The problem of disenchantment: scientific naturalism and esoteric discourse, 1900-1939
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The Intellectual Sacrifice

You need to beware of the word Entzauberung as cautiously as you beware of the word secularization. Both describe processes where it is easy to have fanciful pictures of an earlier age, and as easy to have illusions of our own generation. We got rid of imps and demons but we pushed them into the subconscious and called them by different names. We got rid of witches by learning to take no notice of their spells.

Owen Chadwick, Secularization of the European Mind, 258.

At the end of 1918, while revolution swept a Germany exhausted by war, Max Weber proclaimed to students at the University of Munich that ‘the fate of our times’ is the ‘disenchantment of the world’.¹ This ominous prophecy certainly suited a time of deep crisis. It was also a statement that resonated with deep-seated intuitions about modern society and culture. The understanding that mystery and sacredness was disappearing from a world increasingly dominated by industry, science, and technology had its intellectual roots in German Romanticism, where it had found expression in the works of Novalis and Friederich Hölderlin.² After Weber reintroduced the evocative term,

¹ Weber, ‘Science as a Vocation’, 155. In the following I will quote from the 1947 English translation by Hans H. Gerth and C. Wright Mills (trans., eds.), From Max Weber: Essays in Sociology. It should be noted that this translation is, as the translators acknowledge, concerned with bringing the text into idiomatic English, and hence sentences will not always follow the German as punctually as some other translations do. To avoid as much as possible the problematic aspects of this, I include the original German text for certain passages where I deem it helpful.

² The idea of disenchantment had a long history before Weber. It was present not only in the works of the abovementioned Romantics, but also in works by Friedrich Schiller, and later in Karl Marx and Friedrich Engels’ Communist Manifesto (1848). Some of Weber’s contemporaries were working with similar ideas as well, notably Georg Lukács and Emil Lask. For an overview of these precursors, see Patrick G. C. Dassen, De onttovering van de wereld, 230-232. As Dassen explains, the pessimistic implication of Weber’s cultural diagnosis concerned above all the dissolution of meaning and values. This aspect, which I call “axiological scepticism”, will be discussed in more detail later in this chapter. See Dassen, De onttovering van de wereld,
Entzauberung, it would go on to have a deep impact on theories of modernity developed by the following generations. The notion of disenchantment exerted an important influence on the early “Frankfurter Schule” of critical sociology, for example; the phrase ‘the disenchantment of the world’ appeared on the very first page of Theodor Adorno and Max Horkheimer’s *Dialektik der Aufklärung* (1944), and was used to characterise the project of the Enlightenment as such. After the Second World War the concept of disenchantment became increasingly associated with thoroughly pessimistic caricatures of modernity. Certain intellectuals associated with the rising tide of “postmodernism” would blend scholarship with activism and employ disenchantment in a polemical discourse that ultimately called for a re-enchantment of the world.

In a more strictly academic sense, the disenchantment thesis has remained central for historians and social theorists interested in analysing the changing cultural conditions for religion and magic in the modern world. The present work is concerned with such cultural conditions as well, but suggests that we should broaden the scope: it is not so much the “disappearance of magic” or changes in explicitly “religious belief structures” that are at stake in the process of disenchantment, but much more fundamental changes in the *conditions of knowledge* as such. The “disenchantment of the world” would above all imply a change in people’s epistemic attitudes. The thesis concerns how people assume the world to work, how knowledge about that world can be attained, and what cannot be known. “Disenchantment” is in this sense close to a Foucauldian “episteme”: it defines the basic rules by which legitimate knowledge can be produced in a certain period. While disenchantment would thus have obvious implications for “religion” and “magic”, it also covers a much broader area of culture.

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245-274. For a discussion of Novalis, Schiller, and Hölderlin in the philosophical context of German idealism, see Frederick C. Beiser, *German Idealism*, 375-434.

3 ‘Das Programm der Aufklärung war die Entzauberung der Welt. Sie wollte die Mythen auflösen und Einbildungen durch Wissen stürzen.’ (The programme of the Enlightenment was the disenchantment of the world. It wanted to dissolve the myths and overthrow fancies through knowledge.).

4 See especially Morris Berman, *The Reenchantment of the World*; David Ray Griffin (ed.), *The Reenchantment of Science*. This literature will be discussed at some length in chapter two.

5 Here disenchantment has of course also influenced more triumphalist narratives of secularisation and rational progress. An example of this can be found in Keith Thomas’ *Religion and the Decline of Magic*.

6 E.g. Foucault, *The Order of Things*.
In this opening chapter we shall have a closer look at the main implications of the disenchantment thesis. What does Weber’s formulation of the disenchantment of the world entail for how we study the relation between science and religion in the modern period? How does the thesis define the two activities, and on what assumptions do the definitions rest? Moreover, how can we understand these assumptions through a contextualisation of Weber’s own work? Finally, and most importantly: how useful is the thesis itself for analysing and understanding the struggles to define the boundaries and limitations of knowledge that were being fought by Weber’s contemporaries, and perhaps implicitly even by Weber himself? My main argument is that the disenchantment thesis, as it stands, is problematic, and in need of modification. Why this is, and how the concept should be modified will be shown in the following pages. The rest of this book is a testimony of what stands to be gained.

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The disenchantment “thesis” was developed gradually in lectures and publications between 1913 and 1919, but it was only in the 1918 address in Munich that the phrase was used explicitly. The famous words on the disenchantment of the world fell when Weber was explaining the practical consequences of what he called an ‘intellectualist rationalization, created by science and by scientifically oriented technologies’. Rationalisation had a quite specific meaning in Weber’s theorising, and he was particularly clear in pointing out that it does not refer to any straightforward “progress” in knowledge. Comparing the “savage” and the “modern” man, Weber observed that despite scientific sophistication and technological improvements, the average modern person does not necessarily have a better understanding of his own lifeworld than the average savage had of his. Indeed, the savage may have understood the conditions of his own existence better than the modern city dweller understands the complex social world he lives in. Moderns trust their cars and trams to work, but they do not necessarily know the actual mechanics of these artefacts, where they come from, who built them, and of what materials. They rely on the value of money for crucial transactions, but have really no clue about the intricacies of the economic system in which they are embedded. The point is this: while the technologies, tools and social

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7 Weber, ‘Science as a Vocation’, 139.
institutions that Western moderns surround themselves with exemplify a process of intellectualisation and rationalisation in Weber’s terminology, they have *not* brought about any ‘increased and general knowledge of the conditions under which one lives’.

