenhalgh, “Missile Science, Population Science: The Origins of China’s One-Child Policy,” *China Quarterly*, no. 182 (2005): 253.

⁸ Richard Levins, “Dialectics and Systems Theory,” *Science & Society* 62, no. 3 (1998).

⁹ Alexei Yurchak, “Communist Proteins: Lenin’s Skin, Astrobiology, and the Origin of Life” *Kritika: Explorations in Russian and Eurasian History* 20, no. 4 (2019). Also see Angus M. Taylor, “Dialectics of Nature or Dialectics of Practice?” *Dialectical Anthropology* 4, no. 4 (1979).

from this understanding. To battle Mao-era constrictions, reformist scholars wound up conjoining systems cybernetics and Engels's Marxist philosophy, dismantling rather than reviving the human subject in the process. This articulation of newsmaking's epistemological and ethical grounds allowed the Chinese Communist Party (CCP) to depart from Maoism and legitimate a state-managed marketization, with a far-reaching legacy.

Knowledge Upgrade for Party Journalism: Communication without Baggage

From late April to early May of 1982, Wilbur Schramm visited the PRC in the company of his wife and Timothy Yu (1920–2012), translator and enabler of the “icebreaking” trip. Yu was Schramm's former student at Stanford and then-retired chair of Department of Journalism and Communication at the Chinese University of Hong Kong.¹⁵ In Beijing, thanks to a request put through by the Chinese Academy of Social Science (CASS), Schramm met Bo Yibo, Vice Premier in charge of science, technology, and finance.¹⁶ Having led multiple UNESCO endeavors in Asia and the Middle East, Schramm's emphasis on communication for “development” understandably appealed to the CCP leaders.¹⁷ In the uncertain early-reform period, the Vice Premier's explicit support made Schramm's sermon for communication all the more phenomenal. Schramm delivered a speech to hundreds of scholars and propaganda cadres that packed the top-floor auditorium of the *People's Daily's* main building, then located on Wangfujing Street, a central area of Beijing studded with aristocratic residences from the Qing Dynasty. He also spoke at Renmin University and CASS.

Schramm certainly knew how to strike a chord with his audience, which mostly consisted of scholar-educators who were experienced news workers in the Mao era and the first graduate student cohorts back to school, eager to learn and innovate. Before diving into his topic, he typically began by proudly retracing his past life as a reporter and an editor: “The blood of journalism flows in my veins. In other words, I am a newsman upside-down and inside-out.”¹⁸ Schramm then characterized journalism studies, supposedly concerned with one variety of human communication, as a subarea and “precursor” of communication study.¹⁹ He demonstrated this through an opportunistic telling of its American history: “American journalism departments turned to communication, integrated it into their journalism education, and established communication research centers.”²⁰

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¹⁰ Michael Schudson, *Discovering The News: A Social History Of American Newspapers* (New York: Basic Books, 1981).

¹¹ See Galison, “Ontology of the Enemy”; Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Chicago: University of Chicago Press, 2010); Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2008).

¹² Gloria Davies, “Discursive Heat: Humanism in 1980s China,” in *A New Literary History of Modern China*, ed. David Der-Wei Wang (Cambridge: Belknap Press/Harvard University Press, 2017).

¹³ Lyman H. Miller, *Science and Dissent in Post-Mao China: The Politics of Knowledge* (Seattle: University of Washington Press, 1996).

¹⁴ Wang Hui, *China's New Order: Society, Politics, and Economy in Transition* (Cambridge: Harvard University Press, 2003), 167; Lisa Rofel, *Desiring China: Experiments in Neoliberalism, Sexuality, and Public Culture* (Durham: Duke University Press, 2007); Shu-Mei Shih, “Is the Post in Postsocialism the Post in Posthumanism?” *Social Text* 30, no. 1 (2012).

¹⁵ Much has been written on this historic visit and the role of colonial Hong Kong as the nodal point mediating the import of communication scholarship. Timothy Yu et al., “中国传播学研究破冰之旅的回顾：余也鲁教授访问记” [Chinese communication study's icebreaking trip in retrospect], *新闻与传播研究* [Journalism and communication], no. 4 (2012); Lin and Nerone, “‘Great Uncle of Dissemination’: Wilbur Schramm.”

¹⁶ Xiaoling 晓凌, “他们精心治学” [They are devoted to scholarships], *新闻学会通讯* [Society of journalism letters], no. 14 (1982).

¹⁷ A rarely noted detail was that, as a conservative veteran, Bo's unusual interest in the subject had been cultivated by his son, Bo Xilai, who happened to be among the first cohort of graduates studying at the CASS Journalism Institute, launched in 1979. See Wang Yihong 王怡红 and Hu Yiqing 胡翼青, eds., *中国传播学30年* [Chinese communication: thirty years] (Beijing: Chinese Encyclopedia Press 中国大百科全书出版社, 2010), 613, 632. Three decades later, this princeling son, mayor of Chongqing Municipality and a CCP Politburo member, was sensationally purged by Xi's administration.

This was a far cry from his own past and future English writings. Schramm had always been explicit that it was the lavish resources from governments, commerce, and the military that drove the social sciences to splinter and form a separate foundation for communication as a discipline.²¹ As “skills departments,” journalism coalesced with communication to increase their academic status.²² Many practice-oriented faculty, however, continued to view their research-focused colleagues as irrelevant for producing good journalism—a perennial tension once popularly referred to as the “green eyeshades vs. chi-squares” division in journalism departments.²³ Chi-squares failed to see much merit in letting green eyeshades play their games either: “The fact that a single individual can teach courses in, say, magazine editing and research techniques in social psychology [a dominant approach of mass communication] is a tribute to human adaptability, not to a well-conceived academic discipline.”²⁴ This jab was literally pages away from Schramm’s own historical narrative in the *Journal of Communication*, both drafted within months of the latter’s China visit. In short, at American universities it was institutional politics that coupled journalism and mass communication, and their internal division persists. For the Chinese ears, however, Schramm changed this organizational story to one about inexorable intellectual development. The Chinese inquired keenly about whether turning to communication might hinder journalism studies. “There is neither conflict nor tension between the two,” assured Schramm, “but only mutual enhancement. . . . Communication is journalism’s flesh and blood.”²⁵

In fact, mass communication was indeed a godsend. In the early 1980s, the main hurdle faced by reform-minded journalism scholars was the incommensurability between “Marxist proletarian (or socialist) theory of the press” and its “bourgeois” counterpart. The two were considered incommensurable because the Maoist epistemology maintained that the norms of the press, or the press theory of a society, were determined by the given political economy. Therefore, to appropriate any journalistic norms from the “Western bourgeois society” invited ideological attacks. But thanks to its decontextualized abstraction, the Schrammian strand of mass communication provided a fresh start. Its circumscribed diagrams of the dissemination process invariably trace symbolic content from point A to point B. Whereas critical scholars across the Pacific increasingly recognized and critiqued this obliviousness to fundamental questions about the relationship between media and broader structures of power,²⁶ early-reform China found it particularly palatable.

What was remarkable about this affinity, if we can call it that, was that it resulted from American communication’s own disciplinary

¹⁸ Wilbur Schramm, “美国”大众传播学的四个奠基人” [Four forefathers of American mass communication], 国际新闻界 [Chinese journal of journalism and communication], no. 2 (1982): 2. Unless otherwise indicated, this and subsequent translations were made by the author.

¹⁹ Zhou Zhi 周致, “西方传播学的产生及其与新闻学的关系” [Western communication’s origin and relations with journalism study], in 传播学简介 [Introduction to communication study], ed. 社科院新闻所世界室CASS Journalism Institute (Beijing: 人民日报出版社People’s Daily Press, 1983); Chen Chongshan 陈崇山, “施拉姆的理论对我的指引” [How Schramm’s theory guided me], 新闻与传播研究 [Journalism and communication], no. 4 (2012).

²⁰ Xu Yaokui 徐耀魁, “施拉姆对中国传播学研究的影响: 纪念施拉姆来新闻研究所座谈30周年” [Schramm’s impacts on Chinese communication research], 新闻与传播研究 [Journalism and communication], no. 4 (2012): 10.

²¹ Schramm, “The Unique Perspective of Communication: A Retrospective View,” *Journal of Communication* 33, no. 3 (1983): 7. Also see Peters, “Institutional Sources of Intellectual Poverty.”

²² Schramm, “Human Communication as a Field of Behavioral Science” in *Human Communication as a Field of Study*, ed. Sarah Sanderson King (Albany, NY: SUNY Press, 1989). Also see James W. Tankard Jr., “The Theorists,” in *Makers of the Media Mind: Journalism Educators and Their Ideas*, ed. William David Sloan (New York: Routledge, 1990); James W. Carey, “Some Personal Notes on US Journalism Education,” *Journalism* 1, no. 1 (2000).

²³ The green eyeshade is the headgear that used to be worn by copy editors to cut the glare from the overhead lights. The chi-square comes from a statistical test. Jake Highton, “‘Green Eyeshade’ Profs Still Live Uncomfortably with ‘Chi-Squares’; Convention Reaffirms Things Haven’t Changed Much,” *Journalism Educator* 44, no. 2 (1989).

²⁴ Jeremy Tunstall, “The Trouble with U.S. Communication Research,” *Journal of Communication* 33, no. 3 (1983): 93.

²⁵ Schramm, “美国”大众传播学的四个奠基人” [Four forefathers], 2.

