

RESEARCH ARTICLE

Reimagining Sociality in the Digital Age: Transcending the Interaction/Society Dichotomy

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ABSTRACT

This paper argues that digital technologies have not merely transformed social life but have made visible society's fundamental nature as operating through distinct but interconnected systems of communication. The long-standing interaction/society dichotomy in sociological theory has constrained our understanding of social phenomena, as revealed by digital platforms, algorithmic systems and networked communications. Building on Luhmann's systems theory while engaging with contemporary digital sociology, we develop a theoretical synthesis that reconceptualizes how society operates through autonomous but structurally coupled systems of communication. This framework explains phenomena that resist traditional sociological analysis, from content moderation controversies to algorithmic bias, by showing how different systems process the same events according to distinct operational criteria while remaining interconnected. By moving beyond attempts to bridge micro/macro divisions or reconcile structure/agency dualities, we offer a more fundamental understanding of how society operates in both digital and non-digital contexts, positioning sociology as part of the scientific system developing productive resonances with other social systems.

1 | Introduction

On 25 May 2020, a video capturing the murder of George Floyd by a Minneapolis police officer was posted on Facebook. Within hours, the footage spread across social media platforms globally, catalysing what would become one of the largest social movements in recent history (Buchanan, Bui, and Patel 2020). The Black Lives Matter protests that followed transcended national boundaries, with demonstrations erupting in over 60 countries (Kirby 2020). This global phenomenon, ignited by a single video shared on social media, exemplifies the complex interplay between individual action, technological mediation and large-scale social change in our digital era. It raises profound questions for sociologists: How do we conceptualize this phenomenon that seamlessly bridges the local and the global, the

individual and the collective? Is it merely an instance of social interaction amplified by technology? Or is it a manifestation of broader societal structures and processes? The reality, it seems, defies such neat categorization and exposes limitations of many sociological theories.

The unprecedented nature of such phenomena demands a more sophisticated theoretical vocabulary. What we observe here is how digital platforms enable new forms of connection—where a single communication (the video) simultaneously resonates across multiple domains: legal (evidence of police misconduct), media (news coverage) and political (protest mobilization). The video's viral spread demonstrates how digital communications generate recursive patterns that create new meanings and actions across interconnected spheres, transcending traditional

social boundaries. This transformation challenges us to reconsider fundamental assumptions about how social life operates (Castells 2010; Lupton 2015).

This paper contends that one of sociology's fundamental frameworks—the distinction between social interaction and broader social structures—struggles to capture the complexities of contemporary digital phenomena (Latour 2005; Marres 2017). Digital platforms, algorithmic systems and networked communications have transformed how social processes operate, creating patterns of connection and influence that transcend traditional analytical boundaries (van Dijck, Poell, and de Waal 2018). These new social configurations demand theoretical vocabularies capable of explaining how digital platforms can simultaneously maintain their distinctive characteristics while participating in broader patterns of social change. To fully appreciate the magnitude of this transformation, we must examine how sociological thought has historically approached the relationship between immediate social interactions and larger social processes, tracing how different generations of theorists have wrestled with this fundamental challenge (Marres 2017; Couldry and Hepp 2017). This examination will reveal both the persistent appeal of separating micro and macro levels of analysis and the growing difficulty of maintaining such distinctions in our increasingly digital world (Jurgenson 2012).

2 | The Digital Revolution and Social Systems

The rapid advancement of digital technologies in recent decades has posed significant challenges to traditional sociological frameworks, particularly the long-standing interaction/society dichotomy. These developments have introduced new complexities that demand a reconsideration of our theoretical approaches to understanding social life.

One of the most profound challenges comes from the pervasive influence of algorithms in mediating social interactions. As Gillespie (2014) and Pasquale (2015) have compellingly argued, algorithmic systems now exercise considerable power in shaping social realities. From personalized news feeds to recommendation systems, these hidden technical actors play a crucial role in generating and reproducing patterns of communication that shape our digital experiences and, by extension, our social world (Esposito 2017). This algorithmic mediation introduces a new layer of complexity to social analysis, necessitating theoretical frameworks that can account for the agency of non-human actors in social processes.

Furthermore, digital phenomena have increasingly blurred traditional sociological distinctions between micro and macro, public and private, virtual and material. Boyd's (2010) concept of 'context collapse' illuminates how digital platforms conflate multiple social contexts, complicating our understanding of social roles and identity performance. Similarly, Jurgenson's (2012) critique of 'digital dualism' challenges us to reject the false dichotomy between online and offline realities, instead recognizing the increasing interpenetration of digital and physical aspects of social life. These insights underscore the need for more nuanced theoretical frameworks capable of capturing the hybrid nature of contemporary sociality.

The complexity of digital networks presents another significant challenge to existing sociological tools, revealing both methodological and theoretical limitations. Although network theories have long been part of the sociological toolkit, their fundamental assumptions about social connectivity often conflict with a systems theoretical understanding of society. Wellman and Rainie's (2012) concept of 'networked individualism', for instance, retains an individualistic premise that sits uncomfortably with the understanding of society as a system of communications rather than a network of individuals (Luhmann 1995). Their emphasis on person-based networks, while descriptively useful, risks obscuring how digital platforms operate as self-referential communication systems that process meaning according to their own internal logics (Luhmann 2012). Similarly, although the work of scholars like Barabási (2002) and Watts (2003) on complex networks provides valuable mathematical insights into network structures, their models cannot fully capture the autopoietic nature of social systems or the way digital platforms generate and maintain their own operational boundaries. The emergence of platform-specific dynamics and algorithmic governance suggests we need theoretical approaches that can move beyond network metaphors to understand how digital systems produce and reproduce themselves through recursive communications.

The rapid pace of technological change and emergence of new digital phenomena might appear to demand entirely new theoretical frameworks. However, as scholars like Nassehi (2019) and Esposito (2017) have demonstrated, existing approaches that emphasize communication over individual action, particularly those addressing self-referential system operations and intersystem relationships, provide sophisticated tools for understanding these dynamics. Such frameworks help explain how digital platforms can rapidly emerge, evolve and sometimes dissolve while maintaining their operational coherence through selective communication patterns. Moving forward, the task for sociologists is not to develop entirely new theoretical tools, but to carefully extend and apply frameworks that have already moved beyond traditional sociological dichotomies, ensuring our discipline remains capable of illuminating the intricate realities of social life in the digital age.

