Bruno Latour and the Secularization of Science

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Many young dreamers who want to be modern up to the tips of their toes, and who think they have gotten rid of these barely imaginable old-fashioned ideas, are, without realizing it, mystics in search of a spiritual experience. (Gauchet 2003, p. 311)

Several sociologists of science have mobilized secularization metaphors to describe developments in the study of science. Similar to how secularization refers to a decreasing status of religion and God as a transcendent factor in society, the secularization of science refers to an abandonment of Science as something "sacred" and Nature as transcendent. This article aims to explore these secularization metaphors, by arguing for a parallel between how sociologists and philosophers of religion differ and how similar disagreements between sociologists of science and the work of Bruno Latour exist, whose work should rather be linked with that of other philosophers, such as Michel Serres and Isabelle Stengers.

1. Introduction

In his book *Governance of Science* (2000), the sociologist Steve Fuller noted "the profound historical irony that sociology has been both sanctifier and secularizer of science" (Fuller 2000, p. 99). The fact that sociology contributed to the sanctification of science is found in its origins: the work of Auguste Comte. For Comte the major problem was the societal gap left after the French Revolution: if religion was no longer there to hold society

together, what would step in its place? Comte's positivism "anointed the natural sciences the successors of the Roman Catholic Church as keepers of the key to the City of God on earth" (Fuller 2000, 99). For Comte, the secularization of society resulted in the sanctification of science.

However, recently a shift is taking place where "we are in the midst of a second phase of secularization—that of science itself" (Fuller 2000, p. 100). In Fuller's view, sociology secularizes science through means of demystification. This process of "secularizing science" entails depriving science from any transcendent or sacred position in society.[1] According to Fuller, this has been the main impetus in the 1970s of the Sociology of Scientific Knowledge (SSK), which aimed to analyze scientific practices as social practices, to be explained in a similar way as other social practices.

It is important to note that "secularization" in this narrative is used as a metaphor, derived from the sphere of religion and applied to science. The metaphor of secularization thus aims to highlight to how SSK is eroding the "sacred" and "transcendent" status of science, replacing it by a "secularized" view on science, with the connotation that it is more rational, grounded or empirical. The metaphor is thus mobilized, as we will see, as part of a rhetorical story in which traditional philosophy and sociology of science is dismissed as a naïve, pious yet blind admiration of science. SSK is portrayed as a disenchantment, freeing humanity from this idol of Science.

Fuller aspires to even more and exploits another dimension of this metaphor: even if individuals stop believing in the myth of sacred science, the latter nevertheless "continues to occupy a sacred space in modern democracies" (Fuller 2000, p. 101). Another metaphorical secularization is possible: besides the matter of a decrease of belief in the value of science, there is also the question of its political institutions. An increase in science skepticism is one thing, but that must not be too easily equated with an institutional secularization of science.

Inspired by Paul Feyerabend's earlier plea for "the separation of state and science" (Feyerabend 1978, p. 107), Fuller wants "to divest the state's funding of scientific research, while at the same time promoting public access to alternative research programs, each being allowed to find its own funding constituency" (Fuller 2000, p. 97). For Fuller, the institutional secularization of science has not happened yet, although there are some signs that we are heading in that way, such as the US Congress refusal to fund the Superconducting

1. It should therefore not be confused with the ambition to purify science from religious themes, as was for instance the project of Thomas Henry Huxley and others, who aimed to shown how Darwinism debunked all ideas from natural theology. Their aim was to obtain a "science untainted by religion" (Harrison 2017, p. 53; see Barton 1990).

Supercollider in 1993. More recently, Fuller has characterized our current predicament of "post-truth" in these terms, where science and expertise are being secularized (see Fuller 2018). Fuller believes this process to be a desirable one, one that opens up for a genuine democratization of science, replacing the current situation where one cannot criticize scientific programs, their aims and possible benefits without being accused of being a heretic or a non-believer.

According to Fuller, the metaphor of secularization sheds a light on what is at stake in the recent work in sociology of science. The metaphor does indeed also spell out Fuller's own position, including its radicality. Secularization can thus be seen as a revealing metaphor, independently of the strong reservations one might have regarding the adequacy of the use of the metaphor and whether science and religion can be compared with one another in such a straightforward manner. Although these are legitimate concerns, I believe it is nonetheless productive to explore how sociologists have been using this metaphor and what the implications are.

First, the goal is merely to understand how secularization metaphors are used in a variety of ways, without arguing for a single correct use. Secondly, it should be stressed that religion and secularization, although linked, are not the same. While science and religion are clearly different, for the authors discussed here secularization refers to a logic behind certain societal shifts. In that sense it concerns the claim that a parallel logic is at work in science and religion, regardless of whether science and religion are similar, in essence or practice. Both societal spheres can and probably must be characterized quite differently, but such a claim is separate from the question of whether the logic of secularization, claimed to characterize religious history, can also shed light on the history of science.

The main focus of this article will be the work of Bruno Latour, more specifically the way in which he mobilizes the metaphor of secularization. Although Latour already wondered in the past whether "one could secularize Science without losing objective knowledge" (Latour 2010a, p. 157) and argued that "we have not yet secularized the two conjoined powers of nature and politics" (Latour 2004, pp. 30–31), it is especially in his recent work on Gaia and the Anthropocene, that he claims that "the ecological mutation … obliges us to secularize—perhaps even to profane—all the (counter-) religions, including that of nature" (Latour 2017, p. 179). This is especially clear in his third lecture, entitled "Gaia, a (finally secular) figure for nature" where he describes Gaia as "probably the least religious entity produced by Western science" and one that even "may be called wholly secular" (Latour 2017, p. 87).

Latour seems to mobilize the secularization metaphor on a different register than Fuller, leading for instance (as we will see) to the claim that secularization is not enough. I will argue that by paying attention to how

Latour uses secularization metaphors, we can gain insight in some of the fundamental differences between his approach and that of other sociologists of science, such as SSK. Latour is often frowned upon by sociologists for being too philosophical or metaphysical, and he has indeed "come out" as a philosopher (Latour, 2010b). But even before, he had already criticized SSK for reducing everything to the social, arguing for "one more turn after the social turn" (Latour 1992). My claim is that, in order to understand these tensions, it is fruitful to look into the different mobilizations of secularization metaphors. Looking at how sociologists differ in their claims about secularization, regardless of the adequacy of these secularization metaphors, is instrumental to understand their theoretical differences.[2]

As stated before, the metaphor of secularization tries to mobilize a parallel in logic between the history of religion and of science. In the second section of this article, therefore, the way this logic is understood in the study of religion will be explored by looking at established perspectives on secularization, especially within the work of Marcel Gauchet (2.1) and Charles Taylor (2.2) and how their work differs from sociologists of science, such as Peter Berger and Thomas Luckmann (2.3). This is despite the fact that the work of these authors is different, and not always discussed together. The central claim is that looking at how these philosophers of religion differ from their sociological counterparts can teach us something about how the philosophical perspective of Latour differs from that of other sociologists of science.

Not only will this allow us to make sense of Latour's use of the metaphor of secularization, but at the same time this confrontation raises new interesting questions for traditional perspectives on secularization. As we will see, science is an often invoked factor in these debates. However, a real interaction between secularization narratives and developments in sociology and philosophy of science is absent. As will be made clear, both parties can learn from one another.