²⁶ A string of such reflexive essays appeared in “Ferment in the Field,” the 1983 landmark issue of the flagship *Journal of Communication*.

formation during the Cold War. It was military and corporate patronage that spawned its growth, directing the discipline's latent assumptions about when and where the effects of mass media should be investigated. Meanwhile, communication scholarship persistently veils the capitalist and imperialist constitution of media operations, a kind of "ideological work" performed in service of power.²⁷ In a sense, the relationship between American communication and China was epitomized by Schramm's own life. During World War II and the early years of the Cold War, he was deeply involved in US security establishments. He co-wrote *Four Theories of the Press* (1956), which offered a typology of ideas that supposedly encapsulate both government and the press of a given society. It classified the Chinese press as a follower of the "Soviet communist theory," described as an expanded version of the "Authoritarian theory" originating in feudal Europe.²⁸ In the late 1960s and 1970s, as he moved to the "development paradigm" of communication, Schramm became intrigued by China's economic growth and relied on his Taiwanese and Hong Kong students for material.²⁹ During his time at CASS in 1982, the Chinese brought up his *Four Theories* book. Did his classification change? As Timothy Yu recalls, "To this Schramm responded humorously, 'it's been decades and I almost forgot about this book. If I write it today, I wouldn't say China is authoritarian. I'd think of another phrase. I'll tell you once I have it.'"³⁰

However, by opening itself up to communication in the 1980s, Chinese journalism studies did not embark on behaviorist empirical research on journalism phenomena because no such research paradigm was available. Early American communication PhDs typically did coursework in sociology, political science, and psychology departments, where social scientific methods were inculcated. These empirical scholars then assumed leadership roles in flourishing communication departments.³¹ But Schramm himself had little experience in frontier research. His yearning, instead, was for the intellectual integration of communication as a field.³² His preaching of communication study by and large glossed over the nitty-gritty of research design and execution. This omission of methodological issues went unnoticed in China due to the impoverished state of its social sciences.³³ The "chi-square" had been missing in the picture for decades; the Chinese socialist "green eyeshades" could not educate themselves about it even if they wanted to.³⁴

As a result, it was Maoist press theoreticians and China's most ideologically entrenched literary workers who took over "communication" as a resource for their own project: to envision and justify media's imminent reforms. The chief challenge in this appropriation has to do with values. Journalism is a socially grounded institution

²⁷ Peters, "Institutional Sources of Intellectual Poverty"; Arvind Rajagopal, "Communicationism: Cold War Humanism," *Critical Inquiry* 46, no. 2 (2020).

²⁸ Fred Siebert, Theodore Peterson, and Wilbur Schramm, *Four Theories of the Press: The Authoritarian, Libertarian, Social Responsibility, and Soviet Communist Concepts of What the Press Should Be and Do* (Champaign, IL: University of Illinois Press, 1956).

²⁹ Wilbur Schramm, Godwin C. Chu, and Frederick T. C. Yu, "China's Experience with Development Communication: How Transferable Is That?" in *Communication and Development in China*, ed. Goodwin Chu et al. (Honolulu: East-West Center, 1975). Also see Lin and Nerone, "'Great Uncle of Dissemination': Wilbur Schramm."

³⁰ Yu et al., "中国传播学研究破冰之旅的回顾: 余也鲁教授访问记" [Chinese communication study's icebreaking trip in retrospect], 7.

³¹ Everett M. Rogers, "Wilbur Schramm and the Establishment of Communication Study," chap. 12 in *History of Communication Study* (New York: Free Press, 1997).

³² Even in the eyes of his most ardent colleagues and protégés, Schramm's contribution to communication study was more organizational than intellectual. Rogers, *History of Communication Study*; Emile G. McAnany, "Wilbur Schramm, 1907–1987: Roots of the Past, Seeds of the Present," *Journal of Communication* 38, no. 4 (1988).

³³ Since the 1950s, the Mao regime had denounced Western social sciences such as sociology, as well as probabilistic statistics, as distorting social reality for capitalist domination. Xin Liu, *The Mirage of China: Anti-Humanism, Narcissism, and Corporeality of the Contemporary World* (New York: Berghahn Books, 2012); Arunabh Ghosh, *Making It Count: Statistics and Statecraft in the Early People's Republic of China* (Princeton, NJ: Princeton University Press, 2020).

reputed for its normative aspirations, whereas mass communication as a behaviorist research program “presupposes the victory ... of means without ends.”³⁵ This means Chinese reformists had to search amidst whatever they took as communication for normative “ends” to supplant existing journalism ideals. This search was eventually completed on engineering terms, a turn seeded in Schramm’s visit.

Information and Feedback: Phasing out the People

To assert his vision of an all-encompassing communication study, Schramm presented an eclectic mix of concepts and ideas, among which were information theory and cybernetics. Absent sufficient context, the Chinese were left with an impression that communication study had its foundations in these areas. One and half years after his departure, in the winter of 1983, triggered by a broader intellectual advocacy for Marxist humanism, the CCP’s conservative fraction struck out to curb the rapid spread of Western-inspired liberal ideas. Communication study was attacked for “negating class struggle” and being particularly dangerous as a potential replacement of Chinese socialist press theory. This “Anti-Spiritual Pollution Campaign” was short-lived but admonitory for sensitive domains such as journalism. Thought experiments in journalist periodicals started segueing along this impressionist link to systems cybernetics, blowing it out of proportion. Specifically, the narrow technical definitions of information and feedback were mobilized to define “news value” as leveraging journalism from propaganda, a feat indispensable for media reforms. This constitutes a significant divergence from its American counterpart.

At CASS, Schramm declaimed that “two physicists,” Claude Shannon and Warren Weaver, established information theory in order to “study the feedback phenomenon in the communication of human society”: “Through their hands, information theory has migrated from natural sciences to social sciences. Their goal is to scientifically measure the circulation of information among people.”³⁶ This, however, could only be a knowing mischaracterization. Schramm edited the composite book *The Mathematical Theory of Communication* (1949) at the University of Illinois Press, which contains a reprint of Shannon’s 1948 Bell Labs paper, preceded by Weaver’s attempt to narrate the paper’s intimidating mathematics in lay terms.³⁷ Notably, whereas Shannon insisted on limiting the application of information theory to technical communication because the theory excludes the “semiotic aspects,” Weaver optimistically called to expand its reach to human communication.³⁸ But actual attempts to conceptualize human communication through information theory began with

³⁴ Little wonder that Chinese communication considers its breakthrough in the “quantitative research tradition” a study that conjured up a mathematical formula for determining news values without even trying it out on actual news. Chen Lidan 陈力丹 and Wang Yigao 王亦高, “我国新闻传播学量化研究的艰难起点” [The fraught origins of quantitative research in Chinese journalism-communication], 当代传播 [Contemporary communication], no. 2 (2009); In parallel, commentary and philosophical critique had long been seen as “qualitative research.” Li Biao 李彪, “新闻传播学研究方法的构造” [Research methods of journalism-communication], 国际新闻界 [Chinese journal of journalism and communication], no. 1 (2008).

³⁵ Allen Tate, quoted in Carey, “US Journalism Education,” 21. Communication majors usually join marketing, public relations, and audience analytics firms. Whereas Carey calls out the “economic” end of American communication, early-reform Chinese journalism education must look elsewhere.

³⁶ Schramm, “传学与新闻及其它” [Communication study and journalism, and other issues], 新闻学会通讯 [Society of journalism letters], no. 14 (1982): 20.

³⁷ Shannon and Weaver, *The Mathematical Theory of Communication* (Champaign, IL: University of Illinois Press, 1949).

³⁸ Everett M. Rogers and Thomas W. Valente, “A History of Information Theory in Communication Research,” in *Between Communication and Information*, ed. Brent D. Ruben and Jorge R. Schement (New York: Routledge, 2017); Kline, *The Cybernetics Moment*, 126.

Schramm,³⁹ and was extended in a few studies mainly produced by Schramm's own students.⁴⁰

The Shannon model of technical communication illustrates the transmission of a message from the source to the destination, which entails changing the message into the signal and converting it back upon reception. Admittedly, this model resembles the vision of dissemination in mass communication that features elements such as source, channel, message, and receiver. But Shannon's mathematical theory focuses on the channel capacity of technical systems such as the telephone system. It is also for this purpose that Shannon defines information as something that reduces uncertainty for mechanical functions (measured by its ability to eliminate alternate options). American mass communication scholarship, by contrast, is predominated by its focus on the effects of communication, typically indicated by the audience's opinion or behavioral change. This is not surprising, given that much of the field grew not to (re)structure media systems (which characterizes Chinese media reforms, as I will explain in greater detail below), but to aid administrative tasks faced by media organizations, government agencies, and corporations.

Feedback is a key term in cybernetic theory developed by Norbert Wiener during wartime to improve anti-aircraft fire. To control a system through a feedback mechanism means the system's future conduct is constantly adjusted based on information of its past performance, so that the system continues to approximate its goal. "Feedback" was made popular as a construct in mass communication through the widely used textbook *The Process of Communication* by David Berlo, one of the earliest communication doctorates under Schramm's supervision.⁴¹ Berlo modified Shannon's original model by inserting "feedback" (while also omitting "noise"). Schramm further replicated this hybrid model in his own teaching and monographs as the "Shannon model of communication" (Fig. 1). This tinkering was, again, led by communication's preoccupation with effects; having "feedback" in a dissemination model represented progress from the one-way notion of mass communication to account for media producers' consideration of audience reactions when producing new content. But in reality, such consideration is neither inevitable nor predetermined.

Simply put, besides the ubiquity of colloquial usage of these terms in communication scholarship (and everyday life), the field of communication developed largely independently from information science,⁴² and even more so from cybernetics.⁴³ But the original engineering conceptions about information and feedback—such as optimizing channel capacity and utilizing signal transmission intrinsic to the system—quickly captured Chinese journalism scholarship.

³⁹ Schramm, "Information Theory and Mass Communication," *Journalism Quarterly* 32, no. 2 (1955).

⁴⁰ Rogers, *History of Communication Study*, 434, 440.

⁴¹ Berlo, *The Process of Communication: An Introduction to Theory and Practice* (New York: Holt, Rinehart and Winston, 1960).

⁴² Only toward the end of the 1980s did some boundary-crossing start to appear. Brent Ruben, *Between Communication and Information* (Milton, United Kingdom: Routledge, 1993). No evidence shows that Chinese scholars ever picked up this limited convergence in Anglophone academia.

⁴³ Rogers, *History of Communication Study*, chap. 10.

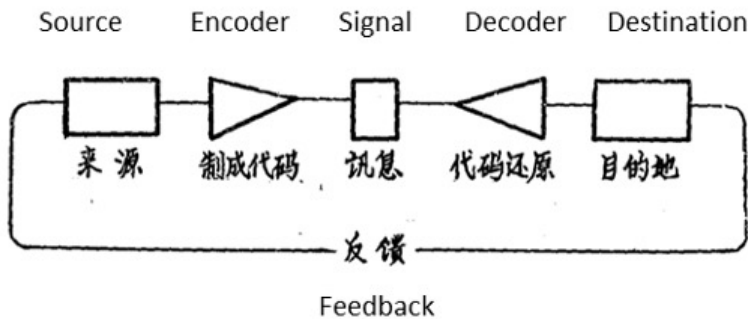


Figure 1: The “Shannon model” with “feedback” but no “noise” from 传播学概论 [Introduction to Communication] (1984), 242, the Chinese translation of Schramm’s coauthored volume *Men, Women, Messages, and Media* (1982).

