Was that capitalism? A future-oriented big data analysis of the English language area in the 19th and 20th century

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ABSTRACT

As foresight and futures studies depend on the pertinence of our knowledge of the present and the past, this article tests whether the English language area may be adequately described as secularised and capitalist between 1800 and 2000. We are using the Google Ngram Viewer to chart and interpret time series plots of combined frequencies of pertinent keywords in the largest Internet book corpus, the Google Books corpus. The results suggest that the English language area is a secularised, politicised, scientificised, and ultimately also mediatised language area which has never been dominated by the economy. We conclude that the sample period may not be characterised as capitalist if we associate capitalism with any form of over-average importance or even dominance of the economy and suggest that popular social macro trend statements be regularly turned from implicit assumptions into explicit research questions so as to reduce the risk that inadequate trend assumptions are projected into the future.

1. Introduction: a big data approach to social mega trends

Social science is naturally interested in the identification of large-scale social trends, many of which have been the object of extensive commentary and controversy. There is a broad agreement, for example, that the Western societies have been exhibiting the secularisation trend over the course of the recent centuries (Fuller, 1997; Hicks, 2000; Inayatullah, 2000; Introvigne, 2004). As early as in 1891, the last century has also been described as the *political century* (Bauer, 1891) and since then, not infrequently characterised by the *total* primacy of politics. Very common, too, are the diagnoses of the growing dominance of the economy (Boltanski & Chiapello, 2007; Castells, 1998; Cohen, 2003; Drucker, 1970; Esping-Andersen, 1990; Florida & Kenney, 1993; Fuchs & Dyer-Witheford, 2013; Mathews, 2011; Marglin & Schor, 1960; Moulier-Boutang, 2011; Tyler, 2015). The rise of the information technologies has engendered a new wave of diagnoses pointing out the growing domination of society by (those who control) the (new) media (Schiller, 1996; Chomsky, 1997; Castells, 1998; Fuchs, 2015, 2016), "not to mention a myriad other social, religious, political and scientific grand theories" (Berthon & Katsikeas, 1998, p. 153).

While offering many useful insights, these and other investigations of large-scale social trends face at least two major challenges.

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First, in view of the observed coexistence and the often-perceived partial overlapping of some of these trends, it is difficult to see their comparative dynamics. Some trends may be more salient than others. A mere documentation of particular trends, therefore, does not allow establishing this variation. Second, and perhaps more crucial, the investigations of large-scale social trends probably entail their own performativity effects (Fuller and Loogma, 2009). True to the spirit of the Heisenberg principle, the scholarly identifications and discussions of these trends may reinforce them. The complexity of the performativity effects, however, may be observed to go beyond the Heisenberg principle and to touch upon the Foucauldian association between knowledge and power. The dominance of any particular function system, such as the economy, entrenches and reinforces a broad spectrum of cumulative advantages enjoying the positions of political power, legal privilege, favourable health state, or better access to the mass media. It does not seem far-fetched to conjecture that these vested interests will promote knowledges and discourses (re)affirming the identified domination patterns. Against this backdrop, it seems plausible that the question such as "Does capitalism have a future?" (Heilbroner, 1982; Streeck, Calhoun, Toynbee, Etzioni, & Heilbronner, 2016; Streeck et al., 2016; Wallerstein, 2013; Wallerstein, Collins, Mann, Derluguian, & Calhoun, 2013) invites not only lively discussions (Izak, Mansell, & Fuller, 2015), but also numerous practical efforts by those vested interests that seek to make sure that the answer will be positive.