In the third section, the manner in which sociologists of science have mobilized a similar logic to frame the history of science and their own position in that history is examined. Specifically, SSK will be examined, exemplified by authors such as David Bloor and Barry Barnes, as well as a number of feminist authors, such as Sandra Harding and Donna Haraway, who have mobilized secularization metaphors in their own work (3.1). In the next part, this will be contrasted with the work of Latour. I will moreover argue that in order to understand Latour's own position, it is useful to relate his perspective to the work of Michel Serres and Isabelle Stengers, two authors that have shaped Latour's own perspective (3.2).

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2. The claim is not that looking at secularization metaphors is the only way to spell out these differences, only that it is a productive one.

Serres, for instance, similarly applies the secularization metaphor to science, arguing that our age "is not yet secularized in relation to it" and still exercises on many scholars "the pull of the sacred. The whole thrust of the epistemology or history of science can be read in this light." (Serres 2008, pp. 334–5) Yet, at the same time he is critical of a strong sociological perspective, since "[t]he human and social sciences describe theories even more underhanded than fraud, more duplicitous than cheating, in order to outsmart their object. Here everything becomes possible; a cow is a woman or a god a bull, even the identity principle is unstable" (Serres 2008, p. 43). Stengers, in a similar vein, is critical of SSK. Her aim is to develop a perspective that resists a purely sociological description of the scientific practice according to which "we can henceforth enter his laboratory as if it were a windmill, open to all the influences of the epoch" (Stengers 2000, p. 42). By putting these authors beside the earlier sociologists of science, it becomes clear that although all of them mobilize secularization metaphors, they disagree on the nature and the implications of this logic of secularization. Here, precisely earlier distinctions and normative claims found in the work of Gauchet and Taylor, and their differences with sociologists of religion, can shed a light on the work of Latour, and the differences with other sociologists of science. In the conclusion, finally, some further implications and tensions are explored.

2.   The Secularization of the West

The question of the nature and role of secularization in Western societies has been a prominent discussion within sociology of religion. Most famously, this has been conceptualized by Max Weber in his notion of the "disenchantment of the world" (Weber 1991, p. 139). However, all too often this slogan is reduced to the claim that secularization implies a replacement of the falsehoods of religion by the truths of science (see Harrison, 2017). It is indeed such "subtraction stories," where religions are dismissed as false stories hiding an underlying reality that we now recognize because of scientific maturity, that are generally refuted in contemporary secularization narratives (Taylor 2007, p. 22). In this sense the claim that science causes secularization has been dismissed to "the graveyard of failed theories" (Stark 1999, p. 269).[3] Weber never intended such a claim. Rather, he defined disenchantment as the thesis "that principally there are no mysterious

3. Such a theory also presupposes that science and religion have always been in conflict. Historians have problematized this "Draper-and-White conflict myth," referring to John Draper and Andrew White, two authors who popularized this narrative in the nineteenth century (see Harrison 2017). In fact, science and religion were often aligned to one another. Some even claim the reverse relation: the secularization of society might be the cause of the secularization of science (in the sense of footnote 1) (see, e.g., Brooke 2009).

incalculable forces that come into play, but rather that one can, in principle, master all things by calculation" (Weber 1991, p. 139). Or closely linked to this, that "the ultimate and most sublime values have retreated from public life either into the transcendental realm of mystic life or into the brotherliness of direct and personal human relations" (Weber 1991, p. 155).

For Weber, this process is not caused by scientific insights debunking religious thought, but rather by a process of rationalization and intellectualization already at work within religion. Disenchantment is a process "which has continued to exist in Occidental culture for millennia" and "to which science belongs as a link and motive force" (Weber 1991, p. 139), but which is not exhausted by science. Such a process was already at work within theology, and even more generally in the codification of religion in rules and holy scriptures, exposing our worldviews "to the imperative of consistency" (Weber 1991, p. 324). It is therefore also a practical process, where for instance innerworldly asceticism is a crucial step towards rationalization, bureaucratization, and modern capitalism (Weber 1985).

Sociologists of religion have picked up Weber's narrative, especially in the 1960s when a new generation of scholars, such as Peter Berger and Thomas Luckmann, took up Weber's work to criticize simplistic secularization narratives. Berger, following Weber, stressed how secularization did not start with science, or even with the Reformation, but "begins in the Old Testament" (Berger 1967, p. 113). Berger therefore concludes that "historically speaking, Christianity has been its own gravedigger" (Berger 1967, p. 127). Luckmann, on his turn, emphasized that secularization should be thought of as more than a mere emptying of churches, but is related to deeper societal transformations where "autonomous institutional 'ideologies' replaced, within their own domain, an overarching and transcendent universe of norms" (Luckmann 1967, p. 101).[4] On its turn, such a focus on the underlying logic of secularization has been taken up by philosophers such as Marcel Gauchet in his *The Disenchantment of The World* (1999) and Charles Taylor in his *A Secular Age* (2007). Both authors are in fact in line with a broader sociological and historical consensus about secularization (e.g., Koenig 2016), but their work is nevertheless valuable for three reasons.

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4. There has also been numerous criticisms of secularization narratives (e.g., Stark 1999). Most famously, Berger himself has claimed that "what I and most other sociologists of religion wrote in the 1960s about secularization was a mistake" and that "the world today is certainly not secular. It's very religious." (Berger 1997, p. 974) Nonetheless, proponents of secularization narratives remain, such as Steve Bruce (2011) and David Martin (2012). I will leave these debates aside here.

First of all, both are philosophers and their work has proven to be crucial to engage philosophers into otherwise purely sociological debates. Secondly, both provide alternatives to the standard narrative we encountered above. In this sense, they go beyond the mere negative task of criticizing and into the positive task of narrative building. This is also expressed by Taylor, in his preface to Gauchet's book, where he states that Gauchet "argues, rightly I believe, that by never spelling out the big picture we have become unconscious of our ultimate assumptions and in the end confused about them" (Taylor 1999a, p. ix). Thirdly, and most importantly, in contrast to sociologists of religion such as Peter Berger and Thomas Luckmann, both Gauchet and Taylor express a clear normative aspect, focusing on a range of tensions produced by secularization. It will be precisely this aspect that provides insight in the secularization metaphors of Latour.

Although I will first outline Gauchet's point of view, it is perhaps helpful to start with Taylor's distinction between three different ideas of secularity (Taylor 2007, pp. 2–3).[5] Secularity 1 refers to a decreasing relevance of religion in the public sphere, where for instance political discussions occur without reference to God or the holy scriptures. Secularity 2, on the other hand, entails a decline in religious belief and practice. Both these levels seem to be at work in SSK, as illustrated by the view of Fuller.

Despite the fact that both these processes are important, Taylor is especially interested in Secularity 3, referring to a shift in the background assumptions of a certain era, making it secular. It thus has to do with "the conditions of belief. The shift to secularity in this sense consists, among other things, of a move from a society where belief in God is unchallenged and indeed, unproblematic, to one in which it is understood to be one option among others, and frequently not the easiest to embrace." (Taylor 2007, p. 3) According to Taylor, a focus on these deeper levels of secularization is also at work in Gauchet's perspective (Taylor 1999a, pp. ix–x). And as we will see, this dimension, linked with the normative aspect mentioned above, will be important to understand Latour's use of secularization metaphors. But let us first look to Gauchet and Taylor into more detail.