After several years of sparring, the debate over (socialist) “substantial truth” versus (capitalist) “superficial truth” proved intellectually unproductive and politically precarious.⁴⁴ Journalism scholars concurred that issues about “truth” should be left to propaganda/propagation work, which was tasked with spreading the right thought. But what set journalism and propaganda apart? Or were they indeed different? Scholars used the Cultural Revolution to illustrate what happens when the two are treated as the same. Newspapers were filled with long, plodding polemics full of stock phrases and lengthy coverage of the party’s guiding principles, government achievements, and the heroic deeds of exemplary individuals. Being “timely” meant letting political consideration determine the “right” moment of publicization. Even the above content easily took months to get in print. As the reform-era derision went, the press ended up supplying nothing but “political ravings,” losing touch with both the goings-on of the world and with the masses. This, theorized the reformers, was journalism abiding by “political value” alone. While both propagation and journalism should operate according to political value, what defined journalism was “news value” (*xinwen jiazhi* or *xinwenxing*).

But describing worthy news as immediate, crisp, and fresh sounded too much like a submission to capitalist journalistic norms. A less vulnerable reform proposition, news value was spelled out in terms of “information”—both in Wiener’s and in Shannon’s senses. On one hand, according to Wiener, information as feedback of the cybernetic system is a signal automatically issued upon the system’s recent performance; it is hence treated as epiphenomenal of the motion of things. To consider news as information so defined thus asserts that news can and should be *non-ideological*, and that words can be transparent in delivering world happenings. On the other hand, following Shannon’s definition, to best negate the amount of uncertainty in a decision-making situation, it is important to maximize the amount of

⁴⁴ Exchanges in a high-profile symposium on journalistic truth appeared in 新闻学刊 [Journalism], no. 2 (1985), after which the attempts to reconceptualize journalistic truths were largely aborted.

information carried through limited channel capacity. Chinese scholars came up with various mathematical formulas to determine “news information content.”⁴⁵ These collective efforts, though crammed with jargon and technicalities, were meant to drive slogans and bureaucratic trivialities out of newspaper pages. The new consensus dictated: “The most essential function of news is to bring the latest occurrences (*shishi*) to people in order to reduce their uncertainty about objective reality.”⁴⁶

Articulating news value through the notion of information, which had never appeared in the vocabulary of China’s socialist cultural work, marked a watershed.⁴⁷ While the aspiration for substantial truth hails the proletarian class—or more broadly, the people—as a collective subject, news value modelled after information is stripped of embodied experience and concerns about positionality. In 1987, the State Science and Technology Commission listed the media sector as “information industries.” In 1988, a nationwide polling of news workers on press reforms showed that more than two-thirds believed the primary function of journalism to be “disseminating information,” and nearly as many rejected the idea that all news should serve propagation purposes.⁴⁸ This normative shift granted journalism some autonomy from the overarching propaganda imperative as a distinct field of practice.⁴⁹

In parallel, Chinese scholars appropriated “feedback”—which Schramm claimed to be “the most important social science concept” that engineering science had contributed—to legitimate the functioning of the press beyond perimeters of the Party propaganda apparatus. At the time, the CASS scholar Chen Chongshan was preparing for Beijing Audience Survey, a pathbreaking exercise of representative sampling initially framed as following the Party’s mass line: “from the masses, to the masses.” She explained this Maoist principle to Schramm and asked: “Is this what you call ‘feedback’?” Schramm confirmed.⁵⁰ Thirty years later, in her reminiscence of the birth of the survey project, Chen Chongshan described her thinking of Mao-era journalism education and theory as

all about the objectives and techniques of news dissemination (*chuanbo*), ignoring the role of the audience, ignoring their demand and opinion. This had led to the misalignment between the disseminator and the recipient. I [thus] suggested journalism theory research be turned “upside down.” First, we study the audience. Then, based on the law of how the audience receives news information, we determine the plan and techniques for dissemination, so that news dissemination and reception align with one another, achieving the optimal effects.⁵¹

On the surface, this might seem a matter of recognizing the agency and preferences of the audience (i.e., “the feedback”) in a dissemina-

⁴⁵ Arguably the first such attempt, later designated as pioneering Jcomm’s “quantitative” tradition, was Yu Guoming 喻国明, “新闻作品信息含量问题初探” [Exploring news information content], *新闻学论集* [Annals of journalism studies] 8 (1984).

⁴⁶ Zheng Xingdong 郑兴东, “新闻价值相关论” [Thesis on news value], *新闻学论集* [Annals of journalism studies] 11 (1987).

⁴⁷ Searches in the most comprehensive scholarly database, CNKI, support my observation, although it should be noted that my archives extend beyond digitized material. For example, *Annals of Journalism Studies* and *Journalism*—both key venues in the 1980s scholarly discourse and both shut down after 1989 Tiananmen crackdown—remain in print forms only.

⁴⁸ Chen Chongshan 陈崇山 and Mi Xiuling 弭秀玲, eds., *中国传播效果透视* [Perspectives on media effects in China] (Shenyang: Shenyang Publishing 沈阳出版社, 1989): 184.

⁴⁹ See also Timothy Cheek, “Redefining Propaganda: Debates on the Role of Journalism in Post-Mao Mainland China,” *Issues & Studies* 25, no. 2 (1989): 56.

⁵⁰ Chen, “施拉姆的理论对我的指引” [How Schramm’s theory guided me], *新闻与传播研究* [Journalism and communication], no. 4 (2012).

⁵¹ Wang and Hu, *中国传播学30年* [Chinese communication: thirty years], 582–83.

tion model.⁵² But it is an anachronism to suppose so. Moving from the Party's mass line to such a model took radical epistemic changes. (Chen's wording represented the language of Chinese journalism-communication that engineering grammars have since infested.)⁵³ Contrary to how the reform discourse later paints it, the Mao-era press was not conceived in a top-down dissemination model. Indeed, it possessed the "Party character" (*dangxing*) that guides and educates the masses along party ideology. But simultaneously, it also assumed the "people's character" (*renminxing*)—that is, it was intended as a site for the (proletarian) people to express their worldview and share their experiences engaging in social change.⁵⁴ If represented in a model, everything—the Party, the masses, the message—converges at the same spot: Within the press; there is no place for directional arrows. How is this possible? Because the epistemology of Maoism recognizes "no natural or pre-existing collective unity, ready-made and handy."⁵⁵ Instead, it requires continuous struggles, both institutional and discursive, to bridge the singular and the collective of the people. This is the essence of the Maoist political project, and integral to it is the socialist press's constant striving for a simultaneous embodiment of the characters of both the Party and the people.

Therefore, the composite dissemination model, and the efflorescence of theoretical discussion that it ushered in, reflect Chinese journalism scholarship's enduring discursive efforts to externalize the people from the press as a distinct object for scrutiny. The Maoist charm, the holistic imagery of "the press as the people," quickly dissipated. In its place was "the press for the people," wherein the people ceased to manifest in the press but came into their own in front of the researcher, who then advised the press with their knowledge. As per official language, this might still qualify as the press's "people's character," but we should note the underlying transformation in how the people are being served. In short, what transpired in the early 1980s was a (literally) "scientific" dissection that pulled much of the Maoist entanglement out of the press, pinning the audience down next to political directives; now press reforms would observe two distinct parameters.

Doing so also effectively separated the people from the Party. The priority of journalism shifted from embodying and uniting the collective will through the party organ, as in Maoist representational politics, to producing information that acts on and preempts an existing collective. This collective, now external to the Party, awaited being "studied." Representing that collective's beliefs and desires, however, would face onerous political risks and implementation challenges. During the "Anti-Spiritual Pollution Campaign," Chen Chongshan's surveys were attacked after English media reported them as capitalist

⁵² Also see Zhang Yong, "From Masses to Audience: Changing Media Ideologies and Practices in Reform China," *Journalism Studies* 1, no. 4 (2000).

⁵³ For a striking contrast, see An's contemporaneous account in "研究我们的读者" [Studying our readers].

⁵⁴ Admittedly, "the people" was always an abstract construct. Looking closely, one may find complex sociopolitical and technical processes mediating the "people" and what was in the newspaper. But it is crucial to recognize the investment of Maoist politics in keeping the people character alive, and that in real contestations this conception could be mobilized as a source of enormous power.

⁵⁵ Liu, *The Mirage of China*, 145.

“public opinion polls.” Further, in determining what aspects of the audience to probe, researchers were participating in the very construction of that collective subject. The dilemma was this: Audience surveys were premised on the (newly) assumed misalignment between the press (organ of the Party) and its readers (the people), and no perfect execution existed when the mission was to flesh out such a misalignment.

Toward the end of the 1980s, the eventual rise of what I call “systems journalism” bypassed this dilemma by phasing out the question of audience subjectivity altogether. “Feedback” became associated with abstracted spheres, specifically the economy, and the significance of journalism was defined not in relation to human faces, but to the interdependent systems that supposedly comprised society.

Systems Cybernetics in Reform China: Qian Xuesen and Friedrich Engels

If Wilbur Schramm served as a key ingredient and a catalyst for the fusion of disparate ideas into “systems journalism” in China, a second key ingredient can be traced to certain engineering expertise uniquely preserved through the Mao era. In the 1960s and 1970s, the CCP promoted “socialist science,” which instituted participation from the masses.⁵⁶ The only group of highly specialized scientists shielded from these political imperatives (as well as discipline and punishment) were those working on military projects. Likewise, whereas cybernetics became a pervasive ideological force in shaping Soviet sciences,⁵⁷ in China, Marxist theoreticians and ideologues, albeit somewhat informed of the Soviet trends, never managed to interfere with the work led by mostly US-trained scientists.⁵⁸ After 1978, the latter’s expertise and more crucially their ethos of systems analysis, mounted the front stage and animated broader intellectual debates, popular science endeavors, and science fiction throughout the 1980s.⁵⁹ Absent the social sciences, defense scientists also cast strong influence over social policies for modernization.⁶⁰

The tide was led by Qian Xuesen (1911–2009), who was likely oblivious to Wilbur Schramm’s visit and the fermentation in journalism scholarship. Known as H. S. Tsien in his American life, Qian was an aerodynamicist trained at MIT and an endowed professor at the California Institute of Technology conducting missile research for the US Army. Qian was persecuted under McCarthyism and managed to return to China in 1955. After the 1960 Sino-Soviet fallout and departure of Soviet advisors, Chinese military projects were entrusted to Qian and other returning scientists. The successful construction, in a just few years, of the carriers of atomic bombs, hydrogen bombs, and

⁵⁶ Sigrid Schmalzer, *Red Revolution, Green Revolution* (Chicago: University of Chicago Press, 2016).

⁵⁷ Gerovitch, *From Newspeak to Cyberspeak*.

⁵⁸ Peng Yongdong 彭永东, 控制论的发生与传播研究 [The origin and dissemination of cybernetics] (Taiyuan: Shanxi Education Press 山西教育出版社, 2012), 168–196.

