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Ideas, in Motion: Twenty-five Years of Rethinking Relations and Knowledge at the COI

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Abstract

The Center on Organizational Innovation (COI) at Columbia University celebrates its twenty-fifth anniversary, and this essay reviews this quarter of a century of conceptual and methodological innovations at COI in the area of networks, communication, and knowledge. The content of these concepts has changed markedly, partly due to advances within interdisciplinary encounters, and partly due to fundamental changes in underlying social phenomena. COI scholars strived to understand such novel phenomena by methodological innovation with conceptual richness, engaging with temptations to adopt simplistic and atavistic imageries of sociation and agency in interdisciplinary fields. The fields of network science, knowledge networks, and online communications are three areas where COI research brought novel insights, that challenged dominant perspectives, marrying an ethnographer's mindset with a broad range of quantitative methods. In addition to reviewing COI research achievements, I also outline key contemporary empirical puzzles, where perspectives from COI remain relevant and fruitful.

Keywords: Networks; Knowledge; Communication.

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1 Introduction

The Center on Organizational Innovation (COI) at Columbia University celebrates its twenty-fifth anniversary of operation: a quarter century of rethinking and inventing questions and arguments about sociation and novelty, with a committed community and a wonderfully dynamic flux of scholars. In a way, the Center itself is an exercise in organizational innovation, with a shared pragmatic stance towards intellectual experimentation, disciplinary and methodological hybrids, and scholarly community-building in real and virtual spaces.

Networks, knowledge, and communication are three related concepts at the heart of COI scholarship, concepts along which COI researchers have challenged dominant frames, and contributed to paradigm shifts. In this essay, I review the emerging contours of an intellectual style and research community, and its impact via the lens of these three concepts, where novel methods and technologies provoked unique intellectual contributions. I argue that the three concepts represent three cases where COI research overcame temptations of validity shortcuts: temptations to recline back on simplistic and retrograde conceptions of sociation and agency, that are often mobilized when novel methods or technologies appear.

We have repeatedly witnessed that the appearance of a novel method, technology, or media of communication would provoke a rush of sensemaking — and with it, an influx of attention from a wider range of fields — and this influx of progressive attention then (somewhat paradoxically) would lead to a retrogression to superseded conceptual frames. One can think of the example of the recent literature on "social physics" that operates with contemporary data science methods, but with nineteenth-century conceptions of social processes. I argue that research at COI was developed in an active dialog with validity deficits brought about by "progressive retrogrades" in literatures about network science, internet communication, or digital platforms. One possible reason for the immunity of COI research to validity deficits might be an ethnographic commitment to faithfully conceptualize and document lived experience, and an omnivorous eagerness to adopt and hybridize novel quantitative and qualitative methods from across disciplines. In this short essay, I can only pose and illustrate this hypothesis, that temptations to adopt simplistic imageries of sociation and agency that we often see in interdisciplinary fields can be resisted by marrying an ethnographer's mindset with a broad range of innovative large-scale methods.

In this brief text, I have little space to document the richness of COI research that detected and explored novel phenomena in a wide range of problem areas, from new forms of civic activism to the transformation of trades in finance, from experimentation in small-group co-creation to transforming global value chains. I merely offer a brief outline of conceptual developments in the areas of networks, knowledge, and communications; and I only mention a few contemporary empirical puzzles where ongoing work at COI keeps contributing to our understanding of these areas.

2 Conceptual Innovations

The concept of networks had repeatedly reinvigorated social scientific imagination, by being a useful container of ideas that were both structural and agentic at the same time. Starting from Georg Simmel's insights on the interplay of individuality and sociation a century ago, social scientists subsequently used the metaphor of networks to theorize about the meso level of communities, positions, and roles. Around the turn of the millennium, we witnessed rapid expanses in methods and capabilities to analyze large network datasets, and social scientists engaged in

novel interactions with physicists, graph mathematicians and computer scientists, working to understand the relatedness and complex dynamics of contemporary life. Scholars at COI were deeply involved in this turn that saw the emergence of network science, and contributed crucially to understand everything from the emergence of global economic-financial relations to the emergence of global publics, from entrepreneurship through activism to the arts.

