Chapter 7
3D Printing in Dialogue With Four Thinkers:
Armstrong, Latour, McLuhan, Morton

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ABSTRACT

Although public awareness of the implications of 3D printing has been growing at a steady clip, prominent philosophers have barely begun to take stock of what this emerging technology might mean. This chapter starts by considering an important cautionary article on 3D printing by Rachel Armstrong. After giving an account of the materialist and relationist suppositions of Armstrong's approach, the author compares it with possibly different approaches illuminated by the thought of three prominent thinkers: Bruno Latour, Marshall McLuhan, and Timothy Morton.

INTRODUCTION

A day may come when nearly all philosophers write about 3D printing, just as they have at last begun to write seriously about global warming. (Latour 2017) Some futuristic technologies belong to a distant time that can be difficult to imagine in palpable terms. In the case of 3D printing, however, any citizen can easily grasp the stakes by simply watching a brief video (Global News 2013). The 3D printer originated in the factories of the 1980s. As is widely known, it provides a method of assembling objects piece by piece: a kind of coarse-grained nanotechnology for the macro-level. Before long we might be able to print functional body parts, bringing an end to the grisly waits for donated organs and the even grislier international organ

trafficking rings. Some have argued that the "killer app" for 3D printing will be found in the printing of food, perhaps replacing restaurants with a home library of Platonic forms of gourmet cuisine. Still others have sounded warnings about the printing of assault rifles on a desktop, whether by far right-wing crackpots, convicted felons, or the mentally ill. The lives of our grandchildren may feature the easy availability of all manner of benign and malignant objects, transforming economic structures, social life, and domestic security over roughly the next two to three decades.

In the past several years, nearly every conversation I have had about philosophy and technology has quickly turned into a discussion of the coming impact of 3D printing; clearly, the topic is on everyone's mind. Thus it is strange that as of late 2018, there is still relatively little published academic literature on the topic, even if the literature has now begun to swell past its previous bounds. Let's begin with a recent article by Rachel Armstrong, always one of our most diligent observers of the intersection between science, art, and architecture. The title of Armstrong's article could hardly be more candid: "3D Printing will Destroy the World Unless it Tackles the Issue of Materiality." (Armstrong 2014) Two questions can be asked on the basis of her title. First, how might 3D printing conceivably destroy the world? second, what does Armstrong mean by "materiality"? Having clarified these preliminary themes, we can ask more broadly about what several other thinkers might be able to teach us about 3D printing. After Armstrong, my further examples will be Bruno Latour, Marshall McLuhan, and Timothy Morton.

Armstrong on Materiality

Rachel Armstrong certainly does not come off as a luddite. She is willing to concede the appeal of "[architect] Norman Foster [planning] to print moon bases using an array of mobile printing nozzles on a 6 metre frame to squirt out sequential layers of lunar soil that will be set with a binding solution." She is perfectly impressed by "experimental technology [that] may one day design entire ports to withstand future earthquakes that devastate places like Haiti, at a fraction of the cost of a traditional construction company." Armstrong(2014) is also willing to appreciate both the efficiency and the imaginative potential of the coming technologies: "Stratasys has just announced its new revolutionary 3D printer that can produce multiple material types in a single print run, reducing the price of complex prototypes by around 50 per cent, while Skylar Tibbits promises us a phase of 4-D printing where geometries become even weirder when they encounter activating solutions." Finally, she is well aware of the likely practical upside of 3D printing: "[it] can also process locally sourced materials, reducing the expense of transport and distribution systems and has even been proposed to improve employment conditions."(Armstrong, 2014).

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