In fact, they may even have contributed to a form of alienation. Intellectualization, Weber therefore argued, ‘means something else’,

namely, the knowledge or belief that if one but wished one *could* learn [anything] at any time. Hence, it means that principally there are no mysterious incalculable forces that come into play, but rather that one can, in principle, master all things by calculation. This means that the world is disenchanted. One need no longer have recourse to magical means in order to master or implore the spirits, as did the savage, for whom such mysterious powers existed. Technical means and calculations perform the service.

The difference between the savage and the modern does not rest in any specific new piece of knowledge that the latter possesses. Instead, “intellectualist rationalisation” has effected a change in our *presuppositions about* knowledge, so to speak in our epistemic attitude to the world. These presuppositions concern metaphysics as well as epistemology. Disenchantment entails above all the supposition that the world is constituted in such a way that it can, in principle, be *explained*. There are no essentially ‘mysterious incalculable forces’ (‘geheimnisvollen unberechenbaren Mächte’) at work within nature, even though there may be some as of yet unexplained mysteries. The notion that all forces in nature, whether properly understood at the present moment or not, are *ultimately explainable* is however a metaphysical assumption about the relation between the world as such and the cognitive potential of humanity.

Recent interpreters of Weber have seen the theory of rationalisation as the key to the whole of his intellectual production, connecting the domains of religion, law,

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8 Ibid.

economy, society, and politics together. But what are the sources of intellectualist rationalisation and the disenchantment of the world? In the earliest versions of the rationalisation thesis that gave way to the notion of disenchantment, the sources of the process appear to be entirely sociological. The basic principles are laid out in an essay on interpretive sociology from 1913, where the notion of ‘mysterious incalculable forces’ disappearing from nature is not yet explicitly present. Instead, Weber focuses entirely on the ordering of modern society, and expectations connected to social life; he talks about the constitution of social institutions (courts of law, the military, economics) and technological devices (cars and lifts) rather than “worldviews”, conceptions of nature, or even “science”:

What gives the situation of the “civilized” in this respect its specific “rational” quality in contrast to the situation of the “primitive” is, rather, (1) the generally established belief that the conditions of civilized everyday life, be they streetcar or lift or money or court of law or military or medicine, are in principle rational, that is, are human artifacts accessible to rational knowledge, creation, and control – a belief that has certain significant consequences for the character of the “consensus;” (2) the confidence that these conditions function rationally, that is, according to known rules, and not irrationally as do the powers the primitive seeks to influence through his sorcerer. One has the confidence that, in principle at least, one can “count” on these conditions, “calculate” their behavior, and orient one’s own action toward unambiguous expectations engendered by them.

The sources of rationalisation lie not in “scientific knowledge” as such, but rather in the uses of rational principles to order society, the uses of technologies, and the increasing understanding of one’s surroundings in terms of humanly created artefacts. Together these factors have consequences for the “consensus”, shaping a mentality that assumes everything to function predictably and “rationally”.

Weber seems, however, to have been struggling with the question of what comes first – the rational ordering of society, or the expectation that the world is in principle

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10 See especially Wolfgang Schluchter, Rationalism, Religion, and Domination.

rational? In the 1918 lecture, where the consequences of an impending disenchantment of the world were spelt out, a primacy was given to ideas: the disenchantment of the world was a historical process reaching much further back than the invention of cars or lifts, beginning instead with the invention of monotheism. The disenchantment of nature now appears primarily connected with changes in religious attitudes, which may be understood as moving away from immanentist conceptions of god/gods towards increasingly transcendent conceptions of the divine. Monotheism was a first step towards separating the object of worship from the world itself ("creation"). In this perspective it was theology that first disenchanted the world by exorcising the divine from nature and banishing anything incalculable, unfathomable or incomprehensible to the higher worlds. When the gods had left earth, it became possible to study nature as an autonomous and entirely rational entity. “Creation” was but a complex artefact, and no capricious magic could dwell in it – hence one could study its mechanisms and successfully predict its behaviour. Only when this process had reached an advanced stage could science emerge, and continue to disenchant the world by doing away with metaphysics and reconceptualising nature as an entirely self-contained, fully explicable mechanism. The disenchanted “modern condition” may have been a fruit of science and technology on the shorter run, but these were themselves the outcome of intellectual processes starting in antiquity with monotheism: ‘Scientific progress is a fraction, the most important fraction, of the process of intellectualization which we have been undergoing for thousands of years’.

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12 A common criticism against Weber’s theorising has indeed been that there is a lack of consistency in statements about social causation. For an overview, see e.g. Daniel Pals, *Eight Theories of Religion*, 185-187.

13 Weber never explored this implicit thesis on the theological origins of modern science systematically. However, Robert K. Merton’s thesis on the connection between Puritanism and the growth of early modern science in England was deeply inspired by Weber, constructed in analogy to Weber’s famous thesis on capitalism and the protestant ethic. See Merton, ‘Science, Technology and Society in Seventeenth-Century England’. For a discussion (and overview of the heavy criticism to which Merton’s thesis has been subjected), see H. Floris Cohen, *The Scientific Revolution*, 177-179, 314-321. Recently, Wouter J. Hanegraaff has made a related point with regards to the orthodox variety of Protestantism as a disenchanting force, with the Enlightenment polemic (although focusing on right thinking rather than right belief) springing forth from it. See Hanegraaff, *Esotericism and the Academy*, chapter three.

If we assume this narrative for a minute, we might ask: what did the emerging new rationalised world look like? The idea of a fully rational universe, capable in principle of total explanation and prediction, is perhaps nowhere better illustrated than in the famous thought-experiment presented by Pierre-Simon Laplace at the beginning of the 19th century. Laplace described an omniscient intelligence in a completely rational and deterministic universe:

at a given instant, [this intelligence] could comprehend all the forces by which nature is animated and the respective situation of the beings that make it up, if moreover it were vast enough to submit these data to analysis, [it] would encompass in the same formula the movements of the greatest bodies of the universe and those of the lightest atoms. For such an intelligence nothing would be uncertain, and the future, like the past, would be open to its eyes.\(^\text{15}\)

Weber’s disenchanted world is essentially a Laplacian world. Fathoming the whole is simply a matter of sufficient computing power. But living in a disenchanted world also entails the belief that humanity actually possesses the necessary mental faculties to perform such computations, although, of course, not in the extent of Laplace’s omniscient being. Not only is the world itself knowable in principle by some intelligence, but it should also be knowable in practice by the systematic application of human intelligence. It is therefore modern “empirical science” – whose business it is to refine humanity’s mental faculties, put nature to question and uncover the causes of phenomena – that becomes the foremost carrier of the disenchanted mentality in the modern world.