2.1. Marcel Gauchet and the Disenchantment of the World
In his own work Gauchet never speaks about secularization, but always about the "disenchantment of the world." The reason seems to be that Gauchet accepts secularization as a fact, but not as an explanation. Similar to Taylor, for Gauchet it is not a question of a decrease of belief or practices, but rather a

5. As has been noted by Koenig (2016) this distinction echoes the work of certain sociologists, such as Peter Berger's (1967) distinction between secularization on the level of individual consciousness, social institutions and cultural worldviews.

shifting logic of the religious. What Gauchet is looking for is the underlying logic that leads to secularization, and he finds this in the idea of the disenchantment. But for Gauchet this notion is not exactly the same as for Weber. His definition is also different, namely as "the impoverishment of the reign of the invisible" (Gauchet 1999, p. 3). Weber's notion of the disappearance of magical powers is thus an effect of this underlying shift.

Additionally, Gauchet radicalizes Weber's perspective in a number of ways. First of all, disenchantment spans the whole history of religion, going back to "primitive" religions as well. For Gauchet the roots of disenchantment were already present within this original form of religion. Rather than looking at the history of religion as a progress and leading to the true religions of the book, Gauchet reverses the history. The purest religion is primitive religion, and the whole history consists in a process of departing from religion. In that sense, as Taylor also notes, "Gauchet's story is not one of a development … [but] a story of the breakdown of religion" (Taylor 1999a, p. x). Later religions such as Christianity or Islam, "far from being the quintessential embodiment of religion, are in fact just so many stages of its abatement and disintegration" (Gauchet 1999, p. 6).

Secondly, religion is also a more crucial element in our lives than most sociologists of religion claim. This has to do with two philosophical-anthropological claims made by Gauchet. First of all, Gauchet starts from the idea that what it is to be human, to be a subject, is defined by something outside of it, a certain alterity. What he means by this can be grasped in ideas such as the notion that language, social norms, or even our biological bodies constitute us from the outside, forcing us to have a relation with elements over which we have no control. Gauchet calls this fundamental anthropological fact "radical dispossession," and it is this fact that can give rise to religions, by linking this alterity with the invisible:

> Man is a being who, in any case, is directed at the invisible, and to whom demands are made by the other. These are orientations given in his original and irreducible experiences…. Man speaks, and he meets the invisible in his words. He experiences himself, irreducibly, as under the sign of the invisible. He cannot think that there is nothing else in him than what he sees, touches and smells…. Religions arise from these primal experiences. (Ferry and Gauchet 2004, pp. 61–2)

The second, and related philosophical claim is that, because this alterity is linked to things outside of the subject, the structure of the subject also shifts in relation to the way this dispossession is shaped. Since religion has until recently been the dominant factor in the organization of society, the history of the subject and the history of religion are closely intertwined.

These starting points allow Gauchet to sketch his original historical narrative, namely one where the gap between the immanent/visible and the transcendent/invisible is progressively widened, until eventually the transcendence disappears out of view. I cannot and need not to go into details of this narrative here, but some broad strokes can be highlighted. Where in primitive religions this gap was purely temporal, and the gods roamed over the same lands as we live in now, in later religions this transformed into a spatial gap, where God lives in a radically separated location. Gauchet links this to the rise of the state, which resulted in a separation of an elite, portrayed as spokespersons of the invisible, from the rest of society (Gauchet 1999, p. 14). Eventually in later religions, and especially in Christianity (and its Reformation), this led to a strong ontological divide between the visible and invisible.[6]

It is here that he focuses on elements already highlighted by other authors such as Weber or Hans Blumenberg (see below), namely that within a world where the divine resides in a radically different and inaccessible place, humans are forced to focus on themselves and the earthly. But again Gauchet stresses the role of the subject, claiming that together with the constitution of an objective world, deprived of the divine, a subjective interior comes into being, creating the idea of a free-deciding individual. According to Gauchet there is a "structural link ... between artificially appropriating the world and the political emancipation of individuals. Humans are initially free because they are alone before an empty and totally accessible nature" (Gauchet 1999, p. 70). The end result is the rise of new autonomous spheres of reason (philosophy and science), of political power (democracy) and of interactions with nature (economy and technology).

The consequence is, according to Gauchet, the "end of religion." This end is not a question of individuals losing faith or churches being empty. "Leaving religion does not mean abandoning religious belief, but leaving a world where religion is a structuring element, dominating the political form of society and defining the structure of the social context." (Gauchet 1998, p. 11) Sociological criticisms that point at how in our contemporary societies new religions such as New Age are on the rise (e.g., Houtman and Mascini 2002; Houtman and Aupers 2007), therefore miss their mark. As Gauchet puts it, "this 'return of the religious' seems to me to be anything but a return to religion" (Gauchet 1998, p. 29).[7]

6. One of the central claims of Gauchet is that Christianity places a crucial role in the formation of Western democratic societies. I will, however, not go further into that here (but see Cloots 2015).

7. Gauchet interestingly points at how these new religion also have a different structure, since, "[t]he other world is put in the service of this world. In this way, religions seem to really come into line with philosophies and profane wisdom. They aim at the same goal,

2.2. Charles Taylor and the Immanent Frame

Within the work of Charles Taylor we find a similar perspective, but with different emphases. Taylor seems to agree that secularization refers to "the end of the era when political authority, as well as other metatopical common agencies, are inconceivable without reference to God or higher time, when these are so woven into the structures of authority that the latter cannot be understood separately from the divine, the higher, or the numinous" (Taylor 2004, p. 187). He also refers to the notion of disenchantment, as "the disso- lution of the 'enchanted' world, the world of spirits and meaningful causal forces, of wood sprites and relics" (Taylor 2007, p. 553). But as stated before, for Taylor, secularization is about a shift in the conditions of belief of the sub- ject, similarly to Gauchet, resulting in a history of subjectivity. Disenchant- ment, for instance, is linked to the "replacement of the porous self by the buffered self" where the latter "begins to find the idea of spirits, moral forces, causal powers with a purposive bent, close to incomprehensible" (Taylor 2007, p. 359). In that sense, Taylor argues against what he calls "subtraction stories": "I mean by this stories of modernity in general, and secularity in particular, which explain them by human beings having lost, or sloughed off, or liber- ated themselves from certain earlier, confining horizons, or illusions, or limi- tations of knowledge." (Taylor 2007, p. 22) Secularization, from this perspective, is thus not a purely negative story where something disappears (religion) in order to reveal what was always already there beneath it (ratio- nality, individuality). Rather, Taylor wants to show how such a

> subtraction story gives too little place to the cultural changes wrought by Western modernity, the way in which it has developed new understandings of the self, its place in society, in space and in time. *It fails to see how innovative we have been* (Taylor 2007, p. 573).

Secularization thus entails work and maintenance. For Taylor it implied the shaping of an "immanent frame" and an "exclusive humanism." Such an immanent frame refers to the denial of any role of a transcendent factor in life, "be this understood in terms of the one transcendent God, or of Gods or spirits, or magic forces, or whatever" (Taylor 2007, pp. 15–16). It results in a picture of the world and ourselves which is theory-oriented and horizontal, reducing religion and other practices to mere theoretical be- liefs, privileging the impersonal view in which humans live a life completely

but their means differ. The detour via transcendence is justified by the results it produces in immanence.... Religions enter the field of godless wisdom: the good life in this world" (Gauchet 1998, pp. 108–9).

immanent to this world. Taylor links this to the "epistemological picture," dominant in academia and based on "a series of priority relations":

> Knowledge of the self and its states come before knowledge of external reality and of others. The knowledge of reality as neutral fact comes before our attributing to it various "values" and relevances. And, of course, knowledge of things of "this world," of the natural order precedes any theoretical invocation of forces and realities transcendent to it. (Taylor 2007, p. 558)

Following philosophers such as Heidegger and Merleau-Ponty, Taylor endorses a "refutation of epistemology" (Taylor 2007, p. 588). According to him, the above picture is not a neutral reality underlying the illusions of religious belief, but is driven "by its own set of values. Its 'neutrality' appears bogus" (Taylor 2007, p. 560).