⁵⁹ See Xiao Liu, *Information Fantasies: Precarious Mediation in Postsocialist China* (Minneapolis: University of Minnesota Press, 2019).

⁶⁰ Greenhalgh, “Missile Science, Population Science.”

satellites earned him the title of “King of Rocketry.” Qian also played a major role in bringing cybernetics to China. In the early 1950s, after becoming a communist suspect and shut out of military research in the US, he turned to the design of mechanical and electronic systems using cybernetic theory, culminating in his groundbreaking monograph *Engineering Cybernetics*.⁶¹ Its Chinese edition appeared in 1958, serving as a foundation for numerous research projects. As China reoriented itself for economic development and promoted “modern” science as a “force of production,” Qian’s proven political fidelity and scientific prowess made him the post-Mao “model intellectual.” The state honored him as something of a national treasure.⁶² Systems cybernetic ideas began to overspill.

In September 1978, Qian’s landmark article “The Techniques of Management and Organization: Systems Engineering,” ran in the pages of *Wenhui*, a major newspaper targeting educated readers.⁶³ Building on their experience in directing massive military projects, Qian and his coauthors promoted “systems engineering”—an array of techniques including systems analysis, management science, and operational research—as a key approach to develop the national economy.⁶⁴ Soon after, Qian began to talk about social, on top of material, transformation, and especially addressed the relevance of cybernetics:

In 1948, Wiener considered the idea that [his] cybernetic theory may have social efficacy “false hopes,” and that “extend[ing] to the fields of anthropology, of sociology, of economics, the methods of the natural sciences, in the hope of achieving a like measure of success in the social fields” “an excessive optimism.” The modern development of cybernetic theory has proved that Wiener’s 1948 view was too conservative. Applying engineering techniques to social domains is not “an excessive optimism,” but a reality.⁶⁵

These words come from the preface of the latest and substantially expanded Chinese volumes of *Engineering Cybernetics*. In contrast, in the original edition of *Engineering Cybernetics*, he referenced the French origin of *cybernétique* (“the science of civil government”) and remarked: “[this] grandiose scheme of political sciences has not, and perhaps never will, come to fruition.”⁶⁶ Apparently, decades in China made him change his mind.

By that time, Song Jian, Qian’s disciple, colleague, and the new *Engineering Cybernetics*’s coauthor, had used missile science to project population growth—with severe oversights—and led the CCP leadership onto the track of implementing the stringent one-child policy.⁶⁷ This amounted to a concrete success of what Qian called “social cybernetics,” “a new science” for accelerating China’s socialist modernization and the accompanying technological revolution. “Scientific

⁶¹ Tsien, *Engineering Cybernetics* (New York: McGraw-Hill, 1954).

⁶² Ning Wang, “The Making of an Intellectual Hero: Chinese Narratives of Qian Xuesen,” *China Quarterly*, no. 206 (2011).

⁶³ Qian Xuesen 钱学森, Xu Guozhi 许国志, and Shouyun Wang 王寿云, “组织管理的技术—系统工程” [Techniques of organizational management: systems engineering], 文汇报 [Wenhui], September 27, 1978.

⁶⁴ Qian later confided that it was the second author, Xu Guozhi, who penned the article and invoked “systems engineering” as a category. Qian, “我对系统学的认识历程” [How I came to systematics], in 系统科学进展 [Developments in systems science], ed. Guo Lei 郭雷 (Beijing: Science Publishing 科学出版社, 2017). Xu was a mechanical engineer and mathematician whom Qian first met on the cruiser from America to China. Ye Yonglie 叶永烈, 走进钱学森 [Qian Xuesen: A biography] (Shanghai: 上海交通大学出版社 Shanghai Jiao Tong University Press, 2016), 440. But history prefers to not remember this humble beginning; Qian Xuesen is seen as the brilliant mind behind it all.

⁶⁵ Qian Xuesen 钱学森 and Song Jian 宋健, 工程控制论 [Engineering cybernetics] (Beijing: Science Publishing 科学出版社, 1980), xiv. Also see Norbert Wiener, *Cybernetics or Control and Communication in the Animal* (Cambridge: MIT Press, 1965), 162.

⁶⁶ Tsien, *Engineering Cybernetics*, vii.

⁶⁷ Greenhalgh, “Missile Science, Population Science.”

decision-making” cast in systems cybernetic language came to be framed as progressive governance. “The scope of ‘engineering’ keeps expanding,” Song wrote complacently in a 1984 encyclopedia entry, “problems traditionally reserved for the social sciences can be solved through engineering methods; in all cases [using these methods] achieves more precise, prescient outcomes than leaving them to mere bureaucratic judgments.”⁶⁸ Two years later, Song became State Councilor, which ranks immediately below the Vice Premiers.

Undergirding this ascension of systems cybernetics on the political stage and official culture were some crucial discursive gymnastics that also informed the formulation of systems journalism. Qian welded systems cybernetics to the official doctrine. Remarkably, he did it in a way that grafted “modern” technoscience, which the CCP now craved, onto convictions from its revolutionary past, and thus boosted regime legitimacy amid economic and political uncertainties. Qian’s rootstock here, when looked at closely, were the ideas of Friedrich Engels, not Karl Marx, nor Mao Zedong.

To correct Norbert Wiener’s above-quoted reservation, for example, Qian resorted to Engels’s *Socialism: Utopian and Scientific*:

Engels once predicted, under the circumstances of socialism, “anarchy in social production is replaced by conscious organization on a planned basis.” The regulatory capacity of the socialist economy enables a self-sustaining economic system, which is essentially an automatic system... The systemic dynamics that cybernetic theory tackles can be found in high-level systems (i.e., social systems). Therefore it is unreasonable to call the social efficacies of cybernetics “false hopes.” Instead, it is an actual hope that has already dawned on us.⁶⁹

Engels’s passion for science and technology, and inspired by these topics, his law-like prediction about history, were what made him so apt for promoting a systems cybernetic conception of society. In the PRC and the Soviet Union alike, Marx-Engels existed as a mystical joint identity for orthodox enunciation. The history of global Marxisms, however, shows that Marx’s reception was usually mediated by Engels’s “defining influence.”⁷⁰ Rather than authoritative accounts of Marx’s ideas, Engels’s *Dialectics of Nature* and *Anti-Dühring* (particularly its last section, *Socialism: Utopian and Scientific*) were immensely popular simplifications and extrapolations of Marx’s often dense writings. Instead of giving voice to Marx posthumously, Engels was in fact elaborating his own. And it was a voice that centered on the subject that he, but not Marx, appeared genuinely interested in—natural science. According to Engels (in Marx’s name), both the human and the natural are subject to the law of dialectics, and they make up a totality where history is made through human mastery of nature, pushing back its boundaries.⁷¹ For example, according to

⁶⁸ Song Jian 宋健, “工程控制论” [Engineering cybernetics], 系统工程理论与实践 [Systems engineering theory & practice], no. 2 (1985): 3.

⁶⁹ Qian and Song, 工程控制论 [Engineering cybernetics], xiv.

⁷⁰ Terrell Carver, Gerard Bekerman, and Cecil L. Eubanks, “Marx and Engels. The Intellectual Relationship,” *Studies in Soviet Thought* 31, no. 4 (1986).

⁷¹ By contrast, Marx’s arguments are largely confined within the capitalist mode of production. Paul Thomas, *Marxism & Scientific Socialism: From Engels to Althusser* (Milton Park, United Kingdom: Taylor & Francis, 2008), 39–40. Also see Taylor, “Dialectics of Nature or Dialectics of Practice?”

Engels, the socialist replacement of anarchy with conscious planning (which Qian quoted) amounts to historical progress, for “man finally . . . leaves the conditions of animal existence.”⁷² Inspired by Darwin, Engels upholds the victory of socialism and communism as the teleological logic of history.

The Engels portion of the Marx-Engels orthodoxy was invoked for local needs. Neither the Russian nor Chinese Bolshevik Revolution followed Marx’s original arguments. But Engels’s scientific socialism proved much more assimilable in the ruling ideology of these Marxist regimes.⁷³ Stalin furthered this scientific orientation by differentiating historical materialism from dialectical materialism, positing the former as the extension of the principles of the latter.⁷⁴ This unequivocally implied the inferiority of the studies of history to the studies of science.⁷⁵ In early 1950s China, fixated on the lost skull of Peking Man and inspired by Engels’s “labor created humanity” theory, the newly-in-power CCP enlisted the scientific elite to propagate the idea that the apes of China evolved into modern Chinese through hard labor, a belief that brought together the entire nation.⁷⁶ Although the USSR’s augmentation of Engels had profoundly influenced the doctrine of Chinese communism, Mao himself did not care for all that talk about science and scientific laws. By contrast, Mao awarded huge weight to human will and agency; for the Maoist dialectics, history is unpredictable, always unfolding as the willful human subject struggles against the power structure: There is no end to the revolution.⁷⁷

In this sense, the reform rhetoric was the most efficient when official Marxism displayed the face of Engels and hid that of Mao. By resorting to Engels of the “theory of Marx-Engels,” epistemological consistency was maintained. This was how Qian built on Xu Guozhi’s ideas. In late 1979, he broadened Xu’s initial notion of the “system” to include both human practices and natural processes. In 1985, during the launch of the Chinese Association for Systems Engineering, Qian outlined his vision for “systems science,” a synergistic whole that leveraged the “messy assortment” of related areas in the West to the plane of philosophy. Qian’s systems science has three interdependent layers, moving from the most concrete techniques to the foundational *basic science* that Qian called “systematics” (*xitong xue*), which he bridged to Marxism (Fig. 2).⁷⁸ By ironing out this chain of articulations and using Engels as an interface, Qian demonstrated a dialectic relationship between the development of science and technology and that of Marxist philosophy. This insistence actually made Qian the conservative stronghold in the prolonged debates about whether Marxism might serve as the totalist structure for scientific knowledge.⁷⁹ On the opposite side were relatively young scientists who advocated a non-instrumentalist view of science as

⁷² Friedrich Engels, *Herr Eugen Dühring’s Revolution in Science (Anti-Dühring)*, ed. C. P. Dutt, trans. Emile Burns (New York: International Publishers, 1939), 318.

⁷³ Thomas, *Marxism & Scientific Socialism*.

⁷⁴ Joseph Stalin, *Dialectical and Historical Materialism* (Moscow: Foreign Languages Publishing House, 1938).

⁷⁵ Taylor, “Dialectics of Nature or Dialectics of Practice?”