The disappearance of essentially mysterious and incalculable forces from nature results in what may be described as an extreme “epistemic optimism” concerning matters of fact in this world. Through “empirical science”, humanity can in principle know anything worth knowing about the world. But for all this optimism about the capabilities of empiricism and reason to know matters of fact, disenchantment also imposed strict limitations on the type of knowledge that could be obtained. A fundamental distinction between facts and values underlie Weber’s work, a distinction

that came to him through neo-Kantian philosophy, and is primarily a principle of methodology.\textsuperscript{16} Weber was strongly influenced by his friend Heinrich Rickert (1863–1936), one of the leading neo-Kantian philosophers of his generation; references to Rickert are abundant in Weber's writings.\textsuperscript{17} Following the fact/value distinction Weber held that, while science can produce facts about the world, there is no \textit{meaning} inherent in those facts that can tell us how we should live our lives. Value and meaning are based not on facts, but on \textit{worldviews} ("Weltanschauungen"), and worldviews, according to Weber, are matters of subjective \textit{choice} and \textit{conviction}, belonging exclusively to the private sphere.\textsuperscript{18} No natural, scientific knowledge can be used to justify one worldview over another. In other words, an unbridgeable chasm separates "science" from a large domain of knowledge of the utmost relevance to the lives of human beings. Empirical science's utter powerlessness in the encounter with questions concerning meaning and value is the "pessimistic" flipside of the disenchantment of the world. It also sets the epistemological ground for a further differentiation between science and religion: contrary to science, religion \textit{does} provide worldviews from which systems of value and meaning may be derived. However, the dilemma remains that there are no \textit{objectively} rational criteria by which one may begin to evaluate such worldviews. This condition gives rise to what Weber, with a somewhat confusing metaphor borrowed from John Stuart Mill, called a "polytheism" of worldviews, made up by a large number of "gods" providing competing systems of meaning (ideologies, religions, moral communities, etc.). Potential "believers" simply had to pick their choice, without even attempting to justify the universality of their final conviction.\textsuperscript{19}

We have now come to the question of what disenchantment implies for the relation between science and religion. Looking at the longer historical processes, there was the suggestion of a historical continuity between religion (or at least theology) and science: monotheistic assumptions concerning the relation between god and creation

\textsuperscript{16} Cf. Pals, \textit{Eight Theories of Religion}, 157-159.

\textsuperscript{17} See Patrick Dassen, \textit{De onttovering van de wereld}, 255. The fact/value distinction is, however, usually attributed to David Hume. For a discussion and contextualisation of Rickert and the neo-Kantian and hermeneutic approaches to developing a philosophy of science specifically for the humanities, see Charles R. Bambach, \textit{Heidegger, Dilthey, and the Crisis of Historicism}, esp. 83-126.

\textsuperscript{18} Cf. Dassen, \textit{De onttovering van de wereld}, 255-258.

paved the way for notions of an autonomous and self-contained nature that eventually became the domain of modern organised science. Now, however, we see a different relation appear. With the disenchantment of the world completed, religion and science get strictly differentiated: religion concerns transcendent things, while science is bound by strict empiricism to focus on inert, mechanical nature alone. Two separate social systems eventually emerge, fulfilling different roles in society, and dominated by incompatible sets of norms for practice. While religious options still remain possible in a disenchanted world, the believer must be willing to make an ‘intellectual sacrifice’ (‘Opfer des Intellekts’) in order to pursue it:

To the person who cannot bear the fate of the times [i.e. the disenchantment of the world] like a man, one must say: may he rather return silently, without the usual publicity build-up of renegades, but simply and plainly. The arms of the old churches are opened widely and compassionately for him. After all, they do not make it hard for him. One way or another he has to bring his “intellectual sacrifice” – that is inevitable.20

A sacrifice is necessary, because ‘[r]edemption from the rationalism and intellectualism of science is the fundamental presupposition of living in union with the divine’.21 Here Weber invoked a maxim attributed to Tertullian, stating the principle of the sacrifice as ‘credo non quod, sed quia absurdum est’ (translatable as ‘I do not believe in the absurd; I believe because it is absurd’).22

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20 Weber, ‘Science as a Vocation’, 155. The original German reads: ‘Wer dies Schicksal der Zeit nicht männlich ertragen kann, dem muß man sagen: Er kehre lieber, schweigend, ohne die übliche öffentliche Renagatenreklame, sondern schlicht und einfach, in die weit und erbarmend geöffneten Arme der alten Kirchen zurück. Sie machen es ihm ja nicht schwer. Irgendwie hat er dabei – das ist unvermeidlich – das „Opfer des Intellektes“ zu bringen, so oder so.’ Weber, ‘Wissenschaft als Beruf’, 510-511. It is intriguing to note that while the essay has become a standard reference for the phrase ‘disenchantment of the world’, the connected notion of an intellectual sacrifice is hardly ever cited – even despite the fact that ‘Opfer des Intellekt[e]s’ occurs four times in the text, whereas ‘Entzauberung der Welt’ is mentioned only twice (variations on the word “Entzauberung” occur only six times in total).


22 Note that Weber misattributes the maxim to Augustine. See Wolfgang Schuchter, Rationalism, Religion, and Domination, 537 n. 21). Although Weber consistently uses the German term for the “intellectual sacrifice”, there seems to be another historical link to the Dei sacrificium intellectus (‘sacrifice of the
The disenchantment of the world has thus created a deep chasm between religion and science. Union with the divine cannot be achieved unless the scientific attitude is forsaken; while science cannot answer questions regarding meaning and value, religion can only do so by breaking with the principles of science and rationality. This ‘tension between the value-spheres of “science” and the sphere of “the holy”’ is unbridgeable’, Weber insisted, and it was ultimately this chasm that forced the ‘“religious virtuosi” ... to undergo an “intellectual sacrifice”’.23

Summing up, we might say that the disenchantment of the world as spelled out in Weber’s lecture entails a mild version of the “conflict thesis” of science and religion.24 It is, however, a conflict that is escaped without bloodshed through a policy of separation, drawn on epistemological and metaphysical grounds. It is impossible for someone to legitimately stand in “both worlds” at the same time: attempts to do so would result in the loss of intellectual integrity as one failed to sacrifice one’s intellect and surrender completely to the demands of faith.25 The consequence of this condition is clear: “true intellectuals” cannot possess “true religion”. Indeed, Weber observed that intellectuals often make a ‘substitute’ for real faith, by

- decorating a sort of domestic chapel with small sacred images from all over the world, or
- they produce surrogates through all sorts of psychic experiences to which they ascribe the intellect to God.)