The paradox in the stellar career of the network concept is that while methods had evolved with high speed into the twenty-first century, conceptions of social relatedness and agency had taken a retrograde path, in some ways reverting to imageries and conceptual building blocks from the nineteenth century. Our methods had seen waves of exciting developments, such as imports from statistical physics and graph mathematics, or from developments in machine learning (like neural networks predicting entire graphs or connecting large language models into dynamic networks). At the same time, conceptions of social dynamics in the new social physics of networks often repeat misunderstandings from the nineteenth century, atavistic conceptual leanings that Charles Tilly alerted us about already back in the 1980s: taking individuals to be the atoms of society, thinking of change as a coherent phenomenon, or reifying structures as externally given, a-temporal, and deterministic. In a way, borrowing exciting methods from the natural sciences brought with it an unwanted tangle of validity concerns that the social sciences have already fought so hard to untangle in the 1980s and the 1990s, under the banner of a relational agenda to amend deficiencies of structuralist and methodological individualist thinking.

Researchers at COI had constantly challenged vulgar structuralism and urged us to think of networks inseparable from agency and symbols. Our excitement about the network metaphor is less about charting fundamental mechanisms of tie formation and macro scale reachability, but rather we see networks as tools to understand emergence, social change, and success. We would focus on possibilities and agency in the context of networks, instead of a formalist determinism. We would take the dyad as a social atom, and not the individual. We think of network ties as stories and — sometimes shared, sometimes challenged — interpretations. Work at COI had provided proof that relational thinking can be aligned with analyzing large-scale network datasets, and that adopting methods from network science should not also mean subscribing to a formalist-determinist mode of theorizing, as in social physics.

The trajectory of the concept of networks was largely mirrored in the trajectory of the concepts of knowledge and communication. These concepts have also been filled with radically new content over the past twenty-five years, as we saw a wave of research in business and organizations about the relationship between knowledge and networks. The main keywords in this literature were efficiency and diffusion: Organizations are better off if they nurture efficient networks that help diffuse knowledge, fast and wide, to help the creation of new knowledge.

In parallel to the simplified conceptions of structure and agency in network physics, business school researchers often reverted to a nineteenth-century imagery of networks and knowledge, portrayed as an efficient circuitry where durable packets of knowledge can circulate without resistance and loss. The major deficiency of this imagery is that it leaves the core problem of the creation of novel knowledge unaddressed. Business school literatures typically connect knowledge networks with the frame of innovation, which is about the organization and management of novel solutions, rather than the creation of novelty itself. This literature places most of its bets on the broker: an actor strategically placed at intersections of flow, privileged by their strategic location to capture bits of ideas before others.

Researchers at COI were attuned to the blind spot innovation leaves about invention, and saw knowledge networks via the lens of conflict and productive friction, rather than media-

tion. Truly novel ideas will not likely appear by assembling pieces of information that brokers can capture. First, it is unlikely that the key knowledge ingredients of truly novel ideas are so portable that they could travel vast distances in a social network, and still retain their usefulness in potential recombinations. Second, nothing would guarantee that communities would readily disseminate the results of their knowledge explorations to outsider brokers. Instead of diffusion, researchers at COI think in terms of switchings, translations, and creative tensions.

The establishment of COI also coincided with one of the most profound and exciting in-vivo experiments in human history: the explosion of digital communications and the internet. The past twenty-five years in communication technologies and practice have been a momentous transformation comparable to the Gutenberg era. Communication technology has not only revolutionized business, politics, and culture, but also resulted in the emergence of the radically new organizational form of the platform. In that respect the digital transformation is a fundamental economic change comparable to the post-socialist era.