3 | Canon's Hardcore

The interaction/society dichotomy, deeply entrenched in sociological thought, finds its roots in the works of our discipline's founding figures. This dichotomy represents a spectrum of sociological analysis, with micro-level interactions on one end and macro-level societal structures on the other. To understand both the historical development and limitations of this perspective, let us examine two influential thinkers who represent opposite ends of this spectrum. Georg Simmel (1908/1950), with his keen eye for the minutiae of social life, sought to understand society through the lens of patterned interactions. His work on social forms—be it conflict, exchange or subordination—illuminated how the architecture of human encounters shapes our social world. Simmel's dyads and triads offered a framework for understanding how the very nature of interaction shifts as participant numbers grow. Although this approach revealed important insights about social forms, it primarily focused on human agency

and consciousness, leaving unexplored the possibility that society might operate through communications rather than through human interactions per se. When we transpose Simmel's ideas onto the digital landscape, these limitations become more apparent. In the virtual realm, a dyadic exchange can transform into a global phenomenon at breathtaking speed (Castells 2010), suggesting that what we observe might be better understood as communications circulating through different social systems rather than merely as scaled-up interactions. The boundaries of interaction, once clearly delineated in Simmel's work, become fluid and permeable online. Moreover, the forms of interaction in digital spaces are not merely human-to-human, but are mediated and shaped by algorithms, platform architectures and networked dynamics that Simmel could scarcely have imagined (van Dijck, Poell, and de Waal 2018).

At the other end of the spectrum, we find Talcott Parsons' (1951) grand systemic view of society. Though Parsons made important strides in conceptualizing society as a system, his particular vision of system dynamics focused heavily on stability and integration. His AGIL schema provided a framework for understanding how societies adapt, achieve goals, integrate their parts and maintain their value patterns over time. However, when we attempt to apply Parsons' ideas to the digital age, we encounter significant limitations. The stability and coherence assumed in Parsonian systems theory seems at odds with the rapid, often disruptive changes wrought by digital technologies (Urry 2003). The functional integration Parsons described is challenged by the way digital platforms operate as distinct systems with their own operational logics, simultaneously acting as communication tools, marketplaces and political arenas (Gillespie 2010). What Parsons' approach missed, and what becomes especially evident in the digital age, is how social systems can maintain their distinct operations while remaining interconnected through ongoing communications.

As we reflect on these limitations, we find that they are not unique to Simmel and Parsons, but are emblematic of broader challenges in applying classical sociological thought to digital phenomena. Whether we look to Marx's class-based analysis, Weber's theory of social action or Durkheim's collective consciousness, we find theories that, while profound in their insights, were primarily focused on human-centred aspects of society rather than understanding it as a system of communications. These approaches were developed in and for a world where the pace, scale and nature of social interactions were fundamentally different (Lupton 2015). Marx's focus on material production and class struggle, for instance, requires significant rethinking in an age where immaterial labour and digital capital play increasingly central roles (Fuchs 2014). Although his analysis of capitalism revealed crucial insights about economic relations, it did not anticipate how digital systems would develop their own operational logics independent of class consciousness. The means of production in the digital age are often intangible, and class relations are complicated by new forms of digital labour and ownership that operate through distinct communicative processes (Srnicek 2017). Similarly, Durkheim's (1912/1995) concept of collective consciousness, while groundbreaking in its recognition of society as something beyond the sum of individual actions, takes on new dimensions in the context of global digital networks. Here, we find not a single, unified collective

consciousness, but multiple, overlapping and sometimes conflicting systems of communication that evolve and reproduce themselves according to their own internal logics (Couldry and Hepp 2017). What becomes apparent is that these classical theories, despite their tremendous insights, were working with a model of society that privileged human agency and consciousness over the self-referential operations of social systems.

Weber's (1922/1978) contributions, particularly his theory of social action and his analysis of social relations, offer valuable insights but also face fundamental challenges in the digital context. His typology of social action provides a nuanced framework for understanding human behaviour by categorizing actions based on their subjective meaning to individuals. However, when we examine digital environments through a systems theoretical lens, we see that what Weber conceived as purely human decision-making actually emerges from complex system operations that transcend individual consciousness. For instance, what appears as instrumentally rational action in Weber's framework reveals itself as something quite different—the product of algorithmic systems operating according to their own internal logic, creating feedback loops that shape user behaviour in ways that bypass conscious deliberation (Yeung 2017). These algorithmic systems do not simply influence human decision-making from the outside; rather, they form their own self-referential systems of communication that operate independently of, yet intersect with, human consciousness. What behavioural psychology identifies as cognitive biases being exploited by algorithmic nudges can be better understood as the coupling between psychological systems and digital communication systems, each operating according to their own distinct logics. This systematic coupling produces what appears on the surface as rational decision-making but is actually an emergent property of multiple intersecting systems: digital, psychological and social. This observation not only challenges Weber's distinct categories of social action but fundamentally reframes how we understand the relationship between individual agency and social systems in digital contexts.

Moving beyond the canon's hardcore, consider the contributions of George Herbert Mead (1934) and the American pragmatists. Mead's concept of the 'generalized other' and his emphasis on symbolic interaction provided valuable insights into the social nature of the self and the role of communication in shaping social reality. Although Mead recognized communication's centrality to social life, his framework still privileged human consciousness and interaction as the primary drivers of social reality. In the digital age, we see that the 'generalized other' emerges not primarily from human interactions, but from the self-referential operations of digital systems. What appears as a 'generalized other' is actually the product of multiple intersecting communication systems—recommendation algorithms, content moderation systems and platform architectures—each operating according to its own internal logic (Gillespie 2018). Similarly, Gabriel Tarde's emphasis on imitation as a fundamental social process offers intriguing possibilities for understanding viral phenomena in digital contexts, though from a systems theoretical perspective, what appears as imitation might better be understood as the self-reproduction of communications within and across different social systems. Bruno Latour (2009), in his efforts to rethink social theory for the contemporary

world, has played a crucial role in reviving and reconceptualizing Tarde's work. Although Latour correctly identifies Tarde's proto-network thinking as prescient for the digital age, a systems theoretical perspective would suggest that what Tarde observed as micro-social imitation processes can be more comprehensively understood as the autopoietic operations of communication systems, where each communication generates the conditions for subsequent communications according to system-specific logics.

This historical review illuminates a crucial point: Although classical and even more recent sociological theories provide valuable starting points, they fundamentally conceive of society through the lens of human action, consciousness or networks rather than as systems of communication. What becomes clear through examining digital sociality is not just that these theories need updating but that they may have missed the essential nature of society all along (Marres 2017). The digital age makes visible what was always true but perhaps less apparent: that society operates primarily through systems of communication rather than through human interactions or structural determinations. Although classical theories provide invaluable conceptual tools, they also reveal their own limitations in grasping how social systems actually operate through self-referential communications (Floridi 2014). This recognition necessitates not just an application of these theories to new contexts, but a fundamental reorientation towards understanding society as composed of distinct but interconnected communication systems (Lupton 2015). What appears as the rapid scaling of micro-interactions to macro-phenomena in digital contexts is better understood as the autopoietic operation of communication systems, each reproducing itself according to its own internal logic while remaining structurally coupled to other systems (Castells 2010; Latour 2005). What network theory describes as network effects—where the value and impact of interactions depend on network size and structure—can be more comprehensively understood as the self-reinforcing operations of communication systems, where each communication creates the conditions for subsequent communications (Barabási 2002). What appears as hybridity in digital phenomena, seemingly combining interpersonal and large-scale processes, actually reveals the fundamental nature of social systems: They operate through communications that simultaneously maintain system boundaries while enabling structural couplings across systems (Jurgenson 2012).