24 Ian Barbour distinguishes between four models of religion-science relations: conflict, independence, dialogue, and integration. We should note that in Barbour’s typology, “conflict” is reserved for models that emphasise explicit hostile exchanges between religion and science, and claim that the two are cognitively incompatible and must fight to the bitter end. If this perspective is granted, the view extracted from Weber fits better in the “independence” model: religion and science may co-exist as autonomous systems, as long as they do not attempt to interfere with one another. Religion may rule in the spheres of value and meaning, whereas science is the sole authority in the domain of knowledge about the world. See Barbour, Religion and Science, 77-105.
25 For a related discussion on the possibility of switching between “two worlds” and thus live one’s everyday life in a disenchanted world while occasionally “escaping” in given contexts (such as ritual), see Hanegraaff, ‘How Magic Survived the Disenchantment of the World’.
dignity of mystic holiness, which they peddle in the book market. This is plain humbug or self-deception.²⁶

Since “true religion” relies on absolute transcendence and is thus out of reach of science, the only way to legitimately possess it is by making an intellectual sacrifice reminiscent of a leap of faith. Those who refused to make this leap, attempting instead to back up their religious sensibilities and convictions with rational arguments or reference to natural facts, were engaging in humbug and self-deceit.

It is notable that Weber held those who were really able to make the leap of faith and sacrifice their intellects on the altars of “true” transcendent religion to be worthy of respect:

If he can really do it, we shall not rebuke him. For such an intellectual sacrifice in favor of an unconditional religious devotion is ethically quite a different matter than the evasion of the plain duty of intellectual integrity, which sets in if one lacks courage to clarify one’s own ultimate standpoint ...²⁷

It was not the possession of religious belief in itself that was the problem, but the attempt to bridge the two separate domains of reason/science and faith/religion. Pure, unjustified faith remained quite all right as long as it did not claim the authority of science. Justifying religion with reference to science and rationality, however, was a form of intellectual dishonesty.

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Following the discussion above we may distinguish between three dimensions of disenchantment in the Weberian sense, specifying the process’ consequences for three interconnected domains of thought (see figure 1). First of all, the disenchantment of the world implies what could be called an epistemological optimism: the rejection of “mysterious incalculable forces” is connected with the optimistic presupposition that all aspects of the natural world can in principle be known by “empirical science”. However, two sceptical dimensions counterbalance this optimism. The second dimension can be


termed *axiological scepticism* (i.e. scepticism concerning ethics, meaning and value), and revolves around Weber’s insistence on the fact/value distinction. This distinction sets down strict limits for scientific knowledge, while also carving out a separate domain for religion, philosophy, and ideology. Thirdly, a *metaphysical scepticism* limits the reach of scientific knowledge to the strictly empirical. We should note that it is these two sceptical dimensions, putting limitations on the reach of science, which actualises the intellectual sacrifice. The chasm between science and religion has thus less to do with the epistemically “optimistic” disappearance of incalculable forces than with the limitations imposed on rational scientific knowledge itself.

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<td>Nature can in principle be understood by empiricism and reason</td>
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**Figure 1:** Three dimensions of disenchantment, and relation to the intellectual sacrifice.

Where does the strong insistence on keeping the domains of facts and values apart come from? It is evident that Weber did not derive his distinctions from a careful historical consideration of how scientists, intellectuals, and religious spokespersons have gone about their business in actual historical reality; instead, it came out of an active engagement with specific philosophical epistemological debates. His lecture on ‘Science as a Vocation’ was, after all, an attempt to define the specific ethos of scientific inquiry, and it must hence be seen as presenting a normative rather than strictly

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28 From the Greek *axios*, ‘value’. The neologism axiology refers, in a strict sense, to the ‘theory of value’, and was used that way in works such as Eduard von Hartmann’s *Grundriss der Axiologie* (1908). Axiological scepticism, defined here as a consequence of disenchantment, thus refers to a theory that holds it impossible to establish systems of values on empirical and scientific grounds.
descriptive or theoretical argument. Weber speaks from the perspective of a particular philosophical position, which stands in the current of neo-Kantianism: as Patrick Dassen shows, both the fact/value distinction and the insistence on separating metaphysics from science were Kantian influences mediated through Weber’s friend, the philosopher Heinrich Rickert. In Kantian terms “empirical science” is restricted to knowledge of “phenomena” only, leaving the metaphysical “noumenal” reality of things-in-themselves completely off bounds. Metaphysical scepticism was, however, also related to a general anti-metaphysical stream within German philosophy at the turn of the century, which gave rise to influential positions in the philosophy of science such as Ernst Mach’s phenomenalism and the logical-positivist school of the Vienna circle.

The point for us here is that the implications of “disenchantment”, especially as set forth in ‘Science as a Vocation’, were derived from a very specific philosophical standpoint, presuming to set down the rules for how various knowledge practices ought to be conducted rather than how they are conducted in actual practice. This makes the use of disenchantment as an analytical tool for analysing knowledge practices from a historical point of view problematic: standards for “good” and “bad” practice are already assumed, and the line between analysis and normative judgment becomes blurred. Indeed, it is only by holding observed practice up against a normative standard derived ultimately from Kantian philosophy that Weber is able to dismiss a certain type of activity as “charlatanry”, while respecting another as a “legitimate” choice. By doing so, however, the scholar has entered the philosophical and even theological discourse of what constitutes “genuine” religion and science, while leaving behind the strictly historical and sociological question of how actors actually do behave. The disenchantment thesis has thus become an instrument for defining insiders and outsiders of the categories discussed (i.e. science versus pseudoscience, religion versus superstition). It has relinquished its distanced analyticity for an active voice in the discursive battles it set out to explain.

This normative leap is clearly problematic for the purpose of historical analysis. When Weber considered “empirical science” as the engine of disenchantment, it was an ideal science conceived through a Kantian epistemological lens that he had in mind.

30 Cf. Dassen, De onttovering van de wereld, 297-299.
Whether this ideal science corresponds with actual scientific practice is a different matter altogether; the ideal of a specific philosophy has little to tell us about the attitudes and endeavours of real scientists and intellectuals. The same goes for religion: the predominantly Protestant presupposition that religion is about doctrines of faith concerning transcendent realities that cannot be substantiated through reason or empiricism tells us little about actual religious meaning-making, or the legitimisation of beliefs and worldviews invested with religious significance. The normative constrain of the disenchantment thesis will inevitably create a blind spot covering all intellectual, religious, or scientific developments that are at odds with the epistemological premises on which the thesis has been erected. Such positions must either be dismissed as “not really religious/scientific”, or be written out of the narrative of the disenchantment process altogether.31

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It is not without irony that the disenchantment of the world was proclaimed at the dawn of the Weimar republic, by one of the drafters of the republic’s constitution. Quite contrary to the dictums of the disenchantment thesis, the Weimar era saw a large number of Germany’s intelligentsia refusing to undergo the intellectual sacrifice. The very foundations of disenchantment were coming under attack, and not from obscure and marginal occultists, but from the presumed engine of disenchantment itself: academics and spokespersons of the ‘empirical sciences’. The 1920s were a decade of radical developments across the fields of the natural sciences, occurring in parallel with broad cultural changes that greatly impacted peoples’ mentalities: new political ideologies were on the rise, and heterodox religious practices flourished. These cultural trends affected the entire Western world; when it comes to scientific developments, Germany contributed more than most countries. Before the decade was over, leading German physicists were claiming with great confidence that they had expelled causality and determinism from the workings of nature. If this were true it would mean the death of

