STS C200, Week 2: Early Sociology of Science

Orr Paradise

September 6th, 2020

1 The Spirit of Capitalism / Max Weber [1]

In this work, Max Weber aims to define and explain the "spirit" of capitalism, i.e., the essence of capitalism and the key values of which it consists. He does so by a refreshing (to me) kind of analysis, one which recognizes the importance of material conditions while highlighting dynamics that seem to escape a materialistic explanation. The definition of the spirit of capitalism is constructed from the bottom-up, rather than given upfront and justified with evidence or analogies.

I first discuss the methods of Weber's analysis. It starts with a qualification of its very nature—such an analysis is only meaningful as a historical examination that directly considers cultural significance. Its goal cannot be to abstract-away existing realistic concepts, but rather to organize these concepts into tangible, causal and unique connections.

An apparent departure from materialism occurs already in the qualificatory prologue of the upcoming analysis, when Weber acknowledges the significance of the researcher's vantage point (I add: and cultural background), which plays an essential role in defining what is relevant.[1] This is as opposed to a materialistic analysis, which is (per Marx) empirical and scientific, and therefore should not be affected by the perspective of the researcher: independent researchers should come to the same findings. (Similar to, but not quite the same as Merton's universalism [3].)

In the analysis itself, Weber directly points to facts in the history of capitalism that seem to stand counter to materialistic progression. Most examples follow a line of reasoning observing that capitalism was developed and professed not by those that would gain the most from it, but by those with which its values aligned: Modern capitalism was developed in economically modest America, rather than the wealthy mercantile Italy of earlier centuries. It was specifically developed not in the production-focused South, but in the pious North. This development was driven by the rising middle class, not the ultra-rich; specifically, Benjamin Franklin (that stands in the center of Weber's study) ran a fairly traditional production house.

This line of reasoning seems, to me, somewhat flawed. In general, it is natural to find radical change coming from weak-yet-ambitious actors. What interest is there in the ruling class of wealthy Italy in changing the conditions that gave it its place? Furthermore, the maxim of materialistic thought—that change is a function of material conditions—should, to me, be interpreted in a broader sense than apparently considered by Weber. Changes are the function of conditions in a society, not necessarily in individual people. Concretely, proposing that Benjamin Franklin should not have led capitalistic thought because he would not have personally benefited reveals an unsophisticated perspective (that even borders *ad hominem*).

As for the contents of the analysis itself, it relies on the uniqueness (even oddity) of capitalistic thought. The shift into capitalism was a result of "new spirit" and not "new money" (or material conditions), where the former merely relied on the latter as fuel for change. While driven forward on an existing ideological framework of "hard work" and (a form of) piety, capitalism gives supreme priority to productivity (the gaining of capital), which would be nothing but sheer greed according in the eyes of traditional religion. In fact, certain desirable traits (e.g. honesty) are considered virtuous because of their productive utility, rather than an inherent moral correctness.

[1] This is quite similar to a sentiment expressed in our previous meeting: in this very writing assignment I am to select what is relevant, and my background plays a decisive role in this selection.

Weber notes the following oddity. While the epitomic capitalist is a shrewd and rational money-maker, capitalism itself is based on an irrational directive: direct your entire energy towards production and the generation of capital, leave no reserves for leisure and rest—although the latter are crucial for personal happiness. That is, production takes a higher priority even than one's own personal happiness. Even if taken literally (i.e., rest *never*), I still think that this observation relies on unstated assumptions regarding the nature of personal happiness. Economic traditionalism allows (and even encourages) rest and leisure (as Weber himself notes), so a person shaped in an economically traditional environment would expect these and indeed may require them to be truly happy. But from our vantage point a hundred capitalistic-years after Weber, we see people who would eagerly give up their "free time" to produce more. I do not argue that they necessarily achieve greater personal happiness, only that the immediate causal relationship between leisure and happiness assumed by Weber (which itself could be a result of his environment and its expectations) is worth making explicit in an essay about a change in society and its work-norms.

Lastly, I would like to point out the speculative and absolutist nature of some of Weber's claims and language. Certain phrases found in the text raise immediate red-flags: "An almost universal complaint", "what happened frequently", "one often hears" (twice) and "one can imagine", and "several cases are known to me" (twice!). Particularly outdated are his frequent generalizations of entire groups and peoples. Weber boldly states that Neapolitan, Venetian and Asian(?!) rideshare providers are greedier than English ones; that "the Poles' capacity for physical work declines more and more the farther to the east their homeland"; and that women are unwilling to learn new manufacturing techniques (especially "German young women").

To conclude, reading Weber's essay left me with mixed thoughts and feelings. His methodology, which at first seemed promising and holistic, often came off as problematic, speculative or superficial. Indeed, a thesis stating that an economic system developed from a religious one (and not the other way around) is inherently non-materialistic, but instead, the simplistic (or outdated) method of arguments emphasized, to me, the need for a careful and even empirical approach to the study of society.