Moreover, it is more than a mere theoretical stance, but has strong ethical implications in the form of an exclusive or self-sufficient humanism as well, which accepts "no final goals beyond human flourishing, nor any allegiance to anything else beyond this flourishing. Of no previous society was this true" (Taylor 2007, p. 18). It is on the level of these ethical implications that the real stakes for Taylor reside. Again, similar to Gauchet, this has to do with a fundamental philosophical-anthropological thesis.

Similar to Gauchet's philosophy, Taylor's framework starts from a fundamental philosophical assumption, namely that humans, by definition, strive towards a form of "fullness" (Taylor 2007, p. 5). Secularization implies a shift in the way this fullness is understood, since "for believers, the account of the place of fullness requires reference to God, that is, to something beyond human life and/or nature; where for unbelievers this is not the case; they rather will leave any account open, or understand fullness in terms of a potentiality of human beings understood naturalistically" (Taylor 2007, p. 8). The result is an "affirmation of ordinary life" (Taylor 1989, chap. 13). And similar to Gauchet, this allows Taylor to develop a normative perspective on our contemporary secular age. It is to this normative perspective, at work in both authors, that I now wish to turn to.

2.3. We Have Never Been Immanent
So far two different but related analyses of the process of secularization have been discussed. It has been noted that both Gauchet and Taylor incorporate philosophical-anthropological theses in their work. This brings both authors beyond a mere descriptive history of secularization, as found for instance in the work of sociologists such as Berger or Luckmann, opening up a normative horizon. Both Gauchet and Taylor mobilize these theses to formulate a

range of criticisms of our contemporary society. As stated before, these critiques will give us a clearer sight, in the next part of this paper, on Latour's metaphor of the secularization of science and how it differs from how the secularization metaphor is mobilized by other sociologists of science.

As we have seen, Gauchet starts from the fundamental assumption that subjectivity is defined by a form of alterity. Traditionally this element gave rise to religious practices, but "the modern Western world's radical originality lies wholly in its reincorporation, into the very heart of human relationships and activities, of the sacral element, which previously shaped this world from outside" (Gauchet 1999, p. 3). In that sense, he claims that "[r]educing otherness does not mean eliminating the dimension of the other in the name of pure presence but transferring the other into immanence" (Gauchet 1999, pp. 166).

Gauchet indeed ends his book with highlighting how this alterity is still at work in other "secularized" forms, for instance in still popular distinctions such as those between "appearance and truth, sensible and intelligible, immanence and transcendence, etc." (Gauchet 1999, p. 201). Gauchet gives a range of other examples, such as modern ideologies of communism, contemporary human right discourse, the focus on the unconsciousness, shifts in aesthetic experience, or the educational shift towards the "open future." But the most interesting one here is modern science,

> which clearly postulates the objectivity of phenomena, but simultaneously disqualifies any direct sensory observation of them, in favor of investigating the object's real properties, which it locates in the invisible. If on the one hand science expels the invisible from the visible (occult causal agencies), on the other it accommodates the invisible in the visible in a profoundly original manner, by installing an invisible certainty about its order at the very heart of the world, more certain than the world's appearances. (Gauchet 1999, p. 202)

Each of these practices tries to incorporate this alterity in an immanent secularized way, often without realizing it. Such a perspective allows Gauchet to diagnose a range of tensions within contemporary society, which fails to come to grips with this alterity. Part of Gauchet's project is to develop a new framework in which this alterity can be acknowledged, without going back to traditional religion. "Let us say goodbye to the supernatural, but let us hold on to the reference to something outside of us that structures ordinary nature." (Ferry and Gauchet 2004, p. 114)

A similar point is at work in Taylor's oeuvre. According to him, we all strive to fullness, but secularization entails that the way we do so has shifted from transcendence to immanence. But similar to Gauchet, for Taylor this does not entail the disappearance of any transcendental longing, which rather

"remains a strong independent source of motivation in modernity" (Taylor 2007, p. 530). This longing beyond the mere immanent is still present, but is not recognized by an exclusive humanism. For Taylor this entails a number of risks. One, for instance, is that a purely immanent framework can in fact result in an "immanent negation of life" (Taylor 1999b, p. 20). This is Taylor's analysis of Nietzsche's legacy, especially in the work of authors such as Foucault, Derrida or Bataille. It is not necessary to go into the details or validity of this interpretation. What is important is that, according to Taylor, it is a "manifestation of our (human) inability to be content simply with an affirmation of life" (Taylor 1999b, p. 28).

Generally, the problem is that this fact, that humans always need more than pure immanence, is not recognized anymore. According to Taylor,

> Exclusive humanism closes the transcendent window, as though there were nothing beyond—more, as though it weren't a crying need of the human heart to open that window, gaze, and then go beyond; as though feeling this need were the result of a mistake, an erroneous worldview, bad conditioning, or, worse, some pathology. (Taylor 1999b, pp. 26–7)

But again, the message is not one of going back to the good old days, while dismissing our contemporary society as one big mistake. Similar to Gauchet, Taylor recognizes "that the practical primacy of life has been a great gain for humankind and that there is some truth in the 'revolutionary' story: this gain was, in fact, unlikely to come about without some breach with established religion." At the same time, however, he argues "that the metaphysical primacy of life is wrong and stifling and that its continued dominance puts in danger the practical primacy." (Taylor 1999b, p. 29) In our society we have gone too far and are unable to acknowledge the transcendence that is still at work. Taylor's goal is to develop a perspective within the immanent frame that opens it up to these elements. According to him, thus, there are several possible readings of what it means to live in an immanent frame. "Some are open to transcendence, and some move to closure" (Taylor 2007, p. 566).

3. The Secularization of Science

In the previous part of this article we have seen how secularization is conceived by sociologists and philosophers of religion. This was done mainly in view of what will happen next: mobilizing some resources from these discussions about religion to shed a light on metaphorical claims about the secularization of science. Surprisingly this has not been systematically done before.

This is especially remarkable if one thinks about how science often played a crucial role in discussions about secularization. This was already clear in the popularized version of Weber's secularization thesis, claiming that science

pushed religion aside. Similarly, in Weber's work, both science and religion are shaped by the same process of rationalization. And it has indeed been noted that one could already conclude from Weber's analysis that science would be disenchanted in its own right. This is especially clear if one takes Weber's *Wissenschaftslehre* into account (see Laermans and Houtman 2017, chap. 4).

But Weber does not discuss science as extensively as one would hope. Robert K. Merton does discuss science more extensively, following Weberian lines in claiming a link between Protestantism and the Scientific Revolution (see Merton 1938). Similarly, Hans Blumenberg makes the argument that certain developments within Christian theology, leading to nominalism, among others, paved the way for a scientific inquiry of the world. Nominalists dismissed the possibility of grasping God by human categories, which were merely human. "Divine spirit and human spirit, creative and cognitive principles, operate as though without taking each other into account. The gratuitousness of the Creation implies that it can no longer be expected to exhibit any adaptation to the needs of reason" (Blumenberg 1983, p. 154). According to Blumenberg, this opened up a natural world, free from divine participation, which could be analyzed by science.