As we grapple with these historical limitations, we are compelled to recognize a fundamental insight: Although our sociological forebears provided us with powerful tools for understanding the social world of their time, their human-centred conception of society may have obscured its fundamental nature as a system of communications (Orton-Johnson and Prior 2013). The interaction/society dichotomy, emerging from an analogue age's focus on human agency and structure, increasingly appears not just inadequate for understanding digital sociality, but as having always missed the essential character of social systems. This recognition, however, does not diminish the value of classical sociological insights. Rather, it invites us to reinterpret these enduring ideas through the lens of systems theory, seeing how what appeared as interactions or structures might better be understood as different manifestations of system operations (Savage and Burrows 2007). Our task, then, is not to discard our

rich theoretical heritage, but to recognize how its insights can be reframed within a more fundamental understanding of society as composed of distinct but interconnected communication systems. This approach allows us to better grasp what appears as fluid, hybrid and technologically mediated social life, but is actually the normal operation of social systems in their digital manifestation (Boellstorff 2016). As we trace how the interaction/society dichotomy shaped sociological thought throughout the 20th century, we find increasingly sophisticated attempts to overcome its limitations. Yet, as we shall see, even these more recent theoretical developments, by retaining aspects of this fundamental dichotomy, struggle to fully grasp how society operates through the autopoietic reproduction of communications across different system types (Lupton 2015; Marres 2017).

4 | 1950s–1960s: The Emergence of Micro-Sociology

The 1950s and 1960s witnessed a significant shift in sociological thought towards micro-level analysis, partly as a reaction to the grand theories of figures like Parsons. This 'micro turn' sought to understand social order and meaning-making processes through the lens of everyday interactions, challenging the dominance of macro-structural approaches (Fine 1993). Although this shift provided valuable insights, it ultimately reinforced rather than resolved the interaction/society dichotomy by privileging face-to-face encounters over systemic communications. Erving Goffman's dramaturgical approach, articulated in 'The Presentation of Self in Everyday Life' (Goffman 1959), exemplifies both the strengths and limitations of this micro-sociological perspective. Goffman's theatre metaphor offered a compelling framework for understanding face-to-face interactions, conceptualizing social life as a series of performances. His concepts of front stage and back stage performances, impression management and face-work provided nuanced tools for analysing the intricacies of social encounters. However, by focusing primarily on conscious human performance and interaction, his framework did not recognize that what appears as human performance is actually generated by an underlying reality of self-referential communication systems that operate independently of human consciousness or intention. These systems produce and reproduce communications according to their own internal logic, creating what we observe as social situations, roles and performances.

In the context of digital sociality, this limitation becomes particularly apparent. What appears as online identity management, where individuals curate their digital personas across platforms (Hogan 2010), can be better understood as the operation of multiple communication systems, each with its own logic of selection and reproduction. The supposed blurring of front and back stages in digital contexts (Marwick and Boyd 2011) reveals not just a complication of Goffman's framework, but the fundamental nature of social systems operating through communications rather than through human performance. When a private message is screenshot and shared publicly, or when public posts are restricted to select audiences, we are witnessing not just complex performance management but the autonomous operations of different communication systems as they process and reproduce information according to their own internal logics. The *asynchronous nature of digital interactions*, which seems to challenge

Goffman's focus on co-present encounters, actually *reveals how* communication systems operate *independently of human presence or intention*. In digital spaces, what appears as carefully crafted and curated self-presentation over time (Ellison, Heino, and Gibbs 2006) is better understood as the autopoietic operation of communication systems, where each communication creates conditions for subsequent communications. The persistence and replicability of digital content (Boyd 2010) is not merely a challenge to impression management but demonstrates how communication systems maintain their operations through continuous reproduction and recirculation of communications.

Harold Garfinkel's ethnomethodology, developed in the 1960s, offered another crucial perspective in micro-sociology that, like Goffman's work, revealed both important insights and fundamental limitations in understanding social reality. Garfinkel (1967) emphasized the methods people use to make sense of their everyday world, focusing on how social order appears to be produced through mundane interactions. His concept of 'background expectancies'—the taken-for-granted knowledge that people use to interpret and respond to social situations—represented his understanding of how social reality is constructed and maintained. However, what Garfinkel interpreted as human methods for creating social order can be more fundamentally understood as the visible traces of underlying communication systems that operate independently of human sense-making activities. When we examine the digital realm, this becomes particularly apparent. What appears as unclear or rapidly changing 'background expectancies' across digital platforms (Knorr Cetina 2009) is actually the observable manifestation of distinct communication systems operating according to their own internal logics. The seemingly varying norms and expectations across different digital platforms are not primarily products of human sense-making but emerge from the self-referential operations of different platform systems, each processing and reproducing communications according to its own distinct criteria. What Garfinkel's human-centred approach saw as people's methods for constructing social reality is revealed in digital contexts as the autonomous operations of communication systems that generate what humans then attempt to make sense of. The presence of algorithms, bots and AI (Latour 2005) does not simply complicate human sense-making—it makes visible how social reality has always been produced by systems of communication rather than by human interpretive practices. These technological actors do not just shape interactions in ways hidden from human participants (Gillespie 2014); they demonstrate how communication systems have always operated independently of human consciousness, generating the social phenomena that ethnomethodology interpreted as products of human sense-making methods.

The micro-sociological approaches of Goffman and Garfinkel, while developed for face-to-face interactions, reveal both the power and limitations of analysing social life through the lens of human experience. Their detailed observations provide valuable descriptions of how humans encounter and interpret social reality but ultimately mistake the surface phenomena for the underlying reality. What appears as uniquely 'digital' characteristics—mediated interaction, blurred boundaries, non-human actors and complex temporalities (Marres 2017)—actually reveals something more fundamental: that social reality has

always been constituted by self-referential systems of communication rather than by human interaction. Digital sociality thus does not merely present new challenges; it makes visible the systemic nature of social reality that was always present but less apparent in face-to-face contexts.

5 | 1970s: The Rise of Critical and Feminist Perspectives

The 1970s marked a significant shift in sociological thought as theorists recognized the limitations of both macro-structural and micro-interactionist approaches. Although this period saw the emergence of critical perspectives challenging power structures and dominant paradigms (Calhoun 1995), these new approaches still conceived of power and inequality primarily in human-centric terms. What they did not fully grasp was how these phenomena emerge from the autonomous operations of different social systems—economic, political and educational—each reproducing their own forms of communication according to their internal logics.