⁷⁶ Sigrid Schmalzer, *The People’s Peking Man: Popular Science and Human Identity in Twentieth-Century China* (Chicago: University of Chicago Press, 2009).

⁷⁷ Laikwan Pang, “Dialectical Materialism,” in *Afterlives of Chinese Communism: Political Concepts from Mao to Xi*, ed. Christian Sorace, Ivan Franceschini, and Nicholas Loubere (London: Verso Books, 2019).

⁷⁸ Qian, “我对系统学的认识历程” [How I came to systematics].

⁷⁹ Miller, *Science and Dissent*.

intrinsically valuable and autonomous from Marxism.

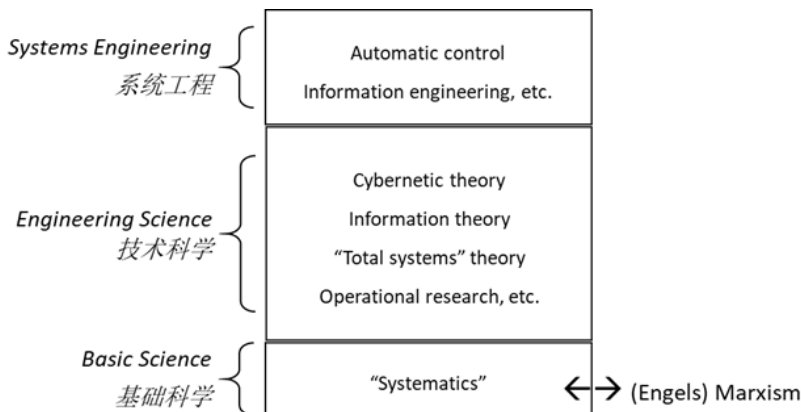


Figure 2: Qian Xuesen's Systems Science

With his scheme of systems science, Qian undertook a grand journey to appropriate and reinterpret bits and pieces from a variety of fields including cognition, physiology, behavioral science, architecture, aesthetics, education, and ecology. He insisted on thinking across boundaries between machines and bodies, and nature and society, promoting a fundamentally posthumanist outlook.⁸⁰ Qian's enormous state support and cultural prestige helped popularize a distinct way for conceptualizing the world: It framed all things in relation to larger complex, hierarchical, nested systems that are interconnected (co-variant) via flows of information (in a cybernetic sense). In an incidental and ironic manner, viewing society in terms of interdependent systems enabled an intellectual current free from the yoke of Marxist economic determinism.⁸¹

⁸⁰ For Qian's take on *qigong*, see Liu, *Information Fantasies*, chap. 1.

⁸¹ See He Guimei 贺桂梅, “新启蒙”知识档案——80年代中国文化研究 [Knowledge archives of the “New Enlightenment”] (Beijing: Peking University Press 北京大学出版社, 2010): 309–33.

Systems Journalism

In the aftermath of the 1983 Anti-Spiritual Pollution campaign and the suppression of American references to mass communication, journalism scholars similarly grafted systems cybernetics onto Engels's scientific Marxism. Engels's general evolutionary take on the development of science and technology was leveraged to promote information technologies and press infrastructures as proxies for historical progress. His claim that motion in nature and human history, as well as the motion of thought, all abide by one unitary set of dialectic laws became the final seal to a view of news production, distribution, and consumption that leaves no role for human subjectivity.

One of the first such pieces, entitled “Information dissemination and historical materialism,” performed acrobatics like Qian's systematics and in the process assimilated systems thinking in the

scholarship.⁸² Journalism was “the subsystem of social information dissemination,” the author specified, and hence was interwoven with other subsystems such as politics, economy, and ideology. He further opposed considering journalism part of the superstructure or ideology, a bold conclusion reached with seemingly Marxist analytics. Quoting Engels on the industrial revolution, he argued that because the press of a given society inherited the same relations and means of production, the relationship between the resulting information system and society should be more precisely described as “isomorphic.” This arc of arguments smacks of the cybernetic flavor of information (i.e., news as signals generated by a system in motion), glossing over the ideological negotiations by media owners and producers from certain class positions. Importantly, while the press as the subsystem processed output from the economic subsystem (rather than audience feedback), the press itself functioned as the feedback central to the evolution of the larger cybernetic system that is society. The author’s objective was to push for press reforms by arguing that actively restructuring this crucial subsystem would effect desirable changes of the suprasystem.

In response to student demonstrations demanding political—in addition to economic—reform from January to May 1987, the CCP wielded another campaign to “combat bourgeois liberalization.” After this round of political contraction, major journalism periodicals saw a burst of works integrating systems cybernetics through Qian-styled ideological acrobatics. In 1988, a renowned annual academic publication, *Annals of Journalism Studies*, dedicated the entire volume to “analyzing journalistic phenomena using ‘systems science.’” Many even set out to reconstruct typical concepts and propositions from American communication in terms of systems cybernetics. “Evidently,” wrote one, “Schramm has underestimated the value of information theory, cybernetics, and systems theory in building the theoretical frameworks of [human] communication study.”⁸³

In early 1989, a monograph entitled *Systems theory of journalism* (*xitonglilun xinwenxue*) came out, one of the first publications with similar titles. Using the vocabulary of Engels’s materialist metaphysics, the author stated that news is the agentic reflection of the objective reality in the mind of the reporter: “When both ‘natural information’ and ‘cultural information’ [of motion in nature and in society, respectively] come into contact with the reporter’s thinking brain, news is the register left on his brain.”⁸⁴ The book went on to spell out news value using Engels’s Darwinian-Marxist argumentation about humans’ continued transformation of nature: Occurrences in news (*xinwen shishi*), after coming to public attention, affect the public’s inner world and spur action to change the material world;

⁸² Fan Dongsheng 范东升, “信息传播与历史唯物论” [Information communication and historical materialism], 新闻学刊 [Journalism], no. 3 (1985).

⁸³ Wu Wenhui 吴文虎, “传播学理论架构初探” [Exploring communication’s theoretical frameworks], 新闻学刊 [Journalism], no. 5 (1986): 28.

⁸⁴ Wang Yimin 王益民, 系统理论新闻学 [Systems theory of journalism] (Wuhan: Huazhong University of Science and Technology 华中理工大学出版社, 1989), 54–56.

if these changes are positive, the news is deemed to have “social effects,” which was the ultimate measure of news value.⁸⁵ News value was no longer defined by how much information about world happenings it contained, as was argued when Shannon’s formula was the main influence. It was now measured by the news’s effects on the larger system. Depending on the selection of actual occurrences in the news, its dissemination could aid or hinder system functioning, by which the author meant the state-led modernization project. Importantly, in this conception, neither news production nor reception involves meaning-making or more generally, “the anthropological principle of human interaction with the world.”⁸⁶

Yet the logic of systems journalism consolidated from a position of structural power. In the first Hong Kong journalism conference joined by mainland colleagues, local scholars were deeply impressed when the deputy director of the CASS Journalism Institute started drawing the plan for Chinese press reforms.⁸⁷ Commissioned by the central propaganda department, CASS surveyed newspapers across the country and mapped bureaucratic affiliations (all state-owned) and specialties of the rapidly expanding press universe (CASS 1986). Through reform, announced the team, this universe should develop into a “party press-anchored, multi-layered press system” that efficiently disseminates information to meet the variety of needs of economic modernization. Importantly, with the anchoring layer of party organs in place, the whole press system would allow localized management experimentation.⁸⁸ In line with this general aspiration, other scholars pointed out that, as modernization begot exponential information growth, the conventional mode of linear media control hindered timely transmission and response to feedback. Employing concepts such as noise and filter, they advocated that each newspaper was itself a cybernetic subsystem that must have necessary decision-making power to adapt to its changing environment, so that the whole press system remains resilient and constantly improves information delivery for the suprasystem.⁸⁹ Put differently, the press needed some autonomy for “self-organization” in order to better fulfill its obligation as a state apparatus. At once strikingly totalistic and excitingly open-ended, this vision can only emerge from the center of a press universe where all the outlets are legible, responsive, and subject to large-scale coordination. It is also a vision of technocracy, held liable for the role of media in society and its “subsystems.”

These conditions hardly exist in liberal capitalist societies. Chinese journalism scholars had been enthralled by a bird’s-eye perspective of mass media even before the CCP’s repetitive censures against “liberal-capitalist” influences (in 1983, 1987, and finally, 1989). In 1982 they were introduced to “The Structure and Function of Communica-

⁸⁵ Wang, 110–14.

⁸⁶ Taylor, “Dialectics of Nature or Dialectics of Practice?” 290.

⁸⁷ Leonard Chu 朱立, “香港新闻传播学界的成名与想象(1927–2006)” [Fame and imagination in Hong Kong journalism and communication research], 国际新闻界 [Chinese journal of journalism and communication], no. 5 (2017): 85–108.

⁸⁸ Xu Yaokui 徐耀魁 et al., “关于新闻体制改革设想” [Envisioning journalism reform], 新闻学刊 [Journalism], no. 5 (1986).

⁸⁹ Yu Guoming 喻国明, “试论建立具有中国特色的社会主义新闻事业体制” [Building Chinese journalism with socialist characteristics], 新闻学刊 [Journalism], no. 1 (1986).

tion in Society” by Harold Lasswell, a political scientist that Schramm canonized as a “forefather” of communication study. Inspired by postwar structural functionalism, this article discusses mass media by “viewing [it] as a whole in relation to the entire social process.”⁹⁰ This high-level conceptualization of media as an (oddly holistic) institution found resonance among Chinese scholars. In 1980s China, the dearth of such structural analyses about “the media system” from American mass communication⁹¹ was keenly noticed.⁹² And it was Chinese journalism scholarship’s institutional position, rather than mere intellectual curiosity, that explained its preoccupation with media-society relationships. In a sense, it resorted to systems cybernetics to displace a perceived vacuum in mass communication study. Moreover, whereas functionalism provided little inspiration for initiating structural transformation, systems journalism was premised on continued evolution. Even better, it regarded the press as a locus to initiate changes in other interdependent systems and eventually society’s material development, effectively granting agency to media reformers (and later the propaganda leadership).

Weeks after the release of *Systems theory of journalism*, protesters filled Tiananmen Square. Appropriating systems cybernetic ideas, the 1980s journalism reformers painstakingly loosened restrictions over organizational management, format, and genre—what we may call newsmaking infrastructures. The limited amount of “press freedom” thereby achieved was, it would not be far-fetched to say, seized upon by the broader cultural currents—an explosive combination of liberal and Confucian humanism—in a bid for political reforms. Following the crackdown on June 4th, the CCP took a series of drastic measures to “tidy the house,” and the media sector was hit hard. Scholarly conversations in Chinese journalism again went through severe rectification, particularly with regard to the field’s “blind” adoption of Western communication study.