Neither of these authors, however, seems to raise the question of whether science itself could be secularized in a similar way. Taylor and Gauchet endorse the studies above in their own arguments, thereby including the blind spot for the possibility of a secularization of science. At best, one can find sporadic references to it, for instance in Gauchet's claim that "[t]he procedural, infinitely open rationality of the current sciences no longer guarantees us an entry into the promised land of the 'positive era'" (Gauchet 1998, p. 29). He does not, however, develop this further.

Nevertheless, it is possible to make the argument that a similar logic at work in science has been described and endorsed by contemporary sociologists of science. Here we can follow Fuller's suggestions, namely that "[j]ust as sociology had contributed to the secularization of religion, science studies would contribute to the secularization of science" (Fuller 1999, p. 246). Fuller mainly refers to how from the 1970s onwards a Sociology of Scientific Knowledge (SSK) came into being that aimed to analyze the content of science in sociological terms. According to SSK, the acceptance of Darwinism or Einstein's theory of relativity deserves a sociological explanation in the same sense that the acceptance of Social Darwinism or phrenology needs to be sociologically explained. True science is not something that transcends the social, but is rather part of it. In the first part of this section it will be argued that their work can be interpreted as a metaphorical secularization of science and discuss how they themselves have mobilized this narrative. But similar to the worries raised by Gauchet and Taylor, the second part will show how Latour, and related authors such as Serres and Stengers, can be interpreted

as a correction to a too strong reading of this secularization. They accept and endorse the secularization of science but argue that nevertheless some room for the alterity or transcendence at work in science must be provided.

3.1   Bringing Science Down to Earth

In their own manifestos, introductions, and histories several sociologists like to portray themselves as rebelling against a traditional position about Science (indeed, this is often stressed by writing it with a capital). They argue against a view that allegedly sees Science as the ultimate source of all Truth, as a Method that reveal to us Reality itself. Of course, this attributed position might be more fiction than reality, but it nevertheless clearly serves a function in their self-understanding and a closer look at their claims and terminology is telling.

According to the sociologists, "[s]cientific knowledge does not carry a revelation of its own correctness along with itself" (Barnes and Edge 1982, pp. 5–6). They thus dismiss the "persistent idea that science is something special and distinct from other forms of cultural and social activity" (Woolgar 1988, p. 26). Or, differently put, "scientific knowledge [is regarded] primarily as a human product, made with locally situated cultural and material resources, rather than as simply the revelation of a pre-given order of nature" (Golinski 1998, p. ix). As a result of their empirical studies "the truth or falsity of scientific findings is rendered as an achievement of scientists rather than of Nature" (Pinch 1986, p. 20). Secularization metaphors thus serve a crucial role in their narratives.

This is particularly clear in the work of David Bloor, one of the founders of SSK. Rather than believing in the "sanctity" and "transcendence" of science, which makes a proper social analysis of knowledge "beyond their grasp," Bloor looks at "knowledge, including scientific knowledge, purely as a natural phenomenon" (Bloor 1991, pp. 3, 5). Bloor even mirrors himself to Durkheim's sociology of religion, which had "dropped a number of hints as to how his findings might relate to the study of scientific knowledge. The hints have fallen on deaf ears" (Bloor 1991, p. 4). Similarly, Barry Barnes and David Edge, two other founders of the field, dismiss all traditional analyses of science:

> Nearly all of these accounts of science are very heavily idealized, and represent the various utopias of our philosophers and epistemologists rather than what actually goes on in those places which we customarily call science laboratories in contrast, the present need is for a general description which treats the beliefs and practices of scientists in a completely down-to-earth, matter-of-fact way, simply as a set of visible phenomena. (Barnes and Edge 1982, 3)

This movement also inspired others, for instance feminist scholars like Sandra Harding, who similarly opposes a traditional view of science which

"makes science sacred" (Harding 1986, p. 38). According to her, a down-to-earth sociological approach must be possible, allowing us to "see the favored intellectual structures and practices of science as cultural artifacts rather than as sacred commandments handed down to humanity at the birth of modern science" (Harding 1986, p. 39). Donna Haraway echoes this critique and dismisses the "conquering gaze from nowhere," associated with an allegedly disembodied, transcendent objectivity, which is in fact "an illusion, a god trick" (Haraway 1988, pp. 581–2). According to her, "[w]e have perversely worshipped science as a reified fetish" (Haraway 1991, p. 9).

However, none of the above authors saw themselves as being anti-science. "We see the sociology of scientific knowledge as part of the project of science itself, an attempt to understand science in the idiom of science" (Barnes, Bloor and Henry 1996, p. iix). Or similarly, Harding questions: "Why is it taboo to suggest that natural science, too, is a social activity, a historical varying set of social practices? That a *thoroughgoing* and *scientific* appreciation of science requires descriptions and explanations of the regularities and underlying causal tendencies of science's own social practices and beliefs?" (Harding 1986, p. 39) The only element that they aimed to deny is the transcendental aspect of science, as if, in order to be true or valuable, science must be something radically beyond the social. This is what they mean by the sacred aspect of Science.

In the light of the history of secularization, such a strange tension between claiming to be scientific while being accused of debunking science is not surprising, on the contrary. Just as Gauchet shows how the departure from religion is prepared by religious arguments, movements and shifts (such as the Reformation), the secularization of science can be perceived as a step within science itself. Like the religious zealots who merely claimed to purify religion from its impurities, a similar logic is at work in science. In that sense a "science of science" is not an anti-science movement, but rather a radicalization of its internal logic. Or as Joseph Rouse notes, the sociologists believe that "philosophers' and scientists' faith in the distinctive rationality and progressiveness of the sciences is yet another irrational dogma that must finally succumb to (sociological) reason" (Rouse 1996, p. 7).

These sociologists of science thus suggest that one should reread the history of philosophy of science as one following a similar logic to the one exposed by Gauchet and Taylor in the case of religion. Earlier positions which problematized "naïve" forms of realism could be read as purification movements concerning science, claiming that Nature is too transcendent and far-away for our human concepts ever to grasp. At most we can approximate it, study its signs in the phenomena and experiences in our

minds, but not Nature itself. Rather we end up in positions such as Karl Popper's fallibilism, where we can never grasp reality as such, but only make human attempts to approximate it. Popper indeed criticizes "the doctrine that truth is manifest," referring to "the optimistic view that truth, if put before us naked, is always recognizable as truth" (Popper 1963, p. 7). Such a direct contact with Nature is no longer possible. Truth or Nature is rather placed in a transcendent sphere, such as a "Third World" (Popper 1968).

Just as in the case of religion, where a logic that progressively places God in a more and more transcendent spot makes Him irrelevant for our daily lives, so in philosophy of science putting Nature further and further away from our grasp, raises the question of its relevance. Just as God became irrelevant for the profane life on earth, looking at science through the secularization metaphor leads to a view according to which Nature becomes irrelevant for the functioning of science, which instead received a secular explanation in social terms. The conclusion drawn by many sociologists of scientific knowledge, therefore, is that Nature has become irrelevant, since "Nature can be patterned in different ways: it will tolerate many different orderings without protest" (Barnes and Edge 1982, p. 4).