2 Bourdieu and Merton on the sociology of science [2, 3]

The second part of our reading features works that study the study of science itself. This recursion is carried out delicately, and results in a rich body of ideas. I gained much-needed foundations from it, and I will share my impressions next.

The scientific process is the process of obtaining scientific capital. This capital is obtained through technical contributions, but inherent in it is also the social structure of the field. The many facets that govern the gain of scientific capital are inseparable. Namely, the "objective" truth of a scientific discovery is a function of the structure and dynamics of that particular scientific field, and conversely, these structures are determined (in part) by technical authority and contributions.

Scientific capital is the power to generate new scientific discoveries in its fullest sense: it is the ability to produce and organize knowledge in a way that will be recognized as scientific [4].

Science is therefore the (eternal) *struggle* to gain scientific capital. This struggle is held on the spectrum between the dominant (well-established, high-ranking scientists) and the dominated (newcomers).

A scientist gains scientific capital by making investments towards results that have high potential profit. In the case of technical results, profit is a product of potential impact and likelihood of realization. So is the case of social ones (e.g., appointment as a chair), and, as mentioned, no result is strictly technical or social. Importantly, profit is determined by the dominant who judge the impact of a result, define when it is achieved ("realized"), and determine social prestige. It is used by the dominant as a mean of conservation.

In the face of the dominant's *conservation* (in "official science", in the selection of curricula, the awarding of prizes, etc.), the dominated assume either a *successive* or a *subversive* strategy. Succession is by conforming to the existing agenda, and typically results in a predictable career with limited innovation: raising the problems one can solve, and solving the problems one can raise. Subversion is, to varying extents, an attempt to combat the current order and break existing cycles of recognition; it results in revolution or complete failure.

The uniqueness of scientific production, in which all consumers are competitors and all competitors are consumers, results in certain notable phenomena. One is a form of "self fulfilling prophecy",[2] in which one is inclined to work towards an outcome that is likely to occur—this acts as an agent of conservation of the existing order on behalf of the dominant.

Another phenomenon is the Matthew effect, which is that the dominant are likely to gain more dominance. This effect has ramifications of its own. For example, in a field where convention dictates that author names are ordered by significance of contribution, the actual naming strategy is one which maximizes the relative capital growth of each author. In the case of a large capital difference between collaborators, sophisticated second-order norms come into play to utilize the dominant author's position (for paper visibility), without overshadowing junior contributors.

The Matthew effect is presented in detail by Merton, who studies how psychosocial processes affect rewards to scientists (in the form of recognition, and, I add, scientific capital), which then affect scientific findings. The straightforward conclusion is that the dominant will be more easily recognized than the dominated, even for the same work. Beyond this, the very work done by the dominant is more likely to be found impactful, both due to a self-selection of traits among the dominant, but also because they affect the very importance of a topic simply by choosing to study it. This effect compounds between dominant individuals and results in a concentrating effect, yielding dominant institutions.

The straightforward foundations laid forth by Merton, as well as the more nuanced discussion led by Bourdieu, together seem to form a robust foundation for understanding science and the study of science.

3 Questions and topics for discussions

- To what extent do the weaknesses in Weber's essay (which, today, potentially lie outside the realm of the politically correct) harm his overall analysis? I am referring specifically to culturalist generalizations.
- Merton mentions an observation of Price [5], that science increases exponentially and therefore it is increasingly difficult (for any single scientist) to keep up with their field. Is there not a process that, as scientific content increases, fields specialize and subdivide, so that the volume of work within a scientist's scope remains (roughly) fixed?
- Are all form of capital exchangable? It is easy to see that scientific capital translates to political, societal and even economical capital. But is the converse true? Concretely, can a wealthy tech magnate buy his way to scientific discovery?

References

[1] Max Weber, The Protestant Ethics and the Spirit of Capitalism[1905], chapter 2: The spirit of capitalism.

[2] Pierre Bourdieu, The Specificity of the Scientific Field and the Social Conditions of the Progress of Reason [1975], in Social Science Information, 14:19-47.

[3] Robert Merton, The Sociology of Science: Theoretical and Empirical Investigations [1973], Chicago: University of Chicago Press, 210-278, 439-459.

[4] Louise Archer, Emily Dawson, Jen DeWitt, Amy Seakins, Billy Wong, "Science capital": A conceptual, methodological, and empirical argument for extending bourdieusian notions of capital beyond the arts" [2015]. Journal of Research in Science Teaching. 52 (7): 922–948.

[5] Derek J. de Solla Price, Little Science, Big Science [1963]. New York: Columbia University Press.

[2] Is this *the causality of the probable*?