5.1 | Jürgen Habermas

Habermas' work on communicative action and the public sphere represents a significant theoretical advancement by recognizing communication as central to social life. Although his theory moves beyond purely structural or interactionist approaches, Habermas' (1962/1989) vision still conceived of communication primarily in terms of human rational dialogue and consensus-building. His concept of the public sphere—as an arena for free discussion and problem identification—reveals both insight and limitation: While correctly identifying communication's importance, it remains anchored in human-centric assumptions about rational discourse. In digital contexts, what appears as fragmentation into filter bubbles and echo chambers (Sunstein 2017) actually reveals how communication systems operate according to their own internal logics, independent of human rational discourse. Social media platforms demonstrate not just the failure of Habermas's normative ideal, but how different systems—technological, economic and political—process and reproduce communications according to their distinct operational criteria (Pariser 2011; Gillespie 2014). What Habermas saw as the colonization of the lifeworld by systemic imperatives can be more fundamentally understood as the normal operation of intersecting communication systems, each maintaining its own boundaries while remaining structurally coupled to others (Couldry and Mejias 2019).

5.2 | Feminist Scholars

Parallel to these developments, feminist scholars mounted a powerful critique of sociology's male-centric nature, revealing important insights while still operating within a human-centred framework. Dorothy Smith (1987) and other feminist theorists challenged mainstream sociology's claims to objectivity, arguing that all knowledge is situated in specific experiences, particularly those of marginalized groups. Although this critique importantly highlighted sociology's limitations,

from a systems theoretical perspective, what appears as situated knowledge can be understood as the product of different social systems processing communications according to their distinct logics. When Smith proposed starting from women's everyday experiences, she identified important phenomena but interpreted them primarily through human consciousness rather than seeing them as manifestations of intersecting communication systems. Patricia Hill Collins' (1990) concept of intersectionality marked another crucial development, identifying how multiple systems of oppression shape experience. While typically understood in terms of human identity categories, intersectionality can be reframed through systems theory as describing how different social systems—economic, political, educational and gender—couple and interact, each processing communications according to its own logic while remaining structurally connected to others. This reframing helps explain why digital contexts reveal such complex patterns of inequality and exclusion.

When we examine digital sociality through this lens, several key insights emerge. What appears as differential access and use patterns (Wajcman 2004) reveals how technical systems couple with other social systems to reproduce communications that maintain system boundaries. Digital embodiment and identity performance (van Doorn 2011) demonstrate not just human agency but how communication systems generate and maintain distinctions that humans then interpret through available cultural schemas. Platform power dynamics (Massanari 2017) show how different systems—technical, economic and political—process and reproduce communications according to their own criteria while remaining structurally coupled. The limitations feminist theories face in digital contexts—struggling with identity fluidity, non-human actors and global networks—point towards the need for understanding how social systems operate independently of human consciousness or intention. What appears as identity fluidity or the challenge of non-human actors actually reveals how communication systems have always operated autonomously, generating phenomena that humans interpret through available cultural frameworks. The rapid pace of technological change (Lupton 2015) and the complex interplay between online and offline experiences (Marwick 2013) demonstrate not just theoretical limitations but how different social systems maintain their boundaries while remaining interconnected through ongoing communications.

This systems theoretical reframing does not negate feminist insights but repositions them within a more fundamental understanding of how society operates through distinct but coupled systems of communication. It helps explain both the emancipatory and oppressive potentials of digital platforms (Papacharissi 2010) as emerging from the autonomous operations of different social systems rather than from human intention or structural determination alone.

6 | 1980s: Structuration and Practice Theories

The 1980s saw the development of theoretical approaches that sought to overcome the long-standing divide between agency and structure in sociological thought.

6.1 | Anthony Giddens

Giddens' structuration theory, while influential in sociological thought of the 1980s, exemplifies the limitations of attempting to reconcile the interaction/society dichotomy while maintaining a fundamentally humanist perspective. His concept of the 'duality of structure' posits social structures as both medium and outcome of social practices, with knowledgeable actors reflexively reproducing and transforming these structures through their actions. This approach, however, reveals its inadequacy when confronted with digital sociality's systemic nature. Although Giddens' concept of time-space distanciation appears relevant to our digitally connected world, it remains anchored in an understanding of social systems as products of human agency rather than self-referential communications. The application of structuration theory to digital contexts particularly highlights these theoretical limitations. Consider how algorithmic systems operate in contemporary digital platforms. Unlike Giddens' model of knowledgeable actors intentionally reproducing social structures, algorithmic systems process communications according to their own operational logics, independent of user understanding or intention. As Esposito (2017) demonstrates, digital platforms function as autopoietic systems that reproduce themselves through recursive communications, with user actions serving as environmental stimuli rather than direct structural inputs. The relationship between users and platforms is not one of structuration but of structural coupling between distinct systems operating according to different logics.

This becomes especially clear when examining social media platforms. Although Giddens might suggest that users actively shape these digital environments through their practices, the reality is more complex. Platforms operate as self-referential systems, processing user behaviours as communications according to their own internal codes and programs (Nassehi 2019). The algorithmic mediation of these processes, as van Dijck, Poell, and de Waal (2018) note, follows corporate logics and technical protocols that users neither shape nor fully comprehend. Moreover, the opacity of algorithmic operations and the speed of technological change reveal the limitations of conceptualizing digital structures as products of knowledgeable human agency. Instead, as Luhmann's theory anticipates, we see the emergence of autonomous.

6.2 | Pierre Bourdieu

Bourdieu's theory of practice, while representing an ambitious attempt to overcome the agency-structure divide in late 20th-century sociology, ultimately remains within a human-centred framework despite its sophisticated conceptual apparatus. His theoretical triad of habitus, field and capital offers valuable empirical insights into social phenomena but can be fundamentally reinterpreted through systems theory to reveal more basic operational principles. The concept of habitus—which Bourdieu presents as durable, transposable dispositions shaping perception and action—can be understood more fundamentally as the way psychological systems process and respond to communications from various social systems. What appears as individual disposition is actually the product of structural coupling between consciousness and communication systems (Bourdieu 1977, 1990).

Similarly, what Bourdieu conceptualizes as fields—structured spaces with their own rules and forms of capital—can be reframed as distinct social systems operating according to their own communication codes. The apparent competition for position within fields reveals how different systems process and reproduce communications according to their specific criteria. His multi-dimensional concept of capital (economic, cultural, social and symbolic) inadvertently points towards how different social systems develop their own media of communication, though he interprets these primarily as resources for human action rather than as system operations (Bourdieu 1986).

When we examine digital contexts through this lens, what appears as ‘digital habitus’ (Papacharissi and Easton 2013) actually reveals how psychological systems adapt to processing communications from new digital systems. The notion of ‘digital fields’ (Ignatow and Robinson 2017) can be reframed as describing how digital platforms operate as distinct communication systems, each with its own reproductive logic. What seems like ‘digital capital’—from meme literacy to follower counts—demonstrates how these systems generate their own success media for processing communications (Ragnedda 2018).

The limitations Bourdieu’s framework encounters in digital contexts actually point towards the more fundamental reality of system operations. The rapid evolution of digital platforms does not simply challenge the stability of fields; it reveals how communication systems continuously reproduce themselves through ongoing operations. The apparent fragmentation of habitus in digital spaces (Couldry 2012) and the role of algorithmic mediation (Beer 2017) demonstrate not the limitations of Bourdieu’s theory but the reality that social phenomena emerge from autonomous system operations rather than from human dispositions or field positions.