Similarly, critics such as Thomas Kuhn, see this purification of the notion of Nature as a betrayal of the scientific understanding of science, and Kuhn notes that "[i]t isn't that I think it's all wrong.... But you are not talking about anything worth calling science if you leave out the role of [Nature]" (Kuhn 2000, p. 317). In debates about the nature of science, we thus see, a striking similarity to the logic at work in reformist movement in religion, which often see themselves as noble forms of purification, while simultaneously being demonized as the destruction of end of religion. In the case of science, this would mean the end of scientific rationality (to which they might contribute despite their best intentions).

Let me give one final example to illustrate how this is not just caused by the sociologists, but rather by the dialectic of the sociologists and their critics. In response to the claims of sociologists and feminists, who point at social influences in scientific practices, critics often claim that such influences might indeed play in the case of biology or economics, but surely not in the case of physics of mathematics! That we accept that $2+2=4$ is allegedly completely free from any social factor. And although this reply might be successful to a certain extent, it is also a clear illustration of how Science or Nature becomes more and more transcendent, risking eventually becoming irrelevant in the discussion. In the words of Harding,

> This kind of resistance to feminist critiques pays the price of
> reducing science to mathematical or logical statements, thereby
> managing to contradict the fundamental assumption that

assessments of the adequacy of scientific claims should depend on the detectable relationship of those claims to our observations of the world. (Harding 1986, p. 52)

In that sense both the projects of the sociologists and feminists, as well of the critics who try to save parts of science from social influences, are part of the logic of a metaphorical secularization of science. But this logic has not been recognized as such, leading to fierce discussions in which questions such as "Do you believe in reality?" become plausible to ask. But as Latour correctly notes, "To ask such a question one has to become so *distant* from reality that the fear of *losing* it entirely becomes plausible—and this fear itself has an intellectual history that should at least be sketched" (Latour 1999, pp. 3–4). And this is precisely the so far unwritten history of the secularization of science.

3.2. A Laboratory, Not a Windmill

It is now clear how, according to several sociologists of science, a similar logic can be seen at work in the history of science as in that of traditional secularization narratives. The logic of secularization that sociologists mobilize in their narrative about science is that, just as God became more transcendent and eventually disappeared from the picture, Nature becomes irrelevant in the attempts to save it from social explanations. However, previously I also stressed one extra element; namely, how in the work of Gauchet and Taylor there is also a critical perspective, opening up a normative correction of the secularization process. In the last part of this article I will argue that Latour aims to do a similar thing in the case of science. But to strengthen my case, I will relate Latour with the work of Isabelle Stengers and Michel Serres, who mobilize this normative aspect of secularization as well, and sometimes more explicitly than Latour.

In the introduction, I already quoted Stengers' worry that the secularizing gesture of the sociologists, results in a picture of a "laboratory as if it were a windmill, open to all the influences of the epoch" (Stengers 2000, p. 42). And although this statement might sound enigmatic at first, I hope the previous parts have already made clear to some extent what is at stake. But let me try to elaborate on it more.

Stengers is not opposed to the sociologist's perspective but stands rather sympathetic towards it. At the same time, however, she worries that sociologists are nevertheless overplaying their cards by indiscriminately denying any difference between scientific and other practices. Although the sociologists are correct according to Stengers, concerning the fact there is no reified transcendent Nature, she warns against confounding this claim with the claim that there is no transcendent element whatsoever in science and that everything is in the hands of the human scientists.

According to Stengers, there is in fact a form of transcendence or alterity at work in science, to which she refers to as an "event." She illustrates this with the example of Galileo. Much has already been written on the Galileo affair (see McMullin 2005; Scotti 2017). Stengers is aware of this. Her ambition is not to give a historical correct account of the Galileo affair, but merely to link an alternative narrative with the mythology surrounding Galileo, putting other aspects of the scientific practice into the spotlight. The aim of Stengers (and Serres as we will see) is essentially to use Galileo as an exemplar in order to tell a bigger story about what science in general is about.

In the narrative she tells about Galileo, she in fact comes close to the narrative about secularization. Similar to Blumenberg and Gauchet, she focuses on the role of the nominalist logic in the dispute between Galileo and the Church, which stresses the gap between our logic and the mind of God, which she sees at work in the argument of Cardinal Maffeo Barberini (the later Pope Urban VIII):

> If God had so willed, what seems normal to us would not be so to him, what seems inconceivable or miraculous to us would be the norm.... If no other difference between the imaginative and fictive world and our world can be legitimately invoked except God's will alone,... then any mode of understanding that is not itself reducible to the pure observation of the facts, and to the logical reasoning derived from the observed facts (bringing into play the principle of noncontradiction that even God respects), is of the order of a fiction (Stengers 2000, p. 78).

According to Stengers, Galileo subscribes to this nominalist scepticism but exploits this to his own advantage. He accepts that any logic he would come up with to describe nature is a "fiction," of which there is no guarantee that the world is actually so. But, so Galileo adds, he can make a difference, namely by citing the world itself, by mobilizing phenomena and let them authorize him to speak in their name. Galileo does something with the falling bodies which allow them to point at Galileo as their spokesperson. In that sense, Galileo's legacy entails "the invention of the power to confer on things the power of conferring on the experimenter the power to speak in their name" (Stengers 1997, p. 165). Or to put it differently:

> The singularity of scientific arguments is that they involve *third parties*.... What is essential is that it is *with respect to them* that scientists have discussions ... [T]he scientists themselves only have influence if they act as representatives for the third party. With the notion of third party, it is obviously the "phenomenon studied" that

makes an appearance, but in the guise of a *problem*. For scientists, it is actually a matter of constituting phenomena as *actors* in the discussion, that is, not only of letting them speak, but of letting them speak in a way that all other scientists recognize as reliable. (Stengers 2000, p. 85)

And, although this might look like Stengers endorses the traditional transcendental role of Nature, it is in fact subtler. This is because Stengers adds that, although Galileo is indeed invoking a transcendent element here in the discussions (the falling bodies are intervening in the discussion and become part of it), it does not follow that Galileo can identify this transcendent element in an unproblematic way (as Nature, for instance). In that sense Stengers wants to separate two elements, allowing one "no longer to deny the differences scientists claim for themselves, but to avoid any way of describing them which implies that scientists have a privileged knowledge of what this difference that singularizes them *signifies*" (Stengers 2000, p. 67). Transcendence is thus present, but not as an authority to be unambiguously invoked, but as a problem.

This is related to the specific idea of "construction" which is at work here. Although the falling bodies of Galileo are not purely found in nature, but rather a product of a specific act of construction, such a construction is not the product of a subject (or a society) imposing its categories onto the world. Rather the model is one of interaction: Galileo and the phenomena are constructing a setting together, of which it is initially unclear whether it represents the behavior of the falling bodies or is rather a fiction created by Galileo. If an event occurs, in which Galileo is successful in stabilizing a certain setting of falling bodies, he is indeed inviting transcendent elements into the debate, but he lacks the authority or ability to fix their identity. "Just as the event, in itself, does not have the power to dictate how it will be narrated or the consequences that will be authorized on its behalf, neither does it have the power to select among its narrators" (Stengers 2000, p. 68). The transcendent element breaks in the discussion, but in the shape of a problem which does not stop the discussion, but rather opens it up in novel ways.