31 Compare this view with Hanegraaff’s recent observation that disenchantment was the post-Enlightenment mode of a process of religious and philosophical exclusion that had older theological roots. I argue that this process of rejection is still implicitly at work in Weber’s own conceptualisation of disenchantment. Cf. Hanegraaff, Esotericism and the Academy, 371-372. I will return to these discussions in chapter ten.
of “epistemological optimism” in the disenchanted variety, and the reintroduction of incalculable forces – making even Laplace’s omniscient intelligence incapable of predicting the future course of events. While physicists battled with causality, biologists and psychologists launched a campaign for holism, organicism, and even explicit vitalism, aiming to counter mechanistic and reductionist thinking and replace it with alternative models. The time was ripe for scientific theories that went against the grain of the classical mechanism that had inspired Enlightenment natural philosophers such as Laplace, and informed the assumptions of generations of scientists, including that of Weber himself.

Weber was, however, far from ignorant of the fact that something was stirring the intellectual waters of Germany. In his address to the students of Munich in 1918, he spent much time denouncing the increasingly popular Lebensphilosophie expounded by the youth movements, criticising their emphasis on ‘sensation’, ‘experience’, and ‘personality’ as a faddish, shallow and quite possibly “self-deceptive” breach of intellectual integrity. The widespread attitudes of “holism” and “spontaneity” as opposed to “mechanism” and “causality” were not reconcilable with the scientific vocation. What Weber failed to recognise, however, was that his colleagues in the natural sciences themselves were far more ambiguous in their attitude to the rigorous mechanistic framework presupposed by disenchantment: indeed, the generation that embraced Lebensphilosophie would also be responsible for revolutionising the natural sciences. Meanwhile, interest in some of the ‘psychical experiences’ that Weber had dismissed as swindle and self-deception was gaining momentum at the border areas of the scientific field. At the time of the lecture in 1918, Munich had established itself as

32 See e.g. Paul Forman, ‘Weimar Culture, Causality, and Quantum Theory, 1918-1927’.
33 See Anne Harrington, Re-Enchanted Science; Mitchell G. Ash, Gestalt Psychology in German Culture; Heather Wolffram, ‘Supernormal Biology’. For developments in other countries, see e.g. Frederick Burwick and Paul Douglass (eds.), The Crisis in Modernism; Robert C. Grogin, The Bergsonian Controversy in France; G. E. Allen, ‘Mechanism, vitalism and organicism in late nineteenth and early twentieth-century biology’; Peter J. Bowler, The Eclipse of Darwinism.
35 Note, however, that the passage translated as ‘all sorts of psychic experiences’ is a translation of ‘allerhand Arten des Erlebens’, which is obviously a much broader phrase lacking the explicit connotations of “psychical research”. Nevertheless, following the overall logic of Weber’s argument, it
one of the world’s foremost centres of research into the elusive “occult” phenomena associated with spiritualist mediums. A laboratory for psychical research was established in Munich before the war by Baron Alfred von Schrenck-Notzing, popularly known as “der Geisterbaron”, hosting hundreds of experiments with spirit mediums aimed at demonstrating their alleged “telekinetic” and “ectoplasmic” phenomena. The experiments were duly documented in several books, as well as in the pages of journals such as *Psychische Studien* and *Zeitschrift für Parapsychologie*.37

The prospective discipline which Schrenck-Notzing was working within –known at the time as “psychical research” in English, *psychische Forschung/Parapsychologie* in German, and *métapsychique* in French – had first emerged in late 19th century England, but experienced a decline at the dawn of the 20th. After the First World War it saw a revival all over Europe, but most significantly in the United States where, in the early 1930s, it gave birth to a professionalised, university discipline under the banner of “parapsychology”. More than simply a “pseudoscientific” outgrowth of spiritualism, the psychical research communities of the early 20th century connected networks of academics – biologists, psychologists, philosophers, physicists – who saw in it a promising scientific frontier. By the 1920s psychical research was portrayed by its proponents to offer a field of empirical data that linked up to important scientific questions in other disciplines, as well as giving pointers to questions of philosophical, metaphysical and religious significance.

In the shadow of the disenchantment thesis all of the above must be relegated to an illegitimate cultural margin somewhere “in between” science and religion. They are not truly science: some because they accept incalculable forces, others because they claim scientific knowledge in domains where it does not apply. They do not belong to religion either, since they do not confine themselves to transcendental realities or

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36 Wolffram, *The Stepchildren of Science*, 131-189. See my discussion of this and related research programmes in chapter eight.


38 The history of psychical research and parapsychology will concern us at length in part three. Further discussion and references can be found in those chapters.
speculative exercises concerning values and ethics. What, then, is this illegitimate and contested borderland really about? *Entzauberung* literally means the disappearance of “magic” or “sorcery” (Zauber),\(^{39}\) and we should not be surprised to find that the sphere of the illegitimate bears a resemblance to that elusive old category of “magic”. The category of magic is, of course, tainted with polemical associations with a long and complex history in Western culture.\(^{40}\) Together with terms that have often (and confusedly) been connected with it, such as “superstition” and “the occult”, this category has primarily served the function to delegitimise undesired or foreign forms of religion, and, increasingly since the Enlightenment, undesired forms of natural philosophy and science as well (i.e. magic as “pseudoscience”). In his recent work, Wouter J. Hanegraaff has interpreted the emergence of these three ‘tainted terminologies’ as a continuous struggle to overcome *paganism*.\(^{41}\) A fear of idolatry and demonic worship had been the traditional context of anti-magical polemics in the history of Christianity since late antiquity; however, Hanegraaff argues that the concepts of superstition, magic, and the occult were all reinvented and renewed during the Enlightenment. At a time when the basis for intellectual legitimacy was gradually shifting from the study of traditional (and scriptural) “authorities” to the careful study of nature, the concepts that had originally been used to delegitimise wrong conceptions of the divine were increasingly refashioned to attack wrong conceptions of nature and of humanity’s capacity for

