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Digital Modernity

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Digital Modernity

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ABSTRACT

“Modernity” is a social, cultural or historical descriptor for a certain type of society or set of social arrangements. This monograph reviews narratives of digital modernity, without endorsing them; as narratives, they selectively discuss aspects of our sociotechnical context, descriptively, teleologically or normatively. Digital modernity narratives focus on the possibilities of the data gathered by an ambient data infrastructure, enabled by ubiquitous devices such as the smartphone, and activities such as social networking and e-commerce. Some emphasise continuities with 20th century modernity narratives, while others emphasise discontinuity, such as theories of the singularity. Digital modernity is characterised by: a subjunctive outlook where people’s choices can be anticipated and improved upon; the valorisation of disruptive innovation on demand; and control provided by data analysis within a virtual realm (cyberspace or the metaverse) which can be extended and applied to the physical world (in such applications as the quantified self and the smart city). The synergies and tensions between these three aspects are explored, as are the opportunities for and dilemmas posed by misinformation. Five principles emerge from the study of relevant texts and business models: (1) the quantity of data being produced in the world has enabled, and been enabled by, technological, social, economic and

cultural change, and as such is a marker of a qualitative change in modernity; (2) digital modernity is a subjunctive world in which reflexivity and choice are outsourced to the ambient data infrastructure; (3) since personalisation replaces choice in digital modernity, and since effective personalisation demands knowledge about the individual on the part of the personalised service provider, privacy is now an obstacle to the delivery of digital modernity; (4) to exist is to be backward; (5) the best that hapless reality can achieve is to get closer to the perfection of the algorithm and the data. To conclude, digital modernity is contrasted with other theories of the 21st century information society, including postmodernism, the network society and ANT.

Keywords: digital modernity; data; smart technology; ubiquitous technology; sociotechnology; Web Science

1

Introduction

“Modernity” is a social, cultural or historical descriptor for a certain type of society or set of social arrangements. It may be associated with a particular historical period, delineated by a range of dates (e.g., 1500–1989), or with particular properties that a society may exhibit (e.g., individualism, or rational-scientific problem-solving). Although, in ordinary language, a “modern” society usually means current society, or a particular rational ideal of it, this social scientific use of the term “modernity” leaves open the possibility that it describes the past. Those who believe modernity has ended or passed have often suggested that current societies are *postmodern*.

For reasons that will become clear, modernity is a contentious and disputed term, often understood implicitly. It is a way of describing and classifying highly complex, dynamic and emergent aggregate social phenomena, and so dramatically simplifies such contexts. However, the language of modernity remains attractive to commentators, academics and policymakers. In this monograph, I will review the literature that characterises what I will call *digital modernity*. It is important to realise that this monograph is a review; I do not endorse the descriptions and narratives of digital modernity and am not proselytising. I do, however,

contend that they are influential and important for understanding 21st century sociotechnological development. This monograph *reports* a class of narrative description; it does not defend it.

The terminology can get confusing, partly because it is fought over by historians, sociologists, political scientists and philosophers, critics and others in the humanities, and non-academic journalists and commentators. Those who wish to be interdisciplinary, or who wish to reach wider or more general audiences (as in this monograph), end up blending these terms to render them even more baffling. Hence, to orient ourselves initially:

- *Modernity* itself is a cultural condition, which could be rendered as an aggregate of social phenomena, a narrative or a logic. It refers to and defines a *modern* society.
- *Modern* is an ambiguous adjective, either describing a society that meets the conditions of modernity, or referring to a period of time in which such societies flourished.
- *Postmodernity* is a cultural condition of a society that has passed through modernity, no longer displaying modern characteristics; instead, that society is *postmodern*. If a society is postmodern, then the period of time in which it was modern has a start and an end (e.g., 1500–1980).
- *Modernisation* is the (set of) process(es) by which a society becomes modern, enacts its modernity, or follows the logic of modernity.
- *Modernism* is something else, an almost-defunct movement in art that celebrated modernity, of no relevance to this monograph; a *modernist* is an exponent or adherent of modernism. I will therefore avoid these terms (although I will occasionally refer to adherents of digital modernity as “modernists” or “digital modernists” for ease of exposition).
- *Postmodernism* (and *post-modernist*) are ambiguous, and can refer to the superseding of modernism (the original literary/critical

usage of the term), or the superseding of modernity (a derivative usage brought in by Lyotard, 1984); in this monograph, I shall use the term “postmodernism” exclusively in the second sense.