A similar argument is at work in Serres's *The Natural Contract* (2011). In his own description of the Galileo affair, again in order to make a point about science in general, Serres is playing with the different forms of transcendence being invoked. According to Serres, Galileo's famous last words "and yet it moves!" must be interpreted as invoking a transcendental court, outside of society, namely the natural world itself:

The cardinals decide and pass judgment in the name of canon law, of Roman law, and of Aristotle, the physicist jurist. To respond to

them, Galileo tries to escape from these texts and conventions by positioning himself outside their laws: "my kingdom is not of this world," he says, in substance, or, changing point of reference: "the world is not within the jurisdiction of this court." He is appealing to a nonexistent authority. (Serres 2011, pp. 84–5)

According to Serres, Galileo is thus constructing a new transcendent authority, namely Nature. This new authority has, since then, become a dominant one. But what is at stake in Serres's book is a contestation of this authority, mainly for political reasons: the traditional transcendent Nature, so productive for the sciences, has resulted in a neglect for the violence as produced by the sciences, for instance in the shape of global warming. Or as Serres states:

> Science won all the rights three centuries ago now, by appealing to the Earth, which responded by moving. So the prophet became king. In our turn, we are appealing to an absent authority, when we cry, like Galileo, but before the court of his successors, former prophets turned kings: "the Earth is moved." The immemorial, fixed Earth, which provided the conditions and foundations of our lives, is moving, the fundamental Earth is trembling. (Serres 2011, p. 87)

The conclusion of Serres is not that we should get rid of all forms of transcendence, but only that the traditional narrative of this transcendence element as Nature should be revised. The ecological crisis shows that we are still confronted with a transcendent force, beyond our control, but one for which the traditional terminology is inadequate and which should therefore be rearticulated.

In a sense, we find here is an echo of Taylor's critique of "subtraction stories": sociologists run the risk of telling a subtraction story of dismissing previous illusions about science, replacing it by a purely immanent description of how science 'really' is. But a different model is also possible, namely where it is not a question of subtraction, but rather of articulating a different relation with the sciences and transcendence. And this brings us indeed close to Latour (and Stengers), who started to speak of the figure of Gaia, in order to articulate an alternative to the "end of nature" (Latour 2004, p. 25).

Although Latour uses the figure of Gaia in other texts, it is mainly in his recent book *Facing Gaia* (2017) that she plays a prominent role. It is here that the metaphor of secularization also pops up and where Gaia is described as "a (finally secular) figure for nature." The book has more religious themes and terminology, such as a whole discussion about Gnosticism and Eric Voegelin, which I will, however, leave aside here. I will only focus on the link between Gaia and secularity.

At first sight this claim that Gaia is "totally secular" (Latour 2017, p. 106) seems to contradict the positions of Stengers and Serres and is rather in line with the sociological perspective. This is true insofar as Latour mobilizes the metaphor of secularization as a rhetoric device to expose concepts such as Nature or Science as ersatz religions. According to Latour, the idea that Science reveals Nature, which is the ultimate arbiter in all our disputes, is as religious an idea as those found in the traditional religions. The result of this is a "gap that separates Science from the sciences, matter from materiality" (Latour 2017, 211).

"Matter" is also a religious idea for Latour, where the plurality and agency of the world is reduced to an anonymous and sterile form, which paradoxically is claimed to be immanent but is transcendent and beyond our grasp at the same time. In that sense, Latour states (following Voegelin), that modernity has not been secularized, but "immanentized" and the moderns "have no sort of possible contact with the terrestrial, since they can see in it only the transcendent, which would be trying awkwardly to fold itself into the immanent. And necessarily failing" (Latour 2017, p. 204). To correct this we are in need of "a conception of materiality that is finally worldly, secular—yes, non-religious, or, better still, earthbound" (Latour 2017, p. 72).

But at the same time, for Latour, the metaphor of secularization is also suspicious, precisely because this notion contributed to the above confusion surrounding immanentization. "To move forward, we would have to be able to establish a new contrast between, on the one hand, the terms *religious* and *secular* and, on the other, the term *terrestrial*. The terrestrial is *immanence freed of immanentization*. [. . .] The terrestrial is neither profane nor archaic nor pagan nor material nor secular" (Latour 2017, pp. 211–12). Or put differently, "the 'secular' is like non-alcoholic beer, it is the religious without religion. But Gaia goes further." (Latour 2017, p. 87n38)

Latour tries to go beyond this by reconceptualizing what the religious is all about and by contrasting it with religion as traditionally understood. In this he takes inspiration from Serres, who defines religion not in opposition to atheism, but rather to negligence. "Whoever has no religion should not be called an atheist or unbeliever, but negligent" (Serres 2011, p. 48). To be religious thus means to care about certain elements, a definition which for instance allows one to consider Galileo as religious, since he cares about his phenomena, and would resist against those who—by negligence— would reduce his laboratory to a windmill. So for Latour, "*there is no such thing as an irreligious collective*. But there are collectives that *neglect* many elements that *other collectives* consider extremely important and that they need to care for constantly" (Latour 2017, p. 152).

This religious element can be contrasted with both traditional religions and secular societies. In this, Latour follows the work of Jan Assmann, who

makes a (controversial) distinction between the original religions and what he calls "contra-religions." According to Assmann, the original religions worked through "translation tables," allowing different gods to be defined through their actions and thus recognized by other collectives and cultures. Jupiter and Zeus could be placed on the same level, for instance. In this sense they align to the religious, as defined by Serres. The invention of Moses, however, was precisely to transform what was considered to be a vice, namely negligence, to become a virtue: one should be negligent towards the gods of other collectives. For there is only one true God. This is was Assmann defines as a contra-religion (see Assmann 1998).

What Latour adds to Assmann is the claim that not only must religions such as Judaism, Christianity, or Islam be seen as contra-religions, but that also our contemporary trust in Science and Nature are secularized contra-religions. "From the true God fulminating against all idols, we have moved to the true Nature fulminating against all the false gods" (Latour 2017, p. 157). In that sense, the metaphor of secularization breaks down, since it is part of the problem. Precisely a genuine "secularization" of our current predicament would require us to abandon all ultimate transcendent arbiters, both from religion and secularity.

"This is why it is so important, in my view, to try to face up to Gaia, which is no more a religious figure than a secular one" (Latour 2017, p. 219). Gaia, for Latour, entails a "terrestrialization," forcing us to recognize the elements that we do not want to give up without making them absolute in the form of an ultimate transcendence, including in an immanentized form, such as Nature. This would allow us to re-establish contact with the world, with materiality. It would allow us to acknowledge the things that move us, make us do more, as for instance was the case in Galileo and his phenomena, without reintroducing a traditional transcendent instance.

And although Latour does not refer to these discussions at all, it seems fruitful to interpret this in the lines of Gauchet and Taylor. Both groups of philosophers, Gauchet and Taylor on the one hand and Latour, Serres, and Stengers on the other, explicitly take a more normative and metaphysical stance than their sociological counterparts. But an even more interesting point of convergence is the fact that Berger and Luckmann published the book *The Social Construction of Reality* (1966), which launched the idea "that reality is socially constructed and that the sociology of knowledge must analyze the process in which this occurs" (Berger and Luckmann 1966, p. 13). On the one hand Berger and Luckmann's sociological studies on religion draw from this book, analyzing the role of religion in the social construction of reality. Berger even describes his own book as a "direct application of the same theoretical perspective in the sociology of knowledge to the phenomenon of religion" (Berger 1967, p. vi). At the same time,

this book has influenced the work of the sociologists of science, who took over this term to describe how scientific knowledge is socially constructed (see Lynch 2016).

