New Data, New Concepts? Sociological Theory and Big Data in the Era of Computational Social Sciences

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The digital age has brought about an unprecedented availability of new and diverse data sources (Macy, 2015, p. 2). Social media platforms, websites, digital archives, sensor networks, and transactional records provide vast quantities of information about human behavior, interaction, and social organization. This influx of new kinds of data has been accompanied by the rapid development of methods to analyze it, particularly within the emerging field of *Computational Social Sciences*. Methods such as social network analysis, quantitative text analysis, and machine learning have advanced significantly and found applications far beyond sociology, extending into fields such as computer science, information science, and social physics (e.g., Tindall et al., 2022). Meanwhile, artificial intelligence and machine learning are increasingly employed to extract patterns, predict behaviors, and model social phenomena (e.g., Borch & Pardo-Guerra, 2023). At the same time, methods have emerged that allow for the analysis of large volumes of textual data (e.g., Evans & Aceves, 2016; Macanovic, 2022; Nelson, 2020). These tools and techniques have transformed the ways in which we approach, frame, and analyze social data.

While computational methods and data analytics have expanded our technical capabilities, there is a growing recognition that sociological theory has not evolved at the same pace to adequately address and interpret the complexities of the digital era. Existing theories often struggle to incorporate or make sense of digital phenomena, leading to a gap between empirical findings and theoretical understanding (e.g., Bonikowski & Nelson, 2022; Schwarz, 2021, p. 2). Simultaneously, the traditional role of social theory is fundamentally changing. The challenge shifts "from thinking about the most cost-effective data that one needs to collect in order to support, or refute, a hypothesis, to figuring out how to structure a mountain of data into meaningful categories of knowledge" (Goldberg, 2015, p. 2).

To address this challenge, sociologists must engage in *conceptual and theoretical innovation*. This involves revising and expanding conceptual frameworks to make them compatible with and relevant to the analysis of digital data. Such an endeavor would not only strengthen the explanatory power of sociology but also enhance its capacity to provide meaningful interpretations of digital interactions, structures, and their societal implications.

We ask for contributions that study processes both at the conceptual and interpretative level of social theory and address at least one of the following questions:

1) How do core sociological concepts evolve in the context of processes such as datafication and platformization? What do notions like "action" and "agency," "communication," or "interaction" mean in the digital space? How should foundational concepts like "social structures" and "order formation" be reinterpreted when they emerge on platforms? What constitutes digital actors and digital "identities"?

2) How do digital platforms – as new forms of social organization – influence the differentiation of society? How do they affect social inequality? How does the culture of society change in relation to its social structure? How are processes of social inequality reconfigured in the digital era?

Workshop Format and Submission Guidelines

The workshop is aimed at scholars at various stages of their academic careers. We are seeking contributions that advance the development of sociological theory and, at the same time, engage empirically with digital data or apply methods from Computational Social Sciences. The central question guiding this workshop is to articulate the challenges that arise for sociological theory in response to the engagement with "new data."

Please send your short paper (3 to 5 pages) to Insa Pruisken (pruisken@uni-bremen.de), Josefa Loebell (loebell@uni-bremen.de), Sarah Tell (sarah.tell@uni-bremen.de), and Thomas Kern (thomas.kern@uni-bremen.de). Submission date is **February 14, 2025**.

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