7 | 1990s: Globalization and Network Theories

The 1990s marked a pivotal moment in sociological theory, characterized by attempts to grapple with the accelerating processes of globalization and the rising prominence of digital technologies. This period saw the emergence of theoretical frameworks that sought to capture the increasingly networked nature of social life, the changing dynamics of time and space and the growing importance of information flows in shaping social structures and processes (Castells 1996; Urry 2000).

7.1 | Manuel Castells

Manuel Castells’ trilogy ‘The Information Age’ (1996–1998) represents one of the most ambitious attempts to theorize digital transformations of society, though his network-centred approach ultimately maintains a focus on connectivity rather than system operations. Although Castells identifies important phenomena through his concept of the ‘network society’, from a systems theoretical perspective, what he describes as networks can be more fundamentally understood as the visible manifestations of interconnected communication systems, each operating according to its own internal logic. His observation of a shift from hierarchical structures to networks inadvertently points

towards how different social systems maintain their autonomy while remaining structurally coupled through communications.

Castells’ key concepts, while insightful, can be reframed to reveal more fundamental systemic operations. His ‘space of flows’ - describing how social organization transcends physical place through flows of capital, information and symbolic interaction - can be understood as revealing how communication systems operate independently of spatial constraints while remaining interconnected through structural coupling. Similarly, his concept of ‘timeless time’ does not simply describe temporal compression but shows how different social systems create their own temporal horizons through their recursive operations. What Castells terms ‘real virtuality’—the immersion of reality in virtual settings—actually demonstrates how communication systems generate their own realities through their self-referential operations, independent of traditional distinctions between virtual and physical.

His concept of ‘informationalism’ comes closest to recognizing the fundamental nature of social systems yet remains focused on technology and human agency rather than understanding how society operates through communications. Although Castells sees information processing as a new mode of development, systems theory reveals it as the basic operation of all social systems, now made more visible by digital technologies. The criticisms of Castells’ work—its potential technological determinism (Van Dijk 1999), overlooked gender dimensions (Sassen 2002) and insufficient attention to local variations (Couldry 2012)—point towards the limitations of network-based analysis. What appears as technological determination or local resistance actually reveals how different social systems (technical, economic, political and cultural) maintain their distinct operations while remaining structurally coupled. The persistence of hierarchies alongside networks, noted by Thompson (2003), demonstrates not the limits of network logic but how different systems develop their own forms of internal organization while maintaining external connections.

7.2 | Bruno Latour

Bruno Latour’s actor–network theory (ANT) represents a significant step towards recognizing the limitations of human-centred sociology, though it ultimately remains focused on tracing connections rather than understanding system operations. Although ANT’s insistence on treating human and non-human entities symmetrically marks an important break from conventional approaches, from a systems theoretical perspective, this symmetry principle can be more fundamentally understood as recognizing how different types of systems—social, technical and psychological—operate according to their own logics while remaining structurally coupled. What ANT describes as networks of actors can be reframed as the visible manifestations of multiple intersecting systems of communication.

ANT’s rejection of the micro/macro distinction, while valuable, approaches this issue through the lens of network connections rather than system operations. Where ANT sees networks of actors collectively producing social phenomena, systems theory reveals how different communication systems maintain

their autonomy while generating what appears as social reality through their recursive operations. The scaling of digital phenomena from local to global is not simply a matter of network effects but demonstrates how communication systems reproduce themselves independently of spatial constraints.

Latour's concepts of translation and enrolment inadvertently point towards what systems theory identifies as structural coupling—how different systems interact while maintaining their operational closure. What appears as users being 'drawn into' digital platforms actually reveals how psychological and social systems develop mutual irritations and resonances while remaining operationally distinct. Similarly, his critique of the nature/culture divide, while important, can be more fundamentally understood through systems theory's recognition that different types of systems (biological, psychological and social) operate according to their own distinct logics while remaining environmentally interdependent.

The challenges ANT faces with digital phenomena—difficulties tracing vast networks or penetrating algorithmic 'black boxes'—actually reveal the limitations of network-based analysis. What appears as methodological difficulty points towards the fundamental nature of social systems as self-referential operations that generate their own complexity independently of human observation or understanding. The opacity of digital systems is not simply a practical challenge but demonstrates how communication systems operate autonomously from human consciousness or intention.

7.3 | Other Significant Contributions

Although Castells and Latour were particularly influential, other 1990s theorists also offered important insights that can be reframed through systems theory. Appadurai's (1996) concept of 'scapes' reveals how different social systems maintain distinct operational logics while remaining coupled across global contexts. Sassen's (1991, 2001) analysis of global cities demonstrates how urban systems develop new forms of structural coupling with global economic and technological systems. Lash and Urry's (1994) work on 'economies of signs and space' shows how economic systems increasingly process communications through symbolic media, whereas Beck's (1992) 'risk society' theory reveals how different social systems reproduce communications about risk according to their own internal logics. These contributions, while valuable, ultimately point towards the more fundamental understanding that society operates through distinct but interconnected communication systems.

8 | Reflections on Contemporary Theory and Digital Sociality

The late 20th and early 21st centuries' attempts to theorize digital social life, while increasingly sophisticated, reveal both progress and persistent limitations in understanding society's fundamental nature. What appears as theoretical innovation often maintains human-centric assumptions that systems theory helps us move beyond. Each emerging theoretical perspective inadvertently points towards the more fundamental reality

of society as operating through distinct but coupled systems of communication.

Digital materialism (Lupton 2015; Pink, Ardèvol, and Lanzeni 2016; Pink et al. 2016), in emphasizing technology's material dimension, reveals how different types of systems—technical, social and physical—maintain their operational autonomy while remaining structurally coupled. Platform studies (van Dijck and Poell 2013) approach understanding how digital platforms operate as distinct communication systems, though it often maintains a focus on human agency rather than recognizing platforms' autonomous system operations. Critical algorithm studies (Noble 2018; Eubanks 2018) reveal how algorithmic systems process communications according to their own internal logics, though it typically interprets this through the lens of human power relations rather than system operations.

Digital labour theories (Terranova 2000; Fuchs 2014) show how economic systems adapt their operations to new forms of value creation, though they often maintain traditional Marxist assumptions about human labour rather than recognizing how different systems process value according to their own criteria. Theories of digital subjectivity (Turkle 2011; Nakamura 2008) demonstrate how psychological systems couple with digital communication systems, though they typically maintain focus on human identity rather than understanding how different systems generate what appears as subjectivity through their operations.

These theoretical developments, while valuable, ultimately point towards the need for understanding how society fundamentally operates through distinct but interconnected communication systems. The apparent challenges these approaches face—keeping pace with technological change, accounting for algorithmic opacity, bridging online/offline divisions—actually reveal the limitations of human-centred analysis. Moving forward requires recognizing that what appears as uniquely 'digital' phenomena actually makes visible the systemic nature of social reality that was always present but less apparent in pre-digital contexts.