COI research had always been oriented towards understanding emergence, and documenting cases of profound societal transformations. The case of digital transformation was also seen to be a case of social change, where new actors, organizational forms, and economic-political systems emerge. First, COI researchers pioneered techniques to map the relational meso-structures of digital publics in the form of blogospheres around the world, documenting the significance of symbolic linkages and divide in the structure of these fields. COI research then also documented the fundamental transformation of entrepreneurship and co-creation in the digital age, with novel tech start-ups, project ecosystems, and novel ideas of labor, value, and creativity. A recent synthesis at COI documents the organizational nature of platforms, and the novel aspects of algorithmic management, that stretch the understanding of organizations beyond the paradigm of networks.

3 Empirical Puzzles

Research at COI — and the COI approach to resist temptations of validity deficits — continues to be relevant today, as we start the second quarter of a century of engagement with the intertwined phenomena of networking, communications, and knowledge creation. There are several questions, puzzles, paradoxes, where these three concepts meet; my aim here is to outline a few puzzles as examples to highlight that it is the combined advance both with methods and imageries that can fuel advances in the social sciences.

What networking entails is fundamentally influenced by communication affordances, and the nature of public arenas. It is difficult to imagine any form of social relatedness today that could exist completely outside of digital communication technologies. Consider how you have shared your working papers twenty-five years ago, and how you share them now. Similarly, the nature and role of knowledge are fundamentally shaped by how we interact, and how we devise organizational forms where old knowledge can be challenged and new knowledge can be created. Reflect on how you or your students discovered a new scientific publication twenty-five years ago, and how they do now. We now have journals that publish more than 20,000 articles a year, and we now employ large language models in our reading and writing practice, to summarize entire fields of literature.

Fundamental transformations often present puzzling contradictions, opening new frontiers in our research agendas. One paradox in the transformation of networking is that by making ties infinitely cheap (as we can maintain our connections via social media ties and video calls), the resulting macro-scale transformation of networks is not towards a flatter, denser, and

more inclusive structure, but towards radical centralization and inequality. Hubs and sociometric stars dominate like never before: the limit to sociometric dominance is only our cognitive limit to manage connections — until we can augment our social cognition with artificial intelligence.

A key paradox in the transformation of knowledge generation and communication is that easier access to knowledge made it easier to obscure knowledge as well and made it harder to engage in debates. While we have infinitely easier access to information compared to twenty-five years ago, it has become much easier to deny knowledge and information by "noising out" — by obscuring via fast and ubiquitous fake voices. Our practices of knowledge discovery and creation in almost all fields (on markets, politics, in science) still rely on a concept of a public that might no longer exist.

The digital transformation had brought with it the emergence of non-human social actors with almost human capabilities. Social bots (social media algorithmic agents with high levels of automation) have progressed in fifteen years from a possibility discussed at computer science conferences to a reality that now takes up more than half of the social media public. Questions that this phenomenon raises are truly profound: not only do we see a change in what a political public was, but we might also see a fundamental transformation of how humans relate to one another, and how trust and community evolve in hybrid human-artificial collectives.

The paradox in organizational form is that a transition to data-infused platform organizations that emerged from a culture of data sharing and digital transparency has made data more exclusive, elusive, and uncertain than ever before. While we had high hopes in the social sciences that society could be understood in fundamentally new ways via the big data revolution, we now see that data traces of social behavior are algorithmically distorted and obscured by platforms, and our windows of access are closing, rather than opening. Conventional inequalities (for example, by gender) are deepening, rather than disappearing, and our opportunities to document them are being lost.

Research at COI continues in the next quarter of a century, with excitement and opportunity, but also with a sense of responsibility: Our methodological tools continue to develop, as we now have access to large language models and other machine learning tools. At the same time, social phenomena keep increasing in complexity, as artificial agents increasingly become social agents as well. Interdisciplinary encounters bring about novel validity deficits, where a unique COI perspective will always have relevance, to marry exciting methodological tools with conceptual richness.

4 COI Readings

Research at COI resulted in hundreds of publications in the area of networks, knowledge, and communication. I highlight a few representative publications that can give a good overview of how COI research engaged in this field.

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