It equally sheds light on why the role of transcendence is downplayed in both sociological programs. Berger and Luckmann explicitly starts from a phenomenological perspective, inspired by Alfred Schütz, which analyzes the social construction of reality as a socially immanent and triple process of externalization, objectivation, and internalization. "It is through externalization that society is a human product. It is through objectivation that society becomes a reality *sui generis.* It is through internalization that man is a product of society" (Berger 1967, p. 4). A similar view is applied to science by SSK scholars such as David Bloor (1991), again interpreting all aspects of science as immanent social products.

The philosophers at the table, however, disagree. Both in the case of religion and of science, they stress how, although specific forms of transcendence are being problematized or have disappeared, other forms of transcendence still play a factor that should be taken into account. This seems to be a central disagreement that these disputes about secularization metaphors bring into the open. The tension between Serres, Latour, and Stengers and the above described sociological program centers around this: the metaphorical secularization of science as conceived by sociologists is untenable. Rather it is either a problematic purely "immanent frame," without room for any transcendence or, even worse, the reintroduction a new immanentized figure, namely Society. Such a perspective would be one where "objects count for nothing; they are just there to be used as the white screen on to which society projects its cinema" (Latour 1993, p. 53).

It is possible to link these remarks on secularization to the earlier work of Latour. In *We Have Never Been Modern* (1993), Latour already pleads for a transcendence, but without a contrary. Instead, "we get a single proliferation of transcendences. A polemical term invented to counter the supposed invasion of immanence, the word has to change meaning if there is no longer an opposite term" (Latour 1993, p. 129). Despite the different terminology, it is not in contradiction with the above plea for immanence freed of immanentization.

For Latour, "this transcendence that lacks a contrary" is called delegation (again a term taken from Serres), referring to the idea that there is no ultimate essence or ground to fall back upon (such as the immanentized form of Nature), but rather what he elsewhere calls a "mini-transcendence" in the form of "a process, on a movement, a passage—literally a pass, in the sense of this term as used in ball games" (Latour 1993, p. 129). What things are is not determined by itself, but is rather always defined by

the entities to which it is related. Galileo is shaped by his phenomena; the religious person shaped by those things he or she cares about. This is a form of transcendence, but not in the traditional radical kind. "There is mini-transcendence; there is no maxi-transcendence." (Latour 2013, p. 402) In that sense a true immanence would precisely have room for these mini-transcendences.

4. Conclusion

The starting point of this article was a certain puzzlement with the use of secularization metaphors applied to science. It was unclear what such metaphors might entail, or how the claims of traditional sociologists and Bruno Latour differ. Moreover, the different metaphorical uses of secularization promise us insight into the disagreements between authors like Serres, Latour, and Stengers on the one hand, and, on the other hand, what more traditional sociological programs consisted in.

To do so, a detour was made through the secularization narratives of sociologists and philosophers of religion. Crucially, in the work of Gauchet and Taylor a particular normative aspect was present, allowing us to see how something similar is at stake in the debates concerning the secularization of science. Both Gauchet and Taylor on the one hand, and Serres, Latour, and Stengers on the other, want to go beyond their sociological counterparts, and both do so by mobilizing certain philosophical notions. Their goal is the same: to free up space for forms of alterity or even transcendence in a world that seems "secularized." The persuasiveness of such attempts, in both cases, depends on whether the introduction of certain philosophical notions into the debate are deemed acceptable.

This interaction has proven to be fruitful and might indeed be extended to other related discussions. One could, for example, raise an analogous question about recent studies concerning technology. Inspired by SSK and Latour, a similar plea to secularize technology is being articulated. Instead of speaking about Technology as an all-encompassing, transcendent entity, as authors as Martin Heidegger or Jacques Ellul allegedly did, we are witnessing an "empirical turn" which "[i]n place of describing technology as autonomous,… brought to light the many social forces that act upon it" (Achterhuis 2001, p. 6). These discussions can be interpreted in the light of the secularization debate as well, including voices who want to reintroduce some room for the transcendental element of technology (e.g., Smith 2018).

At the same time, however, such similarities have their limits. A range of tensions between traditional secularization narratives and discussions concerning science and technology do exist. Since the goal here has been to stress similarities, disagreements and tensions were downplayed in the

above picture. Similarly, the question to what extent one can compare religion and science as easily as these authors would want to, has been left aside. But to counter and limit this to a certain extent, let me end with highlighting a number of genuine tensions between Gauchet and Taylor on the one hand and Serres, Latour, and Stengers on the other (while indeed, still neglecting many differences internal to both groups).

Let me start with what a Latourian perspective can say about secularization narratives. The main tension arises in relation to either the notion of the subject or the notion of science. This is especially clear in the case of Gauchet, who seems to state that what is ultimately at stake is purely a history of the subject. It is not a matter of how the world is transformed, and presents itself in different ways to us, but rather "that of the internal constraints forcing us to present the question in this way" (Gauchet 1999, p. 202). One could thus criticize Gauchet for a tendency to reduce all that is at stake to "the merciless contradictory desire inherent in the very reality of being a subject" (Gauchet 1999, p. 207). There is no genuine room for how we are transformed by things outside the subject. A certain typical modern focus on the subject is thus left unquestioned (Latour 1993).

Taylor seems to be more in line with Latour on this point, due to his critique of the "buffered self" which leaves room for the idea that we are shaped by things around us, in an immediate and real way. At the same time, however, Taylor does strongly endorse the idea that "what has happened in our civilization is that we have largely eroded these forms of immediate certainty" (Taylor 2007, p. 12). In that sense, modern disenchantment has problematized these transcendent shaping factors. From a Latourian perspective, one could point at an ambiguity at work here, namely between the claim that these transcendent factors have disappeared and the claim that we are only incapable of articulating them in our contemporary discourse. In the second case they would still be there, but we have become unable to give them due attention (Latour 1993).

Gauchet seems to endorse the first. Taylor does allow the second option, but sometimes zigzags between both of them. What is at stake here is the notion of disenchantment, and whether the reality of such a process might not depend on how one looks at science and nature. Latour, for instance, denies "that science has 'disenchanted' the world" and rather affirms "that science has always *sung a quite different song* and has always *lived fully enmeshed in the world*" (Latour 2017, p. 72). For him, the problem is not science disenchanting the world, but rather a certain understanding of science that makes us insensitive to forms of enchantment that are still there, even in science. This is another unresolved tension.

At the same time, one could turn the tables, and criticize Latour. Gauchet, for example, questions a certain shift in "representation" in contemporary

democracy, and one could accuse Latour's own project, especially related to his Parliament of Things (see Latour 2004), of unreflexively endorsing this shift. According to Gauchet,

> 'To represent' meant: transcending the differences between individuals or groups in order to show the truth of the community in the unity of her will. Now it means: showing the differences, guaranteeing their visibility in public space, ensuring that they are legible at all the moments of the political process, that they are not lost in the formation of public decisions. (Gauchet 1998, pp. 119–20)

The problem is thus a disabling of democracy, since "representation as a public staging of social diversity seems to become an end in itself" (Gauchet 1998, p. 121). In the work of Latour and others, there is indeed a problematic tendency to celebrate pure diversity or plurality (Simons 2016, 2017). This precisely runs the risk that "the endeavor to be readable in all its parts leads to a curious collective illegibility.… We finally arrive at a new contradiction, namely of a society that knows itself to the smallest details, but no longer understands itself as a whole" (Gauchet 1998, pp. 126–7).

Despite these tensions, however, a fruitful discussion between debates surrounding secularization narratives and contemporary science studies seems possible and warranted. In fact, one could argue, precisely since both sides of the debate recognize that the histories of religion and science are intrinsically linked, that a closer interaction is the way to go.

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