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COMMENTARY

On the Peculiarity of Standards: A Reply to Thompson

Lawrence Busch · Kyle Powys Whyte

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Abstract As Paul B. Thompson suggests in his recent seminal paper, "'There's an App for That': Technical Standards and Commodification by Technological Means," technical standards restructure property (and other social) relations. He concludes with the claim that the development of technical standards of commodification can serve purposes with bad effects such as "the rise of the factory system and the deskilling of work" or progressive effects such as how "technical standards for animal welfare… discipline the unwanted consequences of market forces." In this reply, we want to append several points to his argument and suggest that he rightly points out that standards can promote various goods; however, there are peculiar powers wielded by standardization processes that might profitably be unpacked more systematically than Thompson's article seems to suggest. First, the concealment of the technopolitics around standards is largely due to their peculiar ontological status as recipes for reality. Second, technical standards can and do commit violence against persons, but such violence is often suffered not in the formation of class consciousness, as Marx might have put it, but as a failure to conform to the *laws of nature*.

Keywords Standards · Network power · Commodification · Technology ethics

1 Introduction

As Paul B. Thompson suggests in his recent seminal paper, "'There's an App for That': Technical Standards and Commodification by Technological Means,"

L. Busch
Department of Sociology, Michigan State University,
429A Berkey Hall, East Lansing, MI 48824, USA

K. P. Whyte (✉)
Department of Philosophy, Michigan State University,
503 S. Kedzie Hall, East Lansing, MI 48824, USA
e-mail: kwhyte@msu.edu

technical standards restructure property (and other social) relations. He concludes with the claim that the development of technical standards of commodification can serve purposes with bad effects such as "the rise of the factory system and the deskilling of work" or progressive effects such as how "technical standards for animal welfare…discipline the unwanted consequences of market forces" (2011). This claim goes against those who see commodification processes as intrinsically bad. Thompson instead favors the view that it is "less clear in what precise sense we should regard the processes associated with technological commodification as unfavorable" (2011). In this reply, we want to append several points to his argument and suggest that he rightly points out that standards can promote various goods; however, there are peculiar powers wielded by standardization processes that might profitably be unpacked more systematically than Thompson's article seems to suggest. First, the concealment of the technopolitics around standards is largely due to their peculiar ontological status as recipes for reality. Second, technical standards can and do commit violence against persons, but such violence is often suffered not in the formation of class consciousness, as Marx might have put it, but as a failure to conform to the *laws of nature*.

2 Standards, Networks, and Realities

Thompson argues that we can see, for example, animal welfare standards as an attempt to reduce unwanted consequences of market forces. But he also tells us that "[i]t is… less clear in what precise sense we should regard the processes associated with technological commodification as unfavorable" (2011). We believe that considering standards as ontological devices can shed some light on this issue.

As Heidegger (1977) noted, one central feature of modern technologies is their tendency to become standing reserve, things that are handy, ready to be used with hardly any thought involved. Yet, it is through standardization that technologies become standing reserve. Consider a simple technology such as a hammer. In the not too distant past, a carpenter would commission a hammer from a blacksmith. The hammer would be made as a singularity to fit the needs of a particular carpenter. In contrast, today a carpenter would simply go to a hardware store and buy, for example, a 16 oz. hammer. The hammer would have the form of a commodity, such that any given 16 oz. carpenter's hammer would be *the same as* any other. Little or no discussion would be had about the hammer beyond the decision as to whether to buy it for the offered price.

In contrast, buying a 13.47 oz. hammer would be at best a very difficult task, as no manufacturer of hammers currently produces one with this weight. A carpenter desiring such a hammer would have to find someone willing to produce it, and likely pay an exorbitant price as well. Put differently, the *standardized* (and therefore commodified) 16 oz hammer has become standing reserve while the 13.47 oz. hammer has disappeared, i.e., it has been all but driven out of the market.

What we noted about hammers is perhaps even more true for machines of various sorts. As Thompson noted, the Betamax video cassette recorder died when JVC developed and widely licensed its VHS standard. Also, the Blue Ray disc replaced the HD DVD. Similarly, some years ago many libraries invested in microcard

technology, only to discover some years later that the card readers are no longer being made. As the cards are not readable without the machine, at some point they will likely be suitable only for use as scrap paper.