\(^{39}\) A *caveat* should be expressed at this point, since a distinction was beginning to be made between *Magie* and *Zauber* in German *Religionswissenschaft* in the early 1900s; ‘magic’ would thus refer specifically to ‘occult’ arts and techniques of controlling capricious forces – which made it ‘more scientific’ and also more friendly to ‘community building’, as an entry on ‘Magier, Magie’ in the widely cited *Realencyklopädie für protestantische Theologie und Kirche* stated it in 1900. Taken as a whole, Weber’s late work, to which the thesis of *Entzauberung* belongs, displays some ambiguity when it comes to the actual relation between *Magie* and *Zauber* (“magic” and “enchantment”), but overall it seems clear that the process of transformation that he referred to as the disenchantment of the world did indeed include the disappearance of magical means of controlling the world and achieving salvation, to the benefit of transcendentally oriented religious worship. For a discussion, see Breuer, ‘Magie, Zauber, Entzauberung’, esp. 119-120.


knowledge of it. By reinventing the concepts in this way, “magic” and its related terms became marginal and problematic intermediates somewhere “between” science and religion. The very same structure is at work in the concept of disenchantment: while the “pure types” of science and religion both have legitimate places in “disenchanted” society as long as they stick to their respective rules and limitations, the tertium quid of “magic” can have no such position. Disenchantment, then, holds within it a normative thrust that continues the delegitimisation and rejection of the “magical margin”.

Contrary to a thesis of progressive disenchantment, this presumed margin of intellectual, cultural and religious life seems only to have grown in significance during the interwar period, both in Germany and in the rest of the Western world. New forums for negotiation between science and religion were established, and new voices for reconciliation emerged. Historian of science Peter Bowler even argues that the 20th century begun ‘on an optimistic note for those who wished to portray science as a force that could be used to modernize religion rather than replace it’. In fact, the underlying notion that science and religion are two irreconcilable and autonomous domains with no legitimate overlapping spheres or points of contact was never universally accepted, neither by scientists nor by religious spokespersons. When the psychologist James H. Leuba conducted the first comprehensive study of beliefs about God and immortality in the American population in 1916, for example, he found that 41.8% of American scientists subscribed to a strictly theistic belief in a personal God who answers prayers in a way that is ‘more than the subjective, psychological effect of prayer’. This

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42 Hanegraaff furthermore sees these processes of polemical “othering” as an important phase in the emergence of “esotericism” as a category connecting various historical currents which share the status of being in conflict with mainstream religion and science. See my discussion in chapter ten.

43 In a specific sociological sense, “marginal people” inhabit more than one “social world” and are thus forced to manage a set of diverging and conflicting identities. This has obvious applications to the strict call for division between scientific and religious activities implicit in the intellectual sacrifice. For the classic works on marginality in this sense, see Robert E. Park, ‘Human Migration and the Marginal Man’; Everett V. Stonequist, The Marginal Man. Cf. discussion in Susan Leigh Star and James R. Griesemer, ‘Institutional Ecology, Translations’ and Boundary Objects’, 411.


45 J. H. Leuba, Belief in God and Immortality, 250. Leuba’s findings are remarkably consistent with later studies of the religious beliefs of American scientists, right up to the present day. See, e.g., Rodney Stark, Roger Finke, and Laurence Iannaccone, ‘Religion, Science, and Rationality’; Pew Research Center, ‘Scientists and Belief’. Recently, a massive study was conducted in the US involving both quantitative and
theological position is hardly compatible with a disenchanted view of autonomous and predictable nature. While theologians will no doubt insist that prayer and magic are two very different things, the consequences for the uniformity of nature remain precisely the same – “divine interventions” are just as abhorrent to disenchanted science as any act of “magic”. A belief in the effectiveness of prayer is for all practical purposes equivalent to the belief in incalculable powers.

In further defiance with the dictums of disenchantment, positive appeals to the authority of science have been a central legitimising strategy for religious movements, and remain so in contemporary times. This is especially true for those esoteric discourses that blossomed outside of the established and well-guarded theologies of the “old churches”. Currents such as spiritualism and occultism would typically seek to establish legitimacy by claiming compatibility with scientific breakthroughs, and sometimes even by appealing to what they considered to be scientific methodology and use of evidence. The important point for us here is that, despite the disenfranchisement of these myriad positions from the scene of “legitimate” religion or science, claims to scientific legitimacy seems to have been gaining rather than losing momentum in the early 20th century.

An increasing rejection of the strict disenchantment of the world within the sciences appears to have been a significant reason for this momentum. On the British Isles the developments in physics, biology, and philosophy gave new fuel to the ongoing project of reviving “natural theology”: theology based on reason and empirical observation rather than on revelation and faith. In one of his oft quoted overstatements, the British astrophysicist and cosmologist Arthur Eddington exclaimed that ‘religion first became possible for a reasonable scientific man about the year 1927’, qualitative research into the actual beliefs of scientists working in the country’s top twelve universities. 1,700 scientists were polled, while interviews were conducted with 275 of these informants. The results, which confirmed the pattern of earlier studies, are published in Elaine Howard Ecklund, Science vs. Religion.

46 The varieties of such appeals were recently documented in a massive 924 page anthology: Olav Hammer and James R. Lewis (eds.), Handbook of Religion and the Authority of Science.


48 See e.g. Larry Witham, The Measure of God; Bowler, Reconciling Science and Religion.
referring to Werner Heisenberg’s introduction of the uncertainty principle of quantum mechanics in that year.⁴⁹ In his broad survey of Americans’ beliefs in personal immortality, the aforementioned James Leuba found it necessary to spend an entire chapter on ‘modern immortality’ as presented through the alleged scientific demonstrations of psychical research. Apparently not sharing Weber’s Kantian notion about the scope of science, the academic psychologist even noted that ‘it would have been strange indeed if in this present scientific age systematic efforts had not been made to lift the modern belief above the parlous state in which it was left by metaphysics’.⁵⁰ This statement echoes the explicit rationale given by some of the pioneers of psychical research and parapsychology: in a later chapter, I shall argue that they were engaged in a naturalisation of the supernatural that simply had to transgress the boundaries of knowledge as drawn by Kantian epistemology.⁵¹

This cursory overview illustrates that something is not quite right with the disenchantment thesis. As Owen Chadwick warned in the passage quoted from at the beginning of this chapter, the concept of Entzauberung is liable to some of the same problems as that of “secularisation”: not only is it easy to misrepresent earlier epochs as being more magical, religious, or “primitive” (whether in a positive or a negative sense), but it is also easy to develop blind spots for one’s own culture.⁵² In the case of secularisation theories, the simplifications of the past and blind spots for the present have often proved to be remarkably well attuned to contemporary ideological struggles over the very identity of the theorist’s own society.⁵³ As James Beckford has noted,

It is highly significant … that the first programmatic attempts to identify secularisation, in the sense of the declining significance of religion, as a key feature of societal development in the mid-nineteenth century, occurred in the context of ambitious efforts to characterise the novelty of industrial, capitalist or modern societies.⁵⁴