But the systems journalism strain remained intact. It was particularly telling that, in the post-1989 climate, *Systems theory of journalism* kept releasing reprints into the new millennium.⁹³ With regard to news value, the functioning system made further headway to displace “objective reality.” In a 1993 theory article entitled “The ontology of news,” the author builds on Engels’s and Qian’s argumentation to contend that news is “information” rather than “actual occurrences” (*shishi*, typically translated as “facts”), as information represents human praxis transcending the object-subject binary. News is worthy if people, “as they set goals and make plans for themselves, can utilize the information” to “constantly adjust the relationships between the system and its environment and between various subsystems, in order to optimize the overall benefit and steadily improve

⁹⁰ Lasswell, “The Structure and Function of Communication in Society,” in *The Communication of Ideas*, ed. L. Bryson (New York: Harper and Row, 1948), 38.

⁹¹ This differs from empirically studying mass communication in institutional and organizational settings, or studying audience behavior in its social location. See Josephine R. Holz and Charles R. Wright, “Sociology of Mass Communications,” *Annual Review of Sociology* 5 (1979).

⁹² It was, for example, lamented that after Lasswell no American communication scholar seemed to care about media-society relationships. Wu, “传播学理论架构初探” [Exploring communication’s theoretical frameworks], 27.

⁹³ A winner of several province-level awards, the book first appeared in March 1989, with its fourth reprint running in 1993, and new editions in 1996, 1999, and 2003.

their self-organization.”⁹⁴ There was little mention of “objective reality”; journalism was enclosed in the system. This was never what Wilbur Schramm had in mind, despite his interest in integrating information theory into communication study. As early as 1955, he acknowledged a chasm between Shannon’s information, “concerned with the number of binary choices necessary to specify an event in a system,” and “our concept of information in human communication,” which was really “concerned with the relation of a fact to outside events.”⁹⁵

The CASS Institute of Journalism became “the Institute of Journalism and Communication” in 1992, a naming convention immediately followed by numerous journalism departments across China. The juxtaposition indicated by “and” quickly came off as redundant. Significantly, it was also in 1992 that the Ministry of Education confirmed *xinwen chuanbo* or “journalism communication study” as a first-tier discipline, a direct signal of academic stature and resource allocation.⁹⁶ In Chinese, this phrase literally means the “study of news dissemination.” I hereafter use “Jcomm” to avoid its easy conflation with “communication” in an Anglophone context.

Legacies of Systems Journalism

As “icebreaking” as Schramm’s visit was later portrayed to be, the birth of Jcomm entailed much more than a takeover by—or, depending on one’s stand, a critical adoption of—American communication study. It entailed reformist journalism scholars carrying forward normative notions about journalism with a series of articulations relayed through the ideas of Schramm, Qian Xuesen, and Engels.

Systems journalism could only have emerged in the broader cultural currents of 1980s China. First was the dream of unified science, shared by all three men. Schramm assured the Chinese that communication would eventually integrate all other social sciences and announced it as part of a broader convergence between social and natural sciences.⁹⁷ This prediction tapped right into the particular zeitgeist, with Qian Xuesen on his crusade to synthesize all the disciplines, albeit in his own comfort zone of engineering and systems analysis. And given the precarious political environment, all this cross-border knowledge hybridization nonetheless gained momentum because Chinese Marxism consisted of Marx’s arguments about human history and Engels’s conjectures from the non-humanistic dimension of natural science. Literally a “worldview,” this Marxist orthodoxy revered universal iron laws (i.e., dialectics) on moral and ideological grounds. Further, the Deng Xiaoping regime shared with Engel’s natural dialectics the pragmatism in human’s unfolding inter-

⁹⁴ Chen Jian 陈坚, “新闻本体论——关于事实与信息的比较研究” [The ontology of news: comparing facts and information], 新闻大学 [Journalism research], no. 3 (1993): 16.

⁹⁵ Schramm, “Information Theory and Mass Communication,” 144.

⁹⁶ Hu, Ji, and Zhang, “Building the Nation-State,” 388–90.

⁹⁷ See Xu, “施拉姆对中国传播学研究的影响：纪念施拉姆来新闻研究所座谈30周年” [Schramm’s impacts on Chinese communication research].

actions with technology. Finally, the post-Mao regime's characteristic predilection (i.e., "Cross the river by feeling the stones") bore some "ontological affinity" with cybernetics—that is, leaving the "black box" closed but instead preoccupied with continuous performative engagements between heterogeneous agents.⁹⁸ In Euro-America, by contrast, this goes against the "modern ontology" presumed by scientific and bureaucratic establishments, which explains cybernetics' quick retreat into in "nomad sciences" and countercultures.⁹⁹

The formulation of systems journalism also hinged on institutional conditions. Qian Xuesen believed that "social cybernetics" would never emerge in capitalist societies ("because the problem with capitalism is that from the onset of production there is no conscious social regulation").¹⁰⁰ To be clear, however, in liberal democracies, systems approaches had heavily influenced human sciences and state bureaucratic management.¹⁰¹ The adoption of operational research in the US, for example, was entwined in the rise of the military-industry-academic complex.¹⁰² Social administration by systems cybernetics, therefore, is less productively explored as a feature of authoritarianism (or according to Qian, socialism). Rather, it boils down to its interaction with the concrete political, economic, and discursive contestations in a domain, and the consequences of the exact engineering measures.¹⁰³ In the case of Chinese population control, for example, systems cybernetics triumphed because the state's intervention in reproduction was deemed legitimate, the bureaucratic capacity at its disposal extraordinary, and competing social science expertise weak.

One finds similar circumstances in China's news sector, where Party propagandists took it upon themselves to revamp the normative injunctions about the press. But journalism also is distinct, for it belongs to the realm of the symbolic. Systems cybernetics had to wiggle its way through a congestive discursive terrain. On the one hand, acknowledging the importance of relationality and societal betterment, systems journalism rejected the image of individuals in isolation, the purported flaw of Western communication. At the same time, by leaning on the CCP's agenda to phase out the planned economy and push for marketization, it refused to succumb to top-down propaganda imperatives. Most remarkably, while systems journalism steered away from the "Maoist" view that valorized the press for providing a voice on behalf of the people and for fostering the socialist revolution, it also distanced itself from the "capitalist" view that evaluated news media in the market of attention where all players act out of competing interests. Finally, it had foreclosed on issues of social actors' positionality in meaning-making.

In the ensuing decades, explicit references to systems cybernetics

⁹⁸ For "ontological affinity" see Pickering, *Cybernetic Brain*. Also, on the ontological stance of cybernetics, see Galison, "Ontology of the Enemy."

⁹⁹ Pickering, *Cybernetic Brain*; Turner, *From Counterculture to Cyberculture*.

¹⁰⁰ Qian and Song, 工程控制论 [Engineering cybernetics], xiv.

¹⁰¹ Heyck, *Age of System*.

¹⁰² Erik P. Rau, "The Adoption of Operations Research in the United States during World War II," in *Systems, Experts, and Computers*, ed. Agatha C. Hughes and Thomas P. Hughes (Cambridge: MIT Press, 2011).

¹⁰³ See also Peters, *How Not to Network*.

took a backseat, but its legacies have prevailed in powerful forms.¹⁰⁴ It is beyond this article's scope to delineate these manifold developments, but I offer a few observations as provocation. First, the ways in which China's media reforms transpired in the 1990s bore much resemblance to the ideas inspired by systems cybernetics. China's fast swelling media sector underwent state-regulated marketization involving system-level measures, such as administrative consolidation of party organs and radical commercial experiments at the margins. These "structurally focused" moves are often sidelined by discussions concentrating on overt censorship "aimed at politically dissenting publications."¹⁰⁵ One also ponders the similarity between the liberating vision of the socialist press comprised of numerous outlets as self-organizing cybernetic systems and the so-called "one head, many mouths" landscape in reality, where market-induced media decentralization was wielded for state propaganda purposes.¹⁰⁶ As economic disparity increased, media marketization led to the demise of outlets for underprivileged groups.¹⁰⁷ But another contributor may be the orientation of press reforms toward information delivery for an economic (sub)system, unconcerned with audience subjectivities and identities.

Systems journalism has sedimented in the now exceedingly resourceful discipline and popular major of Jcomm, and the language of systems cybernetics continues to percolate in its authoritative texts. China's latest national textbook *Introduction to journalism* continues to define news as "information about recent actual occurrences (*shishi*)," in which information does not go by its colloquial usage, but specifically means "the thing that reduces the recipient's uncertainty," "as per its narrow definition by Shannon."¹⁰⁸ The reference to "objective reality," which disappeared with the prevailing systems journalism, remains absent from the current definition. In a methodical content analysis of Chinese textbooks, one Taiwanese researcher was deeply confused by the ubiquity of "information" in Chinese Jcomm textbooks, compared to its scarcity in Taiwanese counterparts.¹⁰⁹ He also noted that the phrase "social control" (*shehui kongzhi*) appeared hundreds of times and suspected it to reflect Chinese authoritarianism,¹¹⁰ without realizing Jcomm's invocation of its cybernetic meaning—purposeful influence toward a predetermined goal through information processing.¹¹¹ However, the "goal" here, or journalism's principled priority of "systematic benefit," is hard to pin down. In textbooks, official documents, and authoritative commentaries, it shifts between economic prosperity, social stability, and international rivalry. Whereas this flexibility may echo the notion of adaptable, learning systems, the assumed "oneness" is a far cry from Marxian dialectics' attention to contradiction and historicity.¹¹² It is especially

¹⁰⁴ This means rather than tracing the "citational network" of specific theories, we may more productively examine these legacies as constitutive of a "culture," in the form of shared parlance, tacit knowledge, and unspoken assumptions.

¹⁰⁵ Yuezhi Zhao, "From Commercialization to Conglomeration: The Transformation of the Chinese Press Within the Orbit of the Party State," *Journal of Communication* 50, no. 2 (2000): 15; Angela Xiao Wu and Luzhou Li, "Localism in Internet Governance: The Rise of China's Provincial Web," *China Information*, 2021. As foreseen by Cheek: "Control of order as much as suppression of free ideas are on the minds of [state propaganda] officials" for press reform. Cheek, "Redefining Propaganda."

¹⁰⁶ Guoguang Wu, "One Head, Many Mouths: Diversifying Press Structures in Reform China," in *Power, Money, and Media: Communication Patterns and Bureaucratic Control in Cultural China* (Evanston, IL: Northwestern University Press, 2000); Daniela Stockmann, *Media Commercialization and Authoritarian Rule in China* (Cambridge: Cambridge University Press, 2012).