What unites all these examples—and doubtless the reader could add more to the list—is that standards are not merely technological specifications but are *ontological* specifications. They define the kind of world we live in. They simultaneously make certain actions and decisions possible while they effectively block other actions and decisions. They are, indeed, recipes for reality (or perhaps realities), as suggested in the recent book by one of the authors, *Standards: Recipes for Reality* (Busch 2011).

It is for this reason that standards have often been the subject of contentious debate. Modern systems of technical standards have their origins in the early years of the twentieth century. Indeed, a century ago economist Thorsten Veblen (1904, 10) could already argue that "… modern industry has little use for, and can make little use of, what does not conform to the standard. What is not competently standardized calls for too much of craftsmanlike skill, reflection, and individual elaboration, and is therefore not available for economical use in the processes." In short, standardization processes, even as they made goods cheaper and allowed interchangeability of parts, served to change reality such that those craftsmen and firms not producing to the accepted standards soon found themselves squeezed out of the market, encouraging economic concentration (Hoyt 1919). Spurred on by supply problems encountered during the first World War, by 1930 nearly every industrialized nation had a national standards organization. Government agencies such as the National Bureau of Standards (now the National Institute of Standards and Technology) and similar agencies in other nations saw it as their job to "eliminate waste by reducing unnecessary variety of sizes and types of stock products" (Hudson 1928, 1). The National Industrial Conference Board (1929, p. 222) (consisting in the main of the largest firms) waxed eloquent about the desirability of standards, while noting that "[w]herever standardization puts competition on a strictly price basis, the result may be cut-throat competition. And cut-throat competition characteristically provides one of the strongest incentives towards consolidation."[1]

Furthermore, as Thompson also notes, standards tend to be imbricated.[2] A single standard rarely stands alone. Consider the case of a subway system. Thousands of

[1] Histories of standards include Coles (1932), Hill (1990), Kula (1986), Loya and Boli (1999), Office of Technology Assessment (1992), Perry (1955), and Russell (2005). It should also be noted that Herbert Hoover, the only engineer to become president of the United States, understood both the ethical and ontological dimensions of standards. See, e.g., Hoover (1937).

[2] It should be noted that the imbrication of standards suggests that through diverse practices people produce multiple ontologies that must be woven together to produce a single narrative. In a recent path-breaking work, Annemarie Mol (Mol 2002) argues that arteriosclerosis is something quite different for patients, surgeons, and pathologists since they have different means for determining its presence or absence. As she puts it, "…ontology is not given in the order of things, but that, instead, ontologies are brought into being, sustained, or allowed to wither away in common, day-to-day, sociomaterial practices" (p. 6). As she suggests, "[t]o enact a disease is also to enact norms and standards. This is because the entity afflicted by the disease deviates—from some normality" (p. 121). Thus, one might argue that patients, surgeons, and pathologists employ different standards to determine the presence of arterio-sclerosis. Arteriosclerosis is measured as excruciating pain to a patient, as a blocked artery to be cleared by the surgeon, or as a cross-section of an artery under the microscope to the pathologist. When these ontologies do not agree, then considerable effort must be made to explain (or explain away) the discrepancies.

different standards are linked together in the construction and maintenance of a subway system—from the width of the track to the voltage in the third rail to the screws that hold together the parts of each subway car. Together, the use of these standards creates a new reality. And that new reality both opens new avenues for action and closes down others. Hence, we can perhaps now get to our final destination much faster than before, squeezing more meetings into a single day. Indeed, the city itself may now be smaller for us, since our mobility has increased considerably.[3] But at the same time, to use the subway we need to get on and off at very specific predefined locations known as stations. We need to wait for the arrival of the next train. We need to walk down several flights of stairs on entering and back up when leaving. If at rush hour we need to tolerate being squeezed into an overcrowded subway car. Moreover, the highly standardized character of subways means that any subway will now be handy to us, even one that we have never used before.[4]

In short, even as standards are hardly visible to those who conform to them, they create realities. They do this both in the *material* sense that they bring into being certain configurations of people and things, but also in that they rearrange, reorganize, reposition, restructure our *behavior* toward both other humans and things. Thus, a tentative response to Thompson's point would be that technological commodification should be viewed as unfavorable when it creates realities that fail to support, or even directly hinder the realization of the central values of our society. Though standards may not be tied to any one purpose, their power to create realities will threaten those whose needs and concerns are not well represented within those realities. Standards are not only instruments that serve purposes; more closely, they are instruments that wield the power to create realities that serve purposes.

