Beyond Information Determinism to Information Orders:
A New Framework for Policy

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Abstract
The mythology of *information determinism* – that access to the "right" information will precipitate desired actions – is common in policy arenas and develop. We identify information determinism in three programs in international development, education, and disaster response, describing their information deterministic framing and the implications of the mythology of information in action. As an alternative, we propose the framework of "information orders" to provide a more grounded framework for understanding the production and circulation of information in policy or development projects.

"Information determinism" is the idea that "information," in the abstract, can motivate specific behaviors and outcomes amongst those it targets. An information deterministic vision focuses on access to information and believes that access will automatically lead to predictable outcomes, while the practices and conditions before, during, and after access are relatively unimportant to this vision. Some of the same scholars in science and technology studies who have been theorizing technological determinism for decades use information-deterministic tropes in describing the utopian (or dystopian) futures that will naturally follow from the Internet, globalization, or other abstract concepts (Tsing, 2006). More recently, information deterministic discourses have crept into the "big data" obsession, where commentators (who are generally not in the trenches of machine learning or critical scholars of technology, but who are making policy decisions affecting both) rhapsodize about how the mere existence of this data will solve seemingly insurmountable problems.

Our poster presents three case studies to demonstrate why policies underpinned by information determinist ideologies are problematic: an analysis of the disaster plans for the 1989 Loma Prieta earthquake in California, USA; the Information Village Research Project in Puducherry, India; and the One Laptop per Child project in Caacupé, Paraguay. We show how each of these initiatives, in its own way, placed an abstract notion of "information" at the center of its working and pinned its hopes on "information" leading to the goals it espoused. But we find that "information" rarely causes the transformations that these projects hoped. We find, furthermore, that a deterministic vision obscures how information is leveraged in practice, often hiding the real agents and pathways of power in the process.

In examining discrepancies between information deterministic claims and information practices, we found that the idea of "information" (in the abstract) morphs well, lending itself well to be leveraged in support of goals in each of our cases. We also find that the attribution of value and agency to information in these claims obscured several key factors in shaping its production, circulation and use. This includes the role of social structures (e.g. the panchayat leaders left out of information need mappings in the case of IVRP), the agency of participants (e.g. children given access to Internet-enabled computers were meant to become engaged in certain kinds of learning), and the material form of information (e.g. disaster response plans focused on making information available without specifying how). Moreover, a focus on "information" shifted attention away from what was actually being transformed in each case.

Overall, we find that information determinism ignores the sociomaterial circumstances of information production and circulation, including how social structures, individual agency, and materiality shape information in practice. Although policies prescribing information cures to social problems have rarely been effective, we do not deny that "information" can be made useful. However, we argue that

policy needs to move away from focusing exclusively on information access and its information deterministic framing, instead addressing the sociomaterial practices of those it is meant to benefit.

If an "information deterministic" perspective of the sort we outlined in our cases dominates current policy, and such a perspective obscures politics, complications, and fresh possibilities, what are alternatives to it? Several theoretical interventions have attempted to account for both technology and the social world (ANT, SCOT, socio-technical systems, etc.), but these have not specifically addressed information and the particular problems that information determinism presents.

To address the disregard for social structure, agency and materiality in discussions concerning information, we propose using a modified form of C.A. Bayly's idea of an "information order." By information order, Bayly refers to an assemblage and arrangement of information systems, as well as channels, forms and agents of communication, defining it "as a type of social formation rather than as a simple adjunct to existing economic forces or a neutral technological process" (Bayly, 2000, p. 4). Bayly uses "information order" as a heuristic to analyze the British surveillance apparatus in colonial India from the late eighteenth through the 1857 revolution against the British in India (Bayly, 2000). While current policy approaches information as an input in transactions, with universal properties and intrinsic value, that circulates according to the laws of demand and supply, we find the framework of an information order allows us to think of information in terms of the conditions of its production as well as the social formation within which it circulates.

References

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Tsing, A. (2006). *Friction: An Ethnography of Global Connection*. *PoLAR: Political and Legal Anthropology Review* (Vol. 29, pp. 291–296). doi:10.1525/pol.2006.29.2.291