⁴⁹ Eddington, The Nature of the Physical World, 350. For the exact meaning and context of this phrase, see my discussion in chapter seven.
⁵⁰ Leuba, Belief in God and Immortality, 154-172, 154. Emphasis added.
⁵¹ See especially the opening statement in Frederic Myers, Human Personality, 1. Cf. my discussion of the anti-agnostic (and implicitly anti-Kantian) discourse of psychical research in chapter seven.
⁵² Chadwick, The Secularization of the European Mind, 258.
⁵³ See e.g. James A. Beckford, Social Theory and Religion, 33-43.
⁵⁴ Ibid., 35.
In early secularisation theories such as that of Marx, for example, the line between a scientific prediction of religious decline, and an ideological utopia of no religion becomes entirely blurred. Weber’s thesis on the disenchantment of the world as the fate of his times may have been born from similar circumstances. But where the mid-19th century secularisation theories had generally been fuelled by optimism for the project of modernity, Weber was writing at a place and time where cultural criticism and intellectual revolts against modernity were gaining ground. It is no coincidence that Oswald Spengler’s *Untergang des Abendlandes* had been published only a few months before Weber’s Munich address, or that Weber had to explicitly attack *Lebensphilosophie* and its “cult of experience”. The disenchantment thesis, as articulated in the context of Weber’s lecture to future scientists and researchers, takes an active position in fundamental philosophical debates of his time concerning the identity and future course of the academy.

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The agenda of the present study is to reconceptualise the disenchantment thesis on lines that are more suitable to analytical concerns, and thereby to draw some of the material that has been hidden in the blind spots of the old thesis into the light. This material sometimes belongs to mainstream science, sometimes to fringe science, other times to esoteric discourses. In all these fields, we find people who have committed one of the two “errors” that lead one into the damned “magical margin” of the disenchanted world. On the one hand stand those who, in various ways and for various reasons and purposes, contested the disenchantment of the world as such, by holding that mysterious and incalculable forces are still at play in the world. Their error was to dispute disenchantment’s *epistemic optimism*, as the presence of irreducible mystery means that there is a limit to calculations and instrumental control of phenomena. On the other hand stand those who in principle *accepted* that the world was disenchanted, but *rejected* to undergo the intellectual sacrifice. The error of these men and women was to *overemphasise* epistemic optimism, and to extend reason far beyond the limits imposed on it by Kantian philosophy. Metaphysics, ethics, theology – all could be grasped and comprehended completely by the mind of the ultra-rationalists. Anything – whether the weight of a spirit, the shape of a thought, or the topography of the realm of
the dead – could be measured, manipulated, and controlled by the ultra-empiricist. Heretics of both types are found in the psychical research laboratory and in occult lodges, but also in mainstream academic institutions.

Far from all of these post-Enlightenment heretics wanted to marry science to religion, however. It is perfectly possible to advocate incalculable forces, hold that ethics can have a basis in natural fact, or even to consider metaphysics to be derivable from scientific knowledge without attributing any explicitly “religious” significance to these views. Most of the dominant ideologies of science at the turn of the century in fact rejected Weber’s axiological scepticism: British scientific naturalism, August Comte’s positivist movement, and the emerging secular humanist movement all went in the direction of claiming that values, meaning and ethics can be found inherent in nature, or be derived from it, whether the solution was found in utilitarian philosophies in the style of John Stuart Mill, in Comte’s “Religion of Humanity”, or in the evolutionary ethics of Thomas Henry Huxley or Herbert Spencer.55 Pens and voices that would define entire generations of intellectuals were in this sense “heretics” who refused to sacrifice their intellect in the search for the sources and qualities of the ultimate “good”.

Huxley, Spencer, Mill, and Comte may have been controversial figures, certainly from the perspective of organised religion, but it would clearly be absurd to label them scientific heretics. The same can be said for a wide range of academics and scientists of the early 20th century who were equally at odds with one or more dimensions of disenchantment: as the following chapters will demonstrate, a complete list of people who were at odds with the disenchanted dictums would have to include some of the greatest physicists, biologists, philosophers, and psychologists of the 20th century. Can we avoid the absurdity of dismissing all these as self-deceived charlatans without overthrowing Weber’s insights concerning rationalisation and intellectualisation in the process?

I propose to redefine disenchantment in ways that make it more suited to deal with the complexity of Western intellectual and cultural life. The main thesis is that we can avoid the problems and blind spots identified in this chapter if we define disenchantment as a culture-specific intellectual problem rather than a socio-historical process. This move from process to problem entails, above all, that we must focus on the

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55 For an overview of the various ideologies of science in Europe during the 19th century, see Richard G. Olson, Science and Scientism in Nineteenth-Century Europe.
plurality of responses to certain presuppositions about knowledge that have become widespread as a result of historical and social developments (i.e. Weber’s social and cultural “rationalisation”). We do not, however, reify those presuppositions by holding that every expression must conform to it or else be by definition “illegitimate”. Furthermore, we do not assume that developments are irreversible, or that cultural states are stable. To the contrary, the problem-focused view of disenchantment emphasises that solutions and responses are up for negotiation, and even that the problem itself may in principle be discarded as a pseudo-problem that only arises in certain philosophical and theological systems. All these responses are possible, and all of them can be viewed in their relation to an analytical construct, “the problem of disenchantment”.

What, then, characterises the problem of disenchantment? What are the questions that call for answers and solutions? Starting off from Weber’s original formulations, the problem of disenchantment becomes a set of clearly stated questions related to the three dimensions that we have identified earlier in this chapter: are there incalculable forces in nature, or are there not? How far extended are the boundaries of our capabilities for acquiring knowledge? Is there, or can there be, any basis for morality, value, and meaning in nature? Can religious worldviews be extrapolated from scientific facts? If no, why? If yes, how? In short: the problem of disenchantment contains all the features of Weber’s disenchanted world, with question marks added. As an analytical tool it focuses on the multiplicity of ways in which historical actors have answered these fundamental questions about knowledge, nature, meaning, and metaphysics. It acknowledges that these questions do arise as genuine intellectual problems, but it sees no reason to assume that the problem must necessarily be solved in a particular way. The “intellectual sacrifice”, for example, becomes less of a demand than a specific and situated philosophical and theological response to the problem of disenchantment itself. It may have been the “theologically correct” response in certain protestant circles, but it can hardly be generalised as the only legitimate way to be religious – or to have values – in the modern Western world.