¹⁰⁷ Zhao, "From Commercialization to Conglomeration."

¹⁰⁸ Li Liangrong 李良荣, *新闻学概论* [Introduction to journalism] (Shanghai: Fudan University Press 复旦大学出版社, 2018), 66–67.

¹⁰⁹ Liu Shengji 劉勝驥, "國科會專題研究：中國大陸高校教科書中政治思想教育之研究" [Political ideologies in mainland Chinese college textbooks], 2004, 193–94.

¹¹⁰ Liu, 203.

¹¹¹ Ironically, it was American psychologists who applied cybernetics to develop techniques of "coercive persuasion" by experimenting with "extreme environmental control." Rebecca Lemov, "Running Amok in Labyrinthine Systems: The Cyber-Behaviorist Origins of Soft Torture," *Limm* 1, no. 1 (2011).

¹¹² Levins, "Dialectics and Systems Theory."

so when the system's shifting goals are invariably seen as hindered by internal/domestic protests and grievances, which journalism is tasked to assuage through dispelling people's "uncertainty."

Finally, the understanding of truth inherent in this conception of newsmaking is about neither correspondence nor coherence.¹¹³ First, it is not about sorting out facts in pursuit of accounts that comprehensively correspond to (an outside) reality. While the informational ideal of Western journalism aspires to display disciplined impartiality,¹¹⁴ news in China can be justifiably partial as long as the selection of "actual occurrences" for dissemination contributes to the vitality of the larger system. This understanding of truth is also not about coherence. The imperative for coherence in Chinese press history manifested most vividly in the notion of "substantial truth," which had a high tolerance for fabricating details as long as the produced account better reflects "the inherent logic of reality" according to official ideology. But when viewed as system-enhancing cybernetic information, news is not ideological, at least not in the sense that ideology means "seeking to efface contradiction and produce an ostensibly coherent, readable account of the world."¹¹⁵ In the end, such newsmaking is not interested in the real. It is highly malleable, essentially indifferent to the actual content, and has no place for normative value judgments hinged on something external to the system.

We may see such a conception of truth as *performance*—as in "performative ontology," which Andrew Pickering uses to name the ontology staged by British cybernetics.¹¹⁶ Casting aside the need to comprehend and articulate the working principles of the cybernetic project and its surroundings alike—in our case journalism and the world it operates in—actions can still be consequential, as the world changes through continuing interlinked performances. Importantly, the resulting performative relationship is not symmetric, as envisioned by cybernetics-inspired theorists such as Haraway,¹¹⁷ but "imperative,"¹¹⁸ because norms and commitments of journalism are, foremost, furnished by the overriding priorities of the regime suprasystem. While such an ontological vision has manifested in many material and ideational forms, Chinese news media may be a site to explore how it plays out in the practice of the (re)production of reality and, in turn, of the public culture that this reality animates.

Bibliography

- An, Gang 安岗. "研究我们的读者" [Studying our readers]. In *China Journalism Yearbook*, 173, 177. Beijing: CASS, 1982.
- Berlo, David K. *The Process of Communication: An Introduction to Theory and Practice*. New York: Holt, Rinehart and Winston, 1960.

¹¹³ See Jack Fuller, *News Values: Ideas for an Information Age* (Chicago: University of Chicago Press, 1996).

¹¹⁴ Schudson, *Discovering the News*.

¹¹⁵ Eva Cherniavsky, *Neocitizenship: Political Culture after Democracy* (New York: NYU Press, 2017), 141.

¹¹⁶ Pickering, *Cybernetic Brain*.

¹¹⁷ Donna J. Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003).

¹¹⁸ Galison, "Ontology of the Enemy," 256.

- Carey, James W. "Some Personal Notes on US Journalism Education." *Journalism* 1, no. 1 (2000): 12–23.
- Carver, Terrell, Gerard Bekerman, and Cecil L. Eubanks. "Marx and Engels. The Intellectual Relationship." *Studies in Soviet Thought* 31, no. 4 (1986): 329–34.
- Cheek, Timothy. *Propaganda and Culture in Mao's China: Deng Tuo and the Intelligentsia*. London: Clarendon Press, 1997.
- Cheek, Timothy. "Redefining Propaganda: Debates on the Role of Journalism in Post-Mao Mainland China." *Issues & Studies* 25, no. 2 (1989): 47–74.
- Chen, Chongshan 陈崇山. "施拉姆的理论对我的指引" [How Schramm's theory guided me]. *新闻与传播研究* [Journalism and communication], no. 4 (2012): 14–18.
- Chen, Chongshan 陈崇山, and Xiuling 弭秀玲Mi, eds. *中国传播效果透视* [Perspectives on media effects in China]. Shenyang: Shenyang Publishing 沈阳出版社, 1989.
- Chen, Jian 陈坚. "新闻本体论——关于事实与信息的比较研究" [The ontology of news: comparing facts and information]. *新闻大学* [Journalism research], no. 3 (1993): 16–17, 48.
- Chen, Lidan 陈力丹, and Yigao 王亦高Wang. "我国新闻传播学量化研究的艰难起点" [The fraught origins of quantitative research in Chinese journalism-communication]. *当代传播* [Contemporary communication], no. 2 (2009): 8–10.
- Cherniavsky, Eva. *Neocitizenship: Political Culture after Democracy*. New York: NYU Press, 2017.
- Chu, Leonard 朱立. "香港新闻传播学界的成名与想象(1927–2006)" [Fame and imagination in Hong Kong journalism and communication research]. *国际新闻界* [Chinese journal of journalism and communication], no. 5 (2017): 85–108.
- Davies, Gloria. "Discursive Heat: Humanism in 1980s China." In *A New Literary History of Modern China*, edited by David Der-Wei Wang, 758–64. Cambridge: Belknap Press/Harvard University Press, 2017.
- Engels, Friedrich. *Herr Eugen Dühring's Revolution in Science (Anti-Dühring)*. Edited by C. P. Dutt. Translated by Emile Burns. New York: International Publishers, 1939.
- Fan, Dongsheng 范东升. "信息传播与历史唯物论" [Information communication and historical materialism]. *新闻学刊* [Journalism], no. 3 (1985): 3–8.
- Fuller, Jack. *News Values: Ideas for an Information Age*. Chicago: University of Chicago Press, 1996.
- Galison, Peter. "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision." *Critical Inquiry* 21, no. 1 (1994): 228–66.
- Gerovitch, Slava. *From Newspeak to Cyberspeak: A History of Soviet*

- Cybernetics*. Cambridge: MIT Press, 2004.
- Ghosh, Arunabh. *Making It Count: Statistics and Statecraft in the Early People's Republic of China*. Princeton, NJ: Princeton University Press, 2020.
- Greenhalgh, Susan. "Missile Science, Population Science: The Origins of China's One-Child Policy." *China Quarterly*, no. 182 (2005): 253–76.
- Hamrin, Carol, and Timothy Cheek. *China's Establishment Intellectuals*. Armonk, NY: M. E. Sharpe, 1986.
- Haraway, Donna Jeanne. *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: Prickly Paradigm Press, 2003.
- He, Guimei 贺桂梅. "新启蒙"知识档案——80年代中国文化研究[Knowledge archives of the "New Enlightenment"]. Beijing: Peking University Press 北京大学出版社, 2010.
- Heyck, Hunter. *Age of System: Understanding the Development of Modern Social Science*. Baltimore, MD: Johns Hopkins University Press, 2015.
- Highton, Jake. "'Green Eyeshade' Profs Still Live Uncomfortably with 'Chi-Squares'; Convention Reaffirms Things Haven't Changed Much." *Journalism Educator* 44, no. 2 (1989): 59–61.
- Holz, Josephine R., and Charles R. Wright. "Sociology of Mass Communications." *Annual Review of Sociology* 5 (1979): 193–217.
- Hu, Zhengrong, Ji Deqiang, and Zhang Lei. "Building the Nation-State: Journalism and Communication Studies in China." In *The International History of Communication Study*, edited by Peter Simonson and David W. Park, 387–413. New York: Routledge, 2015.
- Kline, Ronald R. *The Cybernetics Moment: Or Why We Call Our Age the Information Age*. Baltimore, MD: Johns Hopkins University Press, 2015.
- Lasswell, Harold D. "The Structure and Function of Communication in Society." In *The Communication of Ideas*, edited by L. Bryson, 37–51. New York: Harper and Row, 1948.
- Lemov, Rebecca. "Running Amok in Labyrinthine Systems: The Cyber-Behaviorist Origins of Soft Torture." *Limn* 1, no. 1 (2011). <https://escholarship.org/uc/item/2rw899hv>.
- Levins, Richard. "Dialectics and Systems Theory." *Science & Society* 62, no. 3 (1998): 375–99.
- Li, Biao 李彪. "新闻传播学研究方法的构造" [Research methods of journalism-communication]. 国际新闻界 [Chinese journal of journalism and communication], no. 1 (2008).
- Li, Liangrong 李良荣. 新闻学概论 [Introduction to journalism]. Shanghai: Fudan University Press 复旦大学出版社, 2018.

- Lin, Chunfeng, and John Nerone. "The 'Great Uncle of Dissemination': Wilbur Schramm and Communication Study in China." In *The International History of Communication Study*, edited by Peter Simonson and David W. Park, 414–33. Routledge, 2015.
- Liu, Hailong 刘海龙. "'传播学'引进中的'失踪者': 从1978年—1989年批判学派的引介看中国早期的传播学观念" [The 'missing persons' in the import of communication]. *新闻与传播研究* [Journalism and communication], no. 4 (2007): 29–35.
- Liu, Shengji 劉勝驥. "國科會專題研究：中國大陸高校教科書中政治思想教育之研究" [Political ideologies in mainland Chinese college textbooks], 2004. <http://nccur.lib.nccu.edu.tw/handle/140.119/5239>.
- Liu, Xiao. *Information Fantasies: Precarious Mediation in Postsocialist China*. Minneapolis: University of Minnesota Press, 2019.
- Liu, Xin. *The Mirage of China: Anti-Humanism, Narcissism, and Corporeality of the Contemporary World*. New York: Berghahn Books, 2012.
- McAnany, Emile G. "Wilbur Schramm, 1907–1987: Roots of the Past, Seeds of the Present." *Journal of Communication* 38, no. 4 (1988): 109–22.
- Medina, Eden. *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile*. Cambridge: MIT Press, 2014.
- Miller, H. Lyman. *Science and Dissent in Post-Mao China: The Politics of Knowledge*. Seattle: University of Washington Press, 1996.
- Pang, Laikwan. "Dialectical Materialism." In *Afterlives of Chinese Communism: Political Concepts from Mao to Xi*, edited by Christian Sorace, Ivan Franceschini, and Nicholas Loubere, 67–72. London: Verso Books, 2019.
- Peng, Yongdong 彭永东. 控制论的发生与传播研究 [The origin and dissemination of cybernetics]. Taiyuan: Shanxi Education Press 山西教育出版社, 2012.
- Peters, Benjamin. *How Not to Network a Nation: The Uneasy History of the Soviet Internet*. Cambridge: MIT Press, 2016.
- Peters, John Durham. "Institutional Sources of Intellectual Poverty in Communication Research." *Communication Research* 13, no. 4 (1986): 527–59.
- Pickering, Andrew. *The Cybernetic Brain: Sketches of Another Future*. Chicago: University of Chicago Press, 2010.
- Qian, Xuesen 钱学森, Guozhi 许国志 Xu, and Shouyun 王寿云 Wang. "组织管理的技术—系统工程" [Techniques of organizational management: systems engineering]. *文汇报* [Wenhui], September 27, 1978.
- Qian, Xuesen 钱学森. "我对系统学的认识历程" [How I came to systematics]. In *系统科学进展* [Developments in systems science], edited by Guo Lei 郭雷, 2–17. Beijing: Science Publishing 科学出版社, 2012.