This understanding does not negate the value of contemporary theoretical insights but repositions them within a more fundamental grasp of how society operates through autonomous but coupled systems of communication. The goal is not merely to develop theory relevant to the digital age, but to recognize how digital contexts reveal society's essential nature as a complex of distinct but interconnected communication systems.

9 | Flat Ontology and Object-Oriented Ontology

The emergence of flat ontology, object-oriented ontology (OOO) and new materialisms marks a crucial theoretical convergence with systems theoretical insights, though each arrives at similar conclusions through different paths. Where systems theory begins with communication as the fundamental element of social reality, these newer approaches start by questioning ontological hierarchies. Together, they provide complementary perspectives that enrich our understanding of digital sociality.

Consider how systems theory's emphasis on operational closure and autopoiesis aligns with flat ontology's rejection of hierarchical levels of reality. When DeLanda argues that no level of reality is more 'real' than others, he approaches from an ontological angle what Luhmann demonstrated through his analysis of how different systems maintain their autonomous operations. Both perspectives help us understand, for instance, how social media platforms function neither as mere tools nor as deterministic forces, but as distinct systems operating according to their own internal logics while remaining coupled with other systems.

The material turn similarly complements systems theoretical insights by grounding abstract communications in concrete infrastructures and embodied practices. When scholars like Barad and Bennett emphasize matter's active role in social life, they provide a material correlate to Luhmann's emphasis on how systems process information according to their specific operational codes. Take the example of algorithmic content moderation: Systems theory shows how these operations maintain their autonomy through self-referential communications, whereas new materialism reveals how this autonomy is enacted through specific material arrangements of servers, databases and processing units.

OOO's insistence on objects' withdrawal from complete knowability aligns with systems theory's understanding of operational closure. Just as OOO argues that objects always exceed our ability to fully grasp them, systems theory shows how each system operates according to its own internal logic, inaccessible to other systems except through structural coupling. This theoretical convergence helps explain, for instance, why algorithmic systems often produce unexpected outcomes despite human attempts to control them—both approaches recognize the fundamental autonomy of different types of entities or systems.

These theoretical approaches also help address apparent limitations in each other's frameworks. Where systems theory might seem overly abstract in its focus on communications, new materialism grounds these processes in concrete assemblages of human and non-human elements. Conversely, where flat ontology might seem to risk losing sight of systematic operations in its emphasis on horizontal relations, systems theory provides a framework for understanding how different entities maintain their distinct operational logics while remaining interconnected.

The convergence becomes particularly apparent when examining digital phenomena. Consider a social media influencer's livestream: Systems theory reveals how this event operates simultaneously within multiple communication systems (economic, entertainment and technical), each processing the event according to its own code. Flat ontology shows how various elements (human performer, platform infrastructure, audience devices and algorithmic recommendations) contribute equally to the reality of the event. New materialism demonstrates how these elements come together in specific material-semiotic arrangements. Together, these perspectives provide a richer understanding than any single approach alone could offer.

Moreover, these approaches help resolve common critiques of each other. Where critics worry that flat ontology might obscure power differentials, systems theory shows how different systems

can maintain their autonomy while generating what appears as power concentration through their structural coupling. Where systems theory might seem to minimize human agency, new materialism shows how human intentions and actions emerge through specific material-semiotic arrangements while remaining within systems' operational closure.

This theoretical convergence suggests new directions for empirical research. Rather than choosing between focusing on communications, relations or materiality, researchers can examine how these different aspects come together in specific digital phenomena. For instance, studying platform governance would involve analysing both the autonomous operations of different social systems and the specific material arrangements through which these operations are enacted.

Moving forward, the challenge is not to choose between these theoretical approaches but to leverage their complementary insights. Systems theory provides the fundamental framework for understanding how society operates through distinct but coupled systems of communication. Flat ontology and OOO remind us that these systems exist alongside other types of entities in non-hierarchical arrangements. New materialism shows how these operations are always grounded in specific material configurations. Together, they offer a powerful toolkit for understanding digital sociality in all its complexity.

This theoretical synthesis helps resolve the apparent tension between material and virtual aspects of digital life, between human and algorithmic agency or between micro and macro levels of analysis. It suggests that these dichotomies themselves arise from failing to recognize how different systems and entities maintain their autonomy while remaining fundamentally interconnected through both communicative and material relations.

10 | The Digital Sociological Imagination: A Systems Theoretical Reconceptualization

The profound transformation of society through digital technologies demands not just new theoretical tools but a fundamental reconceptualization of how we understand social reality. Whereas C. Wright Mills' (1959) sociological imagination helped us grasp the connection between personal troubles and social issues, today we need what we might call a 'Digital Sociological Imagination'—one that recognizes society as operating through distinct but interconnected systems of communication.

This systems theoretical reconceptualization fundamentally transforms our understanding of core sociological concepts. Consider community, traditionally understood through human interaction and geographical proximity. What appears as 'networked individualism' (Wellman and Rainie 2012) can be more fundamentally understood as the operation of multiple communication systems, each processing information according to its own logic while remaining structurally coupled. Hashtag communities, for instance, do not simply represent temporary human gatherings but demonstrate how communication systems can rapidly generate and dissolve specific forms of communication processing. The layered nature of digital communities reveals how different social systems can simultaneously process

the same communications according to their distinct operational codes.

Our understanding of identity similarly requires radical rethinking. Although Goffman's dramaturgical approach provides valuable insights, from a systems theoretical perspective, what appears as multiple digital identities actually reveals how different communication systems generate distinct ways of processing personal communications. When we observe individuals adapting their self-presentation across platforms, we are witnessing not just strategic performance but how different digital systems process identity-related communications according to their specific operational logics. The apparent co-construction of digital selves through human interaction, algorithmic processing and AI manipulation demonstrates how psychological and various social systems remain operationally closed while developing complex forms of structural coupling.

Power in digital contexts similarly reveals its systemic nature. Rather than seeing algorithmic power or platform control as new forms of traditional power structures, we can understand them as revealing how different systems—technical, economic and political—process communications according to their distinct criteria while remaining interconnected. The viral spread of content demonstrates not just networked communication but how different systems can simultaneously process and amplify communications according to their own operational logics.

This systems theoretical understanding demands new methodological approaches. Digital ethnography, while valuable, must be reconceptualized to capture not just human experiences but the operations of different communication systems. Instead of simply transferring traditional methods to digital spaces, we need approaches that can trace how different systems process communications while maintaining their operational closure. The challenge of presence and absence in virtual environments reveals not methodological limitations but the fundamental nature of social systems as operating through communications rather than human presence.

The rise of big data and computational methods similarly requires systems theoretical reframing. Rather than seeing these as tools for capturing human behaviour, we can understand them as ways of observing how different systems process communications at scale. The integration of computational and interpretive methods becomes a matter of understanding how different analytical systems can remain operationally distinct while developing productive forms of structural coupling.

