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Power and Information Technology: Determinism, Agency, and Constructivism

Introduction

Information communications technologies (ICTs) have occupied a curious place within International Relations Theory. ICTs have often been accorded a central role in changing the international system, with new media altering interaction capacity, posing problems of political control for established actors, and opening up new spaces and new possibilities for different political actors to emerge and exercise influence (Buzan and Little 2000; Buzan and Albert 2010; Keohane and Nye 1998; Deibert 1997; Krasner 1991; Rosenau 1990, Scholte 2005). Implicitly, ICTs affect international power dynamics, enhancing, eroding, or altering the distribution of power and the context in which power is exercised. Yet, for all the apparent weight that ICTs carry in such analyses, the design, development and diffusion of these technological artefacts – the actual physical development of these technologies – has remained relatively understudied within the discipline. Instead of inquiries into the construction of technological objects, IR Theory has tended to treat non-human artefacts as given. Whether technological objects are viewed as neutral tools or as having inherent properties that cause social change, a deterministic technological rationale has been prominent in the field (Herrera 2006: 27–30; McCarthy 2011a, 2013; Peoples 2009). As a result, a precise conceptualization of the relationship between forms of social power and the creation of biased technologies has been foreclosed.

This chapter will proceed by discussing the two dominant approaches to ICTs in IR, technological instrumentalism and technological essentialism, in order to detail the problems with these – ultimately untenable – determinist accounts. First, we will clarify how instrumentalist and essentialist arguments exclude consideration of technology as a specific
form of social power. This discussion will begin by looking at the instrumentalist perspective. This view, which subscribes to an understanding of technology as a neutral tool, outlines power as event-based, discrete, and observable. While this view of power is certainly appropriate for some contexts and issues (Haugaard 2010), it is unable to fully grasp the complex power dynamics that surround ICTs.

We will then examine the technological essentialist perspective and its central claim – often implicit – that technology causes social change. Essentialists view technological objects as possessing inherent characteristics. The essence of technological objects causes social and political change. Neither those who view this process optimistically or pessimistically explicitly analyze technology as a form of social power, yet their arguments suggest that ICTs have powerful causal effects. However, excising human agency from their accounts, these viewpoints are difficult to defend, even as they present an often appealing grasp of the centrality of the material world to our social lives. Ultimately, both instrumentalism and essentialism are forms of technological determinism, attributing to technological design and development a rationale beyond human sociality and historical processes.

Finally, with the weaknesses of technological determinism in mind, the chapter will engage with recent attempts to integrate Science and Technology Studies (STS) and, in particular, the Social Construction of Technology perspective, with International Relations Theory (Carr 2012; Herrera 2003, 2006; Fritsch 2011; DeNardis 2009; Sylvest 2013; cf. Bijker, Hughes, and Pinch 1987; Bijker 1995). These attempts are valuable correctives to determinist approaches. In opening up the black box of technology they point towards the central role of materiality in structuring global politics. What is missing from these accounts, however, is a clear theorization of how different forms of social power interact to create and maintain technological institutions, and how these institutions, in turn, function as a distinct form of social power. This discussion will highlight the limits of these approaches in three aspects. First, examining the concept of ‘technological momentum’ (Hughes 1983), we will note that, at times, these approaches still endorse a form of soft essentialism. Second, we will note that the understanding of power discussed within this literature is often based – implicitly or explicitly – on a highly contested liberal understanding of politics and the relationship between states and markets. This points, in turn, to a third limitation: the absence of an explicit grounding in social theory, with the concomitant exclusion of central concepts of social and political thought, including the concepts of capitalism and the state. This