Moving from a process- to a problem-focused understanding of disenchantment has important methodological implications that should be made explicit. It means that we give primacy to individual agency over socio-cultural structure. Conceptualisations of disenchantment as a (socio-historical) process that affect modern societies, leading to
a number of consequences for the individuals that make them up, imply rather abstract, top-down explanations of individual beliefs and actions: in these accounts, it is not so much individuals that define their reality, build societies, make choices, create and negotiate culture and meaning, as it is the overarching “systems”, “structures”, “worldviews” or “ideologies” that determine what individuals do and say. By contrast, the problem-focused view I am proposing avoids such abstractions of agency, focusing instead on the discursive activity of individual actors, emphasising the multiple and conflicting interests that are played out among individuals, institutions, and organisations. In fact, I hold that this approach makes the concept of disenchantment more consistent with Weber’s overall “interpretive sociology”. It implies, to begin with, a methodology for historical research along the lines of a “history of problems” (*Problemgeschichte*). Disenchantment is not a discrete process that can be generalised from historical data and straightforwardly described as an historical object. Instead, it is an analytically constructed problem that makes it possible to interrogate sources in a systematic fashion that may uncover conceptual relations that have remained hidden from view.

The problem-focused approach also implies another methodological principle that Weber was an important early contributor to: methodological individualism. Jon Elster has defined this principle most succinctly as ‘the doctrine that all social phenomena (their structure and their change) are in principle explicable only in terms of individuals – their properties, goals, and beliefs’. If we follow this principle, the driving force behind processes such as “functional differentiation”, “secularisation”

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57 See Weber, *Wirtschaft und Gesellschaft*, 1-30. The term “methodische Individualismus” was first coined by Weber’s student, Joseph Schumpeter in 1908, and was introduced by him into English in 1909. See Schumpeter, ‘On the Concept of Social Value’. The methodologically individualist approach to the question of agency in social theory has since generated a large literature. Some of the main works include Karl Popper, ‘The Poverty of Historicism’ (three parts; 1944–1945); Talcott Parsons and Edward Shils, *Toward a General Theory of Action* (1951); Friedrich von Hayek, *The Counter-Revolution of Science* (1955); Jon Elster, ‘The Case for Methodological Individualism’ (1982); Jürgen Habermas, *The Theory of Communicative Action*, two volumes (1984). Through the 1990s and until today we should also mention the significant attempts to bridge individualism and structuralism through so-called actor-network theory. For an overview, see Bruno Latour, *Reassembling the Social*.
(understood here as the separation of “religious” and “secular” spheres), 59 “rationalisation” and “disenchantment”, must be sought on the level of individuals. They result from the actions of individuals and groups, in response to specific problems that are also formulated by individuals. Arguments are devised and uttered in the press, politicians pass laws, institutions are founded and governed by social actors, capital is raised and invested in projects that individuals believe in, whether for profit motives or other reasons. Individual agendas and motivations are ubiquitous, and it is the methodological individualist’s imperative to always relate higher-order “processes” to such lower-order concerns.60

Let me briefly illustrate this with an example that is important to our present concerns: the “secularisation of science”, or more precisely, the process by which the natural sciences were differentiated from religious institutions. This process took place during the 19th century, and was inseparable from the professionalization of natural science. The study of nature had previously been the province of the “natural philosopher”, who had typically sought a broad understanding of the world in which theology, metaphysics, moral- and political philosophy were integral parts. The

59 A complete discussion of secularisation theories would take us too far away from the focus of the present work. It will suffice to say that when I refer to "secularisation", I imply the "differentiation thesis" advocated by such theorists as José Casanova and Karel Dobbelaere. (E.g. Casanova, Public Religions in the Modern World, 19-20; Dobbelaere, 'Assessing Secularisation Theory'). This version of the secularisation theory, much more modest than the straw-man typically attacked by secularisation denialists, focuses on processes of differentiation of "religious" and "secular" spheres on the macro level of society, and consider any specific effects on lower levels (e.g. concerning church attendance or professed belief) to be hypotheses that can be tested empirically. For example, no necessary connection is assumed between increased differentiation (e.g. "secularisation") and a general decline in religious observance in a given population – hence, the commonly found rhetoric that the continued presence of individual belief and religious practice counters "the secularisation theory", is way too simplistic and misses the point. See e.g. Rodney Stark, 'Secularization, R.I.P.'; cf. Steve Bruce God is Dead, 1-44.

60 It will be noted that Weber, in congruence with his interpretive sociology, focused not only on individuals, but specifically on the individuals' intentional states. This step is problematic, and will not be adopted here. Instead, I seek to limit the analysis to what is more readily observable, namely the discursive practices of individual agents, while refraining from grounding analysis in assumptions about internal states of minds. See especially Habermas, The Theory of Communicative Action, 102-142. Cf. Kocku von Stuckrad, 'Discursive Study of Religion: From States of the Mind to Communication and Action; idem, 'Discursive Study of Religion: Approaches, Definitions, Implications'.

discipline was to change rapidly after 1800, as the spheres of the natural and human sciences came to be separated, compartmentalised, and embedded in different institutions. In 1834 William Whewell coined the term “scientist” to denote a new, emerging class of knowledge experts, specialising in the study of nature alone. Through the rest of the century, natural scientists fought a prolonged campaign, involving public polemicising, political lobbying and fundraising, aimed at heightening the status of their profession, and to free it from certain legal constrains that continued to keep scientific training under theological review in many traditional universities. The point is that the separation of “scientific” knowledge from “religious” knowledge is governed not by abstract “structures” or processes driven by an abstract logic of its own; at every step of the way it is the result of specific social struggles, political decisions, and the individual pursuit of career opportunities, social status, and the satisfaction of personal interests.

Accepting methodological individualism it follows that no sociological process is truly irreversible, or even total. While certain social struggles and political decisions in the 19th century led to an institutional separation of religion and science, the early 20th century saw an increasing number of significant institutions established with the intention to reverse this process of differentiation and resume discussions of religious and scientific knowledge under the same roof once again.

This brings us to the core of the present study as a whole: we shall meet individuals who have walked the outer boundaries of reason, people who have contested the limits on knowledge imposed by disenchantment, and people who have sought to reverse the differentiation of religion from science that emerged after the Enlightenment. Such counter-movements may seem problematic if the process view of disenchantment is taken for granted. Once we abandon the notion of abstract structural processes, and focus on the agency of individuals instead, conflicts, contests, negotiations and disagreements about even the most fundamental questions become precisely what we expect to see. As the chapters of this book will show, such conflicts and disagreements cannot entirely be reduced to the struggle between specific groups either: the problem of disenchantment is not a question of being for or against “the academy”, for example, or even for or against “scientism”. The problem of disenchantment, as I shall seek to demonstrate in future chapters of this book, has not

61 For a concise version of this argument, see Frank Miller Turner, ‘The Victorian Conflict between Science and Religion: A Professional Dimension’.
primarily manifested as a battle over the influence of the academy in wider society; it has just as much been a debate among individual scholars and scientists about the identity and future of the academy itself.