What appears as a collapse of micro/macro distinctions—a tweet spawning a global movement, an algorithmic tweak reshaping millions of behaviours—actually reveals how communication systems operate independently of traditional scalar distinctions. The needed 'scalar flexibility' is not just a methodological approach but recognition of how systems process communications according to their own internal logics while remaining coupled across apparent scales.

The phenomenon of 'glocalization' (Robertson 1995) similarly reveals how different social systems maintain their operational autonomy while developing complex forms of structural

coupling across geographical and cultural contexts. Global platforms do not simply impose uniformity but demonstrate how different systems can process the same communications according to distinct local and global logics.

This Digital Sociological Imagination, grounded in systems theory, represents not just new analytical tools but recognition of society's fundamental nature as operating through distinct but interconnected communication systems. It calls for a sociology that can trace these system operations while recognizing their autonomy and interconnection. As we develop this understanding, we position our discipline to grasp not just digital phenomena but the essential nature of social reality that digital contexts make increasingly visible.

11 | The Digital Sociological Horizon: System Operations and Sociological Practice

The transformation of sociological practice through systems theoretical understanding demands more than methodological innovation or ethical guidelines—it requires fundamentally reconceptualizing the relationship between sociological observation and its object of study. This reconceptualization has profound implications for how we conduct research, develop theory, and engage with social issues in digital contexts. Building on our historical analysis of theoretical developments, we can now articulate a more sophisticated vision of sociological practice that recognizes both the autonomy of different social systems and the unique position of sociology within the scientific system.

11.1 | Understanding Digital Methods Through System Operations

The methodological challenges we face in digital research reveal themselves differently when viewed through systems theory. Consider digital trace ethnography: Marres and Gerlitz (2016) have shown how digital methods require us to fundamentally reconceptualize the relationship between research tools and social phenomena. Their work on 'interface methods' demonstrates that when we track digital traces across platforms, we are not simply following individual activities but observing how distinct communication systems process and transform information according to their own operational logics. Rogers' (2013) concept of 'platform vernaculars' further illuminates how different digital systems develop their own distinct ways of processing and reproducing communications. When researchers track user behaviours across multiple platforms, they are witnessing what Venturini, Munk, and Jacomy (2019) describe as the autonomous operations of different social systems, each maintaining its distinct boundaries while remaining structurally coupled with others.

The development of computational methods similarly takes on new meaning through this lens. Halford and Savage (2017) argue that big data and computational approaches represent more than just new tools—they fundamentally transform how we understand social phenomena. What appears as simply combining qualitative and quantitative approaches actually represents, as Beer (2019) demonstrates in his analysis of 'the data

gaze', an attempt to develop novel forms of structural coupling between scientific observation and digital communication systems. Mackenzie's (2017) work on machine learning and social research shows how when we employ algorithmic analysis of social media discourse, we are creating specialized couplings between scientific, technical and social systems, each operating according to its own logic while remaining interconnected. This understanding helps explain why, as Crawford and Calo (2016) argue, purely technical solutions to research challenges often fall short: They fail to recognize how different systems process information according to their distinct operational criteria.

Virtual and augmented reality research presents particularly complex challenges that illuminate this systemic nature. Boellstorff's (2016) work on digital ontologies shows that rather than simply studying new technological environments, we are observing how multiple systems—technical, psychological and social—develop novel forms of structural coupling. Pink et al.'s (2016) research on digital materialities demonstrates that the challenge is not merely methodological but ontological: How do we observe systems that operate through their own self-referential logic while maintaining our position within the scientific system? This question becomes especially pertinent as we study what Hjorth and Pink (2014) identify as emerging digital phenomena that blur traditional boundaries between human and machine communication. Murray's (2020) recent work on virtual reality ethnography further illuminates how these new digital environments require us to develop theoretical frameworks capable of understanding both system autonomy and interconnection.

11.2 | Ethical Considerations Through Systems Theory

The ethical dimensions of digital research transform when viewed through systems theory, as demonstrated by recent scholarship in digital ethics. Zimmer's (2015) analysis of the Twitter archive at the Library of Congress reveals how institutional systems process and protect social media data according to distinct operational codes, whereas Kennedy (2016) shows how different social systems develop their own criteria for legitimate data use. D'Ignazio and Klein's (2020) work on data feminism further illustrates how privacy concerns in digital research emerge from interactions between scientific, legal, technical and personal systems, each operating according to its own logic. As Markham (2018) argues, this understanding helps explain why traditional ethical guidelines focused solely on human subject protection prove inadequate for digital research.

The question of algorithmic auditing particularly illuminates this systemic nature, as demonstrated by contemporary critical algorithm studies. Noble's (2018) analysis of search algorithms shows how technical systems process social distinctions, whereas Eubanks' (2018) examination of automated decision systems reveals how these operations couple with existing social inequalities. Benjamin's (2019) concept of the 'New Jim Code' demonstrates how algorithmic bias emerges from complex interactions between technical, social and institutional systems, each operating according to its own logic. Crawford's (2021) work on AI systems further shows how our ethical responsibility extends

beyond identifying bias to understanding how different systems reproduce and transform social distinctions. As Costanza-Chock (2020) argues in 'Design Justice', addressing these issues requires understanding how multiple systems—technical, social, economic and political—interact to produce and maintain patterns of discrimination.

11.3 | Sociology's Position in Digital Society

Our role as sociologists fundamentally transforms through this understanding. Rather than positioning ourselves as external observers or agents of change, we must recognize our participation in the scientific system as it couples with other social systems. When we advocate for algorithmic transparency or digital equity, we are not simply making normative claims but participating in complex interactions between scientific, political and technical systems. This systems theoretical perspective does not absolve us of ethical responsibility but helps us understand how our research practices participate in broader system operations.

This recognition suggests that effective intervention requires understanding how different systems process and respond to communications rather than assuming direct causal relationships between research and social change. The methodological innovations we develop must therefore do more than capture new forms of data; they must help us understand how different systems maintain their autonomous operations while remaining interconnected. This might mean developing research approaches that can trace system operations across multiple platforms and contexts while remaining sensitive to each system's distinct operational logic.

11.4 | Theoretical Development in Digital Contexts

The development of sociological theory in digital contexts demands more than merely adapting existing frameworks to new phenomena—it requires a fundamental reconceptualization of how we understand social reality itself. This reconceptualization, emerging from our historical analysis of theoretical developments, suggests that what appears as 'digital transformation' actually reveals society's essential nature as operating through distinct but interconnected systems of communication. As Marres (2017) argues in 'Digital Sociology', this insight transforms not just how we study digital phenomena, but how we approach theoretical development itself.