The present paper contends that both of these challenges can be met, and features one of the first attempts to do so. The conceptual framework that enables a meaningful comparison between the apparently disparate social trends is provided by Niklas Luhmann's (1977, 2013) theory of functional differentiation, i.e., the decomposition of the modern societies into function systems, such as the economy, law, politics, science, education and others (for a comprehensive account of further function systems see Roth & Schütz, 2015). Today, functional differentiation is widely regarded as the dominant form of social differentiation of modern societies (Beck, Bonss, & Lau, 2003; Bergthaller & Schinko, 2011; Kjaer, 2010; Leydesdorff, 2002; Luhmann, 1977; Luhmann, 2013; Roth, 2017a; Valentinov, 2015a, 2015b; Ward, 2006). According to Luhmann, function systems are incommensurable in terms of their operations, but none of them is more important or privileged than any other, such that the regime of functional differentiation can be taken to rest on their functional equality. Logically, the historical transition from the stratified society to the functionally differentiated society must have been associated with the rise to prominence of every function system, with the exception of religion, which has been losing traction over the course of modernisation. The notion of functional differentiation makes clear that the isolated observations of religious or economic trends do not suffice to prove or disprove that modern societies are adequately described as secularised or economy-biased. The observation of an increasing importance of the economy, for example, does not yet imply that the concerned society is actually dominated by the economy. In a similar way, the secularisation trend does not logically preclude that religion retains an important role. The question whether or not modern societies are on the whole characterised by overarching trends can only be decided through the overall comparison of the dynamics of all function systems.

In methodological terms, this sort of comprehensive and comparative analysis of the unfolding functional differentiation can be undertaken by using the Google Ngram Viewer to chart time series plots of annual word counts as found in the world's largest online text corpus, the Google Books corpus. This is a huge data set permitting to test the plausibility of big narratives such as the secularisation, economisation, politicisation, and mediatisation of society, in the English language area between 1800 and 2000. It is clear that the application of the Google Ngram Viewer to the Google Books corpus does not provide any "objective" measure of the functional differentiation for at least two reasons. First, this measure is conceptually framed by the very notion of the functional differentiation which is imposed in a sense on the data being analysed. Second, the proposed analysis can only establish the proliferation of function systems in terms of "counting words" employed in the literary communication. Both of these reasons, however, make the analysis meaningful to begin with. First, it is only against the overall conceptual backdrop of functional differentiation that the comparison of the dynamics of particular function systems such as economy or religion becomes possible. Second, the Foucauldian power/knowledge nexus suggests that the literary discourse can be taken to reflect the evolving power configurations which are inextricably linked with vested interests benefiting from the rise of specific function systems. If performativity effects have ever been real, it is through discourse analysis that this reality can be ascertained.

The English language area covered by this analysis certainly includes heterogeneous countries and historical contexts that defy easy broad-brush generalisations. Nor are such generalisations attempted here. This does not preclude, however, the overarching interest of the present paper in the relative salience of the economisation trend, i.e., the trend of the overall dominance of the economic system. This interest is justified by the fact that the Anglo-Saxon countries, as a major constituent of the English language area, have been the premier site for the rise of liberal institutions often associated with the unabated capitalism relatively uncontrolled by the political system. The emerging hypothesis that the economic system could have "overshadowed" all other function systems gains particular significance in the context of the evolutionary governance theory, a multidisciplinary research programme addressing the way in which societies, markets and governance evolve (Beunen, van Assche, & Duineveld, p. 3) through the inquiry into path-, inter- and goal dependencies as reflections and enactments of the coevolution between actors, institutions, and discourses (Beunen et al., 2015, p. 28).

While path-dependencies refer to the unique historical legacies of the countries included into the English language area, interdependencies highlight the complementarities of the function systems each of which is critically dependent on the functioning of the other ones. Against the backdrop of interdependence, any form of unchecked expansion or totalisation of any function system, such as the economy, may adversely reverberate through the whole functionally differentiated society. Goal dependencies "include performative effects of policies and plans. They can become reality or shape reality in certain regards. If performative effects are observed, actors in governance will quickly ascribe these to the institution having 'worked', to the correctness of embedded predictions, assumptions, core concepts, narratives, steering mechanisms and management techniques" (Beunen et al., 2015, p. 29). It is goal-dependencies that ultimately motivate the present paper's interest into the self-reinforcing and self-justifying diagnoses of the proliferating economisation of society. If these diagnoses cannot be empirically confirmed, it will be difficult to resist the impression of