- 版社, 2017.
- Qian, Xuesen 钱学森, and Jian 宋健 Song. 工程控制论 [Engineering cybernetics]. Beijing: Science Publishing 科学出版社, 1980.
- Rajagopal, Arvind. "Communicationism: Cold War Humanism." *Critical Inquiry* 46, no. 2 (2020): 353–80.
- Rau, Erik P. "The Adoption of Operations Research in the United States during World War II." In *Systems, Experts, and Computers*, edited by Agatha C. Hughes and Thomas P. Hughes, 57–92. Cambridge: MIT Press, 2011.
- Rindzeviciute, Egle. *The Power of Systems: How Policy Sciences Opened Up the Cold War World*. Ithaca, NY: Cornell University Press, 2016.
- Rofel, Lisa. *Desiring China : Experiments in Neoliberalism, Sexuality, and Public Culture*. Durham: Duke University Press, 2007.
- Rogers, Everett M. *History of Communication Study*. New York: Free Press, 1997.
- Rogers, Everett M., and Thomas W. Valente. "A History of Information Theory in Communication Research." In *Between Communication and Information*, edited by Brent D. Ruben and Jorge R. Schement, 35–56. New York: Routledge, 2017.
- Ruben, Brent D. *Between Communication and Information*. Milton, United Kingdom: Routledge, 1993.
- Schmalzer, Sigrid. *Red Revolution, Green Revolution*. Chicago: University of Chicago Press, 2016.
- Schmalzer, Sigrid. *The People's Peking Man: Popular Science and Human Identity in Twentieth-Century China*. Chicago: University of Chicago Press, 2009.
- Schramm, Wilbur. "Human Communication as a Field of Behavioral Science." In *Human Communication as a Field of Study*, edited by Sarah Sanderson King, 13–26. Albany, NY: SUNY Press, 1989.
- Schramm, Wilbur. "Information Theory and Mass Communication." *Journalism Quarterly* 32, no. 2 (1955): 131–46.
- Schramm, Wilbur. "The Unique Perspective of Communication: A Retrospective View." *Journal of Communication* 33, no. 3 (1983): 6–17.
- Schramm, Wilbur. "传学与新闻及其它" [Communication study and journalism, and other issues]. 新闻学会通讯 [Society of journalism letters], no. 14 (1982): 19–22.
- Schramm, Wilbur. "美国"大众传播学"的四个奠基人" [Four forefathers of American mass communication]. 国际新闻界 [Chinese journal of journalism and communication], no. 2 (1982): 2–4.
- Schramm, Wilbur, Godwin C. Chu, and Frederick T. C. Yu. "China's Experience with Development Communication: How Transferable Is That?" In *Communication and Development in China*, edited by Goodwin Chu, Fred Huang, Wilbur Schramm, Stephen

- Uhalley Jr, and Frederick T. C. Yu, 85–105. Honolulu: East-West Center, 1975.
- Schudson, Michael. *Discovering The News: A Social History Of American Newspapers*. New York: Basic Books, 1981.
- Shannon, Claude Elwood, and Warren Weaver. *The Mathematical Theory of Communication*. Champaign, IL: University of Illinois Press, 1949.
- Shih, Shu-Mei. "Is the Post in Postsocialism the Post in Posthumanism?" *Social Text* 30, no. 1 (2012): 27–50.
- Siebert, Fred, Theodore Peterson, and Wilbur Schramm. *Four Theories of the Press: The Authoritarian, Libertarian, Social Responsibility, and Soviet Communist Concepts of What the Press Should Be and Do*. Champaign, IL: University of Illinois Press, 1956.
- Song, Jian 宋健. "工程控制论" [Engineering cybernetics]. *系统工程理论与实践* [Systems engineering theory & practice], no. 2 (1985): 2–4.
- Stalin, Joseph. *Dialectical and Historical Materialism*. Moscow: Foreign Languages Publishing House, 1938.
- Stockmann, Daniela. *Media Commercialization and Authoritarian Rule in China*. Cambridge: Cambridge University Press, 2012.
- Tankard, James W., Jr. "The Theorists." In *Makers of the Media Mind: Journalism Educators and Their Ideas*, edited by William David Sloan, 227–86. New York: Routledge, 1990.
- Taylor, Angus M. "Dialectics of Nature or Dialectics of Practice?" *Dialectical Anthropology* 4, no. 4 (1979): 289–308.
- Thomas, Paul. *Marxism & Scientific Socialism: From Engels to Althusser*. Milton Park, United Kingdom: Taylor & Francis, 2008.
- Tsien, H. S. *Engineering Cybernetics*. New York: McGraw-Hill, 1954.
- Tunstall, Jeremy. "The Trouble with U.S. Communication Research." *Journal of Communication* 33, no. 3 (1983): 92–95.
- Turner, Fred. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago: University of Chicago Press, 2008.
- Wang, Hui. *China's New Order: Society, Politics, and Economy in Transition*. Cambridge: Harvard University Press, 2003.
- Wang, Ning. "The Making of an Intellectual Hero: Chinese Narratives of Qian Xuesen." *China Quarterly*, no. 206 (2011): 352–71.
- Wang, Yihong 王怡红, and Yiqing 胡翼青Hu, eds. *中国传播学30年* [Chinese communication: thirty years]. Beijing: Chinese Encyclopedia Press 中国大百科全书出版社, 2010.
- Wang, Yimin 王益民. *系统理论新闻学* [Systems theory of journalism]. Wuhan: Huazhong University of Science and Technology 华中理工大学出版社, 1989.
- Wiener, Norbert. *Cybernetics or Control and Communication in the Ani-*

- mal. Cambridge: MIT Press, 1965.
- Wu, Angela Xiao, and Luzhou Li. "Localism in Internet Governance: The Rise of China's Provincial Web." *China Information*, 2021. <https://doi.org/10.1177/0920203X211055038>.
- Wu, Guoguang. "One Head, Many Mouths: Diversifying Press Structures in Reform China." In *Power, Money, and Media: Communication Patterns and Bureaucratic Control in Cultural China*, 45–67. Evanston, IL: Northwestern University Press, 2000.
- Wu, Wenhui 吴文虎. "传播学理论架构初探" [Exploring communication's theoretical frameworks]. *新闻学刊* [Journalism], no. 5 (1986): 27–31.
- Xiaoling 晓凌. "他们精心治学" [They are devoted to scholarships]. *新闻学会通讯* [Society of journalism letters], no. 14 (1982): 22–23.
- Xu, Yaokui 徐耀魁. "施拉姆对中国传播学研究的影响: 纪念施拉姆来新闻研究所座谈30周年" [Schramm's impacts on Chinese communication research]. *新闻与传播研究* [Journalism and communication], no. 4 (2012): 9–14.
- Xu, Yaokui 徐耀魁, Peixu 孙培旭Sun, Rugang 沈如纲Shen, and Hongliang 曹宏亮Cao. "关于新闻体制改革的设想" [Envisioning journalism reform]. *新闻学刊* [Journalism], no. 5 (1986): 3–9.
- Ye, Yonglie 叶永烈. *走进钱学森* [Qian Xuesen: A biography]. Shanghai: Shanghai Jiao Tong University Press 上海交通大学出版社, 2016.
- Yu, Guoming 喻国明. "新闻作品信息含量问题初探" [Exploring news information content]. *新闻学论集* [Annals of journalism studies] 8 (1984): 80–99.
- Yu, Guoming 喻国明. "试论建立具有中国特色的社会主义新闻事业体制" [Building Chinese journalism with socialist characteristics]. *新闻学刊* [Journalism], no. 1 (1986): 42–52.
- Yu, Timothy 余也鲁, Qingbin 施清彬Shi, Yufang 崔煜芳Cui, and Qiqi 章琪琦Zhang. "中国传播学研究破冰之旅的回顾: 余也鲁教授访问记" [Chinese communication study's icebreaking trip in retrospect]. *新闻与传播研究* [Journalism and communication], no. 4 (2012): 4–9.
- Yurchak, Alexei. "Communist Proteins: Lenin's Skin, Astrobiology, and the Origin of Life." *Kritika: Explorations in Russian and Eurasian History* 20, no. 4 (2019): 683–715.
- Zhang, Yong. "From Masses to Audience: Changing Media Ideologies and Practices in Reform China." *Journalism Studies* 1, no. 4 (2000): 617–35.
- Zhao, Yuezhi. "From Commercialization to Conglomeration: The Transformation of the Chinese Press Within the Orbit of the Party State." *Journal of Communication* 50, no. 2 (2000): 3–26.
- Zhao, Yuezhi. "批判研究与实证研究的对比分析" [Comparing

- critical and empirical approaches]. 国际新闻界 [Chinese journal of journalism and communication], no. 11 (2006): 34–39.
- Zheng, Xingdong 郑兴东. “新闻价值相关论” [Thesis on news value]. 新闻学论集 [Annals of journalism studies] 11 (1987): 88–99.
- Zhou, Zhi 周致. “西方传播学的产生及其与新闻学的关系” [Western communication’s origin and relations with journalism study]. In 传播学简介 [Introduction to communication study], edited by 社科院新闻所世界室CASS Journalism Institute, 126–34. Beijing: People’s Daily Press 人民日报出版社, 1983.

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