Contemporary scholars have begun to recognize this need for theoretical reconceptualization, though often without fully embracing its systemic implications. van Dijck, Poell, and de Waal (2018) analysis of platform society shows how digital platforms operate simultaneously as technical infrastructures, economic entities, and social spaces. Through systems theory, we can understand this multiplicity not as theoretical contradiction but as revealing how different social systems process the same phenomena according to their distinct operational logics. When Plantin et al. (2018) describe platforms as 'infrastructural platforms', they are identifying how technical systems maintain their operational autonomy while developing complex forms of structural coupling with other social systems. Gillespie's (2018)

work on content moderation illuminates this systemic nature particularly well. What appears as platform governance actually reveals how different systems—technical, legal, economic and political—process the same events according to their distinct operational criteria. Roberts' (2019) ethnographic study of commercial content moderators shows how these workers navigate between different systemic logics, whereas Seaver's (2019) analysis of algorithmic systems demonstrates how technical operations maintain their autonomy while remaining coupled to other social systems. This understanding helps explain seemingly contradictory phenomena in digital contexts. Consider how platform content moderation simultaneously operates according to technical possibilities (what can be automated), economic imperatives (what serves business interests), legal requirements (what must be removed), and social expectations (what users consider appropriate). Each system processes these decisions according to its own logic while remaining structurally coupled to others. As Bucher (2018) shows in 'If... Then', algorithmic systems develop their own operational criteria while maintaining complex relationships with other social systems.

Couldry and Hepp's (2017) concept of 'deep mediatization' can be reframed through systems theory as describing how different social systems develop increasingly complex forms of structural coupling through digital technologies. Similarly, Lupton's (2019) digital sociology framework suggests how our discipline must develop theoretical approaches capable of capturing both system autonomy and interconnection. Esposito's (2017) work on artificial communication shows how algorithmic systems operate according to their own logic while remaining coupled to other social systems. Looking forward, this theoretical development suggests several crucial directions for future research. First, we must examine how digital technologies make visible society's systemic nature rather than asking how they change society. Kitchin's (2017) work on data infrastructures and Beer's (2019) analysis of data analytics show how different systems process and reproduce information according to their own logics while remaining coupled to other systems. Second, we need frameworks capable of capturing how digital technologies enable new forms of structural coupling between systems, building on Mackenzie's (2017) work on machine learning and Zuboff's (2019) analysis of surveillance capitalism.

Most fundamentally, we must recognize how this theoretical development transforms our understanding of social change itself. Rather than seeing change as driven by either technological or social forces, we must understand how it emerges from complex interactions between autonomous but interconnected systems of communication. This means developing theoretical frameworks that can capture both the distinctness of different social systems and their complex interconnections, while maintaining sociology's position within the scientific system. This theoretical synthesis offers not just new ways of understanding digital phenomena but a more fundamental grasp of how society operates through distinct but interconnected systems of communication. It positions sociology to generate insights that can enhance our understanding of both digital contexts and social reality more broadly while maintaining the scientific rigour necessary for theoretical development. As digital technologies continue to make visible society's systemic nature, this understanding becomes increasingly crucial for sociological theory and practice.

12 | Conclusion

Our exploration of digital sociality has revealed something more fundamental than simply new social phenomena requiring updated theories. What we witness in digital contexts makes visible society's essential nature as operating through distinct but interconnected systems of communication. The emergence of digital platforms, algorithmic systems and networked communications has not merely changed how people interact; it has made apparent how social reality has always functioned through the autonomous operations of different communication systems. Throughout our analysis, we have seen how various theoretical traditions—from classical sociology through contemporary digital theories—have struggled to grasp this fundamental reality. Classical theorists like Weber, Durkheim and Simmel provided sophisticated observations of social phenomena but interpreted them through human-centred frameworks. Later developments in feminist theory, practice theory and network analysis pushed towards more systemic understanding but often maintained focus on human agency or structural determination. Even recent approaches to digital phenomena, while recognizing the importance of non-human actors and technological systems, frequently retain aspects of human-centred analysis.

Contemporary digital sociology scholars have begun to recognize this limitation, even if not explicitly adopting systems theoretical language. Van Dijck et al.'s (2018) analysis of platform society, Gillespie's (2018) work on content moderation and Marres' (2017) digital sociology framework all point towards the need to understand how different systems maintain their autonomous operations while remaining interconnected. Their work demonstrates how digital phenomena resist reduction to either human agency or technological determinism, instead revealing the complex interactions between distinct but coupled systems. Systems theory transforms this theoretical landscape by revealing how what appears as human interaction, structural constraint or technological mediation actually emerges from the autonomous operations of different social systems. Each system—whether economic, political, scientific or technical—processes communications according to its own internal logic while remaining structurally coupled with other systems. Digital technologies have not created this reality but have made it increasingly difficult to ignore.

This understanding fundamentally transforms sociological practice. Our research methods must shift from attempting to capture human behaviour or social structures to observing how different systems process and reproduce communications. Contemporary methodological innovations already implicitly recognize this need. Digital trace ethnography becomes a matter of tracking system operations across platforms. Computational analysis represents not just new tools but new forms of structural coupling between scientific and technical systems. Even our ethical concerns transform from questions of human rights to understanding how different systems process and protect information according to their distinct operational codes. Sociology itself operates as part of the scientific system, maintaining its own logical autonomy while developing productive forms of structural coupling with other systems. When we conduct research or advocate for change, we are not directly intervening in social reality

but participating in complex interactions between scientific, political, technical and other systems. Our insights become available for other systems to process according to their own operational criteria.

Looking forward, our task is not to predict or control social change but to develop increasingly sophisticated understanding of how different social systems operate and interact. This means creating conceptual frameworks and methodological approaches that can trace system operations while respecting their autonomy. It means recognizing that social change emerges not from direct intervention but from complex interactions between multiple systems, each processing communications according to its own logic. The profound nature of this transformation should not be understated. We are not simply adding new concepts to our theoretical toolkit or updating old frameworks for digital contexts. Rather, we are recognizing how society has always operated through communication systems, a reality that digital phenomena make increasingly apparent. This recognition positions sociology not as an external observer or agent of change but as a system of scientific communication developing productive resonances with other social systems.

In this light, sociology's contribution to digital futures lies not in directing social change but in generating insights that different systems can process in ways that enhance their operational effectiveness while maintaining their autonomy. This contribution becomes particularly crucial as digital technologies continue to make visible the systemic nature of social reality. From platform governance to algorithmic systems, from digital infrastructures to automated decision-making, sociology's systems theoretical understanding offers crucial insights into how different systems maintain their autonomy while remaining productively coupled.

This systems theoretical reframing does not diminish sociology's relevance but transforms how we understand it. Rather than trying to bridge micro and macro levels or reconcile structure and agency, we recognize these distinctions as artefacts of earlier theoretical frameworks. Instead, we focus on understanding how different systems maintain their autonomous operations while remaining interconnected through ongoing communications. This approach offers not just new analytical tools but a more fundamental grasp of how society operates in both digital and non-digital contexts. The challenge ahead is significant but also clarifying. By embracing this systems theoretical understanding, we position sociology to generate insights that can enhance the operational effectiveness of different social systems while maintaining their autonomy. This represents not just theoretical sophistication but practical wisdom about how social change actually emerges from the complex interactions of autonomous but interconnected communication systems.

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