This is an enormous topic, and I can't hope to cover it comprehensively in the space available. My aim is to set out key aspects of and problems with the narrative, and illustrate them with sufficient references to enable the student or researcher to drill down more deeply. I have not used many of the lenses through which much academic research in this area is performed, such as inequalities, power, neoliberalism, gender, post-colonial attitudes, disability and sexuality; neither have I discussed many important issues, such as privacy, the evolution of law, Internet governance, cybercrime and cybersecurity, and geopolitics in any detail. Their omission is a deliberate decision of scope, not lack of awareness, and I leave such discussion to the better-qualified (e.g., Alper *et al.*, 2016; Castells, 2000b; Dobransky and Hargittai, 2006; Haffner, 2018; Halford and Savage, 2010; Haraway, 1991; Hargittai and Hsieh, 2013; Helsper, 2012; Lupton, 2015, 117–140; Moyo, 2018; Nakamura, 2014; Nakamura and Chow-White, 2011; Norris, 2001; Robinson *et al.*, 2015; Watling, 2011; Wodajo, 2022; Zimmerman, 2017). This is intended to be a preliminary sketch of a narrative that, for better or worse, underlies many assumptions about the development of technology. Cyberspace is a constructed world, and so may well be re-engineered, but to do that involves both understanding the technology, and *the narratives or myths that justify it internally*. Without that understanding, and the ability to develop alternatives, the researcher stands on one side, a spectator. It is all very well to interpret the world, as a 19th century sage put it, but if the point is to change it, then one has to engage in terms that will have traction.

What does “digital modernity” buy us as a term? A number of things: first, it names and clusters a group of those internally-justifying narratives, the better to understand them; second, it highlights that there will be important continuities and discontinuities with 20th century modernity; third, by emphasising the digital it highlights the particularly relevant technological aspects of 21st century modernity; fourth, it provides some distance from contrasting or related ideas such as

postmodernism or the network society (see Section 9). The analysis will attempt to explain what apparently divergent narratives – particularly optimistic and pessimistic ones – share, as well as what they do and don't share with previous narratives. Both history and the present (and, ultimately, the future) are made up of gazillions of events, ranging from the infinitesimal in time and space to continental and global movements, that collectively look like chaos; any sensemaking narrative will select from these a tiny subset that it claims are characteristic in some way. Stuff happens – but *these* are what we need to understand the age. It follows that gazillions to the power of gazillions of narratives could be generated, but only some are useful. Narratives of digital modernity are useful because – for reasons to be given in Section 2.2 below – they help explain the development of technology. Digital modernity matters because many influential people accept, and often generate, the digital modernity narrative.

Given digital modernity's strong association with the Web, it is a central topic for Web Science, the interdisciplinary study of the World Wide Web from the technological, social and individual points of view (O'Hara *et al.*, 2013). It will be seen from this survey how research from anthropology, biotechnology, business and management, computer science, criminology, economics, geography, law, media studies, network science, philosophy, politics, psychology, sociology and more are relevant. The literatures invoked are not – cannot be – complete, but should give the student sufficient leads to follow up matters of interest.¹

The structure of the monograph is as follows. Section 2 will outline the general conception of modernity, and Section 3 the emergence of the particular variant digital modernity at the beginning of the 21st century, and its continuities and discontinuities with preceding narratives. Modernity in general is associated with individuality, the compression of time, and the compression of space, and these three aspects of digital modernity will be discussed in Sections 4–6 respectively. In these earlier sections, five perhaps startling principles which together

¹I have also taken some quotes and insights from representative literary and cultural figures. In general, I have not referenced these, as most works by these authors have been republished in countless editions. They are there less as a research resource, than as illustrations of a point of view.

help characterise digital modernity will emerge. Having gathered these principles together, Section 7 will discuss the relation between them and the different dimensions of time and space, for the narrative of digital modernity contains potential difficulties and even contradictions. Section 8 takes some of these themes further, looking at epistemology and misinformation, while Section 9 will place digital modernity in the context of alternative theories of modernity, including postmodernity, which has its own take on truth. Section 10 briefly summarises and concludes, while an Envoi returns to the early modern period to explore a remarkable parallel.

For future reference, the five principles are as follows.

- (1) The quantity of data being produced in the world has enabled, and been enabled by, technological, social, economic and cultural change, and as such is a marker of a qualitative change in modernity (Section 3.4).
- (2) Digital modernity is a subjunctive world in which reflexivity and choice are outsourced to the ambient data infrastructure (Section 4.1).
- (3) Since personalisation replaces choice in digital modernity, and since effective personalisation demands knowledge about the individual on the part of the personalised service provider, privacy is now an obstacle to the delivery of digital modernity (Section 4.2).
- (4) To exist is to be backward (Section 5.2).
- (5) In digital modernity, the best that hapless reality can achieve is to get closer to the perfection of the algorithm and the data (Section 6.1).

They will be explained and derived in the sections shown.

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