3 Standards, Power, and Violence

Thompson also argues that standards work because "[n]etwork access is everything" (2011). As a result of this networked character of standards, they may do violence to some persons. Let us expand on this point.

Standards—at least when they are enforced—may well do violence to some persons. This may seem at first blush to be absurd, but let us examine several examples. Perhaps one of the most egregious examples is to be found throughout the world in the form of the reservation of specific toilets for men and women. What this seemingly innocuous set of standards does is to exclude those persons who are unsure of their sex or gender *in terms of* these standards. This includes (among others) persons with certain chromosomal configurations (e.g., XYY), transgendered persons, and those with ambiguous (based on certain male/female standards) genitalia. Although biologists have been aware for some time that the social convention of two unambiguously distinct sexes is at best problematic, until recently

[3] When the first subway was built under Lexington Avenue in New York City it made it possible for the first time to work in overcrowded downtown and live in Harlem, which was then a new middle class suburb. Hence, the subway both improved geographic and social mobility for some.

[4] Although he says little or nothing about standards per se, anthropologist Marc Augé makes a similar argument in his analysis of the Paris Metro (Augé 1986).

medical practitioners have tended to insist that those persons displaying ambiguities had to be *corrected* to meet the binary social standard. This has resulted in both botched surgical procedures and serious mental problems for persons who do not conform to the standard (Dreger 1998).

Other recent studies have unearthed other forms of violence based on (lack of) conformity to other standards. For example, Bain (2010) has shown how the imposition of GlobalGAP[5] standards on Chilean grape farms protects permanent workers against toxic chemicals, but increases the exposure of temporary female workers who fall outside the standard. Bowker and Star (1999) showed how racial standards imposed during the South African apartheid regime did violence to persons whose skin color did not fit the predefined categories set by the regime (in addition to the violence done by the entire classification system). Epstein (2007) has shown how standard definitions used in medical research have tended to exclude a significant portion of the population from the benefits of that research. Evans et al. (2008) have documented how obesity discourse in British schools has in some instances enhanced anxieties over eating among teen-aged girls. Finally, Pargman and Palme (2009) explain how the ASCII character set came to define universal resource locators on the internet. As the character set was designed for English speakers, it does not include diacritical marks. They note that the small town of Hörby, Sweden has had to make do with Horby. Unfortunately, Horby translates in Swedish as *adulterer village*. Doubtless, many other examples exist.

In each of these instances, the failure to conform to the standard was interpreted by those enforcing the standard, and often by those upon whom the standard was imposed, as a failure on the part of the person or persons involved to conform to the standard. The possibility that the standard itself was problematic was rarely if ever considered. Put differently, the power embodied in the standard—enforced through network access—was seen both by those enforcing the standard and by those upon whom it was imposed as akin to a force of nature. In this way, standards have the power to deflect how we address ethical, social and political issues to what are really byproducts of standards. Instead of challenging the standards themselves, we focus on taking up the challenges of conforming or excluding those people, non-humans and objects that do not initially fit the standards. Standards do not just serve purposes; rather, standards imply paradigms for understanding how to address important issues, which often obscure the importance of critiquing the standards themselves.

4 Conclusions

Thompson is correct that those who believe that standardization processes (or commodification) are intrinsically bad will have trouble defending this belief across the board and will miss their emancipatory and democratic potentials. Yet, it would be too hasty to suggest that standards are mere instruments. Standards are capable of engendering and transforming realities and can serve to establish implicit paradigms

[5] GlobalGAP is a grouping of large supermarket chains that require that producers from whom they buy conform to a set of food safety, environment, animal welfare, and worker health and safety standards.

for how ethical, social, and political issues should be approached. Those who wish to harness their potential for good must grapple with these peculiar powers inherent in standardization processes that commoditize humans, non-humans, and objects.

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