

# INTRODUCTION

## *The Limits of Reason*

Nature *is* false; but I'm a bit of a liar myself.

— ALEISTER CROWLEY, *The Book of Lies*, ch. 79

THIS BOOK IS ABOUT PEOPLE WHO HAVE SOUGHT TO EXPLORE THE OUTER limits of reason. Some of them were eminent natural scientists, some were philosophers, while others were steeped in the currents of occultism. They all shared an opposition to certain epistemological presuppositions that had been dominant since the Enlightenment. They re-visited fundamental questions concerning the possibility of metaphysics, freedom of will, and the explicability of the natural world. They redrew the relations between facts and values, mechanism and purpose, and science and religion. The solutions our protagonists came up with may appear heterodox when judged against the received view of Enlightenment thought. Yet, their ostensibly deviant responses were formulated in the middle of one of the most extraordinary periods of scientific development in recorded human history. Indeed, some of our protagonists contributed directly to those very developments.

The core argument of this book revolves around the famous thesis attributed to Max Weber that a process of intellectualisation and rationalisation has led to the “disenchantment of the world”.<sup>1</sup> This process was thought to be theological in origin: the invention of monotheism in antiquity pushed the divine, mysterious, capricious and “magical” out of the mundane affairs of the world, paving the way for a rationalisation of ethical systems and economic behaviour as well as epistemology.<sup>2</sup> The move from theological immanence to transcendence was radicalised during the Reformation, in polemical exchanges where the “pagan” immanence of Roman Catholicism was singled out as heretical by Lutheran and Calvinist

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1 See especially Weber, ‘Wissenschaft als Beruf’.

2 E.g. Weber, ‘The Social Psychology of the World Religions’; idem, ‘Religious Rejections of the World and Their Directions’. Cf. Guenther Roth and Wolfgang Schluchter, *Max Weber’s Vision of History*, 11–44.

reformers. In the Enlightenment period, the separation of divine and world would form the basis for separating “religion” from “science”: religion deals with transcendence and “ultimate concerns”, while science works with empirical investigations in the domain of autonomous nature. The blueprint for the “non-overlapping magisteria” of science and religion was born,<sup>3</sup> with “magic”, “sorcery” and the “occult” pushed into the margins.<sup>4</sup>

However, the process of disenchantment (*Entzauberung*) concerned much more than what Keith Thomas famously called the “decline of magic”.<sup>5</sup> Above all, the disenchantment of the world meant that people’s *epistemic attitudes* towards the world had changed: they no longer expected to encounter genuinely capricious forces in nature. Everything could, in principle, be explained, since ‘no mysterious, incalculable powers come into play’.<sup>6</sup> But the explicability of the natural world came at a price, for the eradication of immanence also meant that there could be no natural, factual, this-worldly foundation for answering questions of meaning, value, or how to live one’s life. Nature was dead and inherently meaningless. Questions concerning values and meaning belonged to the transcendent realm, and answers could not be found in an interrogation of nature. The disenchanted mentality was optimistic about acquiring (factual) knowledge of nature, but pessimistic about knowledge of values. Moreover, with the validity of religion now predicated on the strictest transcendence, “genuine” religiosity required an *intellectual sacrifice*, an admission that “genuine” religious beliefs and practices could never be justified with appeal to reason, evidence, or fact. Thus it was not only “magic” and “sorcery” that had become problematic and condemned to the margins; to paraphrase Weber, *anyone* who claimed to derive values from facts, or mixed science and religion without undergoing an intellectual sacrifice, were “charlatans” or victims of “self-deceit”.<sup>7</sup>

In addition to disenchantment, this is also a book about Western esotericism. As Wouter J. Hanegraaff has argued, the production of “esotericism” as a historiographical category since the Enlightenment is closely

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3 For this version of the “independence thesis” on science and religion, see Steven Jay Gould, *Rocks of Ages*. Cf. Ian Barbour, *Religion and Science*, 84–90. For a recent criticism based on the cognitive science of religion, see Robert McCauley, *Why Religion Is Natural and Science Is Not*, 226–229.

4 For the construction of these labels, see e.g. Randall Styers, *Making Magic*; Wouter J. Hanegraaff, *Esotericism and the Academy*.

5 Thomas, *Religion and the Decline of Magic*. The scope of even that narrative of decline must be questioned. See, e.g., Wouter J. Hanegraaff, ‘How Magic Survived the Disenchantment of the World’.

6 Weber, ‘Wissenschaft als Beruf’, 488.

7 Weber, ‘Wissenschaft als Beruf’, 509.

intertwined with the narrative of disenchantment described above.<sup>8</sup> The diverse historical currents that have been lumped together under this category share the experience of having been “excluded” from the dominant religious and intellectual cultures of Western history through a series of interlocking polemical discourses. Essentially, according to Hanegraaff, it boils down to a problem with *paganism*: beginning with the exclusivist monotheism of the Mosaic commandments, continuing with the anti-magical polemic and concomitant demonology of the early church, the Reformation discourse on “pagan” Rome, and Enlightenment discourses on “superstition”, the rejection of paganism follows the same historical lines as the rejection of immanence and the disenchantment of the world. Thus, Hanegraaff writes that ‘when Max Weber defined the eighteenth-century process of disenchantment as the disappearance of “mysterious and incalculable powers” from the natural world, he was describing the attempt by new scientists and Enlightenment philosophers to finish the job of Protestant anti-pagan polemics.’<sup>9</sup> Following this argument, the “magical margin” created by the disenchantment process should largely coincide with the historiographical category of esotericism. We should expect the counter-voices to disenchantment to take part in esoteric discourse, and esoteric spokespersons to stand in conflict with an ideal-typical disenchanted world.

As I set out to demonstrate in this book, things are more complicated once we get down to ground level. We shall meet a number of people who, in various ways and from different perspectives, did not share the assumptions of a disenchanted world. Among them we find scientists who did not believe that the natural world could be fully explained, and others who found the basis for theological arguments in new scientific discoveries. We find people straddling the boundaries of the occult and the scientific, stubbornly bent on creating new methods for the empirical study of the supernatural. Some of these would-be “charlatans” walked in the shadows of the modern academy, publishing their work in occultist journals and carrying out their research in occult lodges and societies. Seen in isolation, this would appear to confirm the link between the magical margin of disenchantment and esotericism as oppositional “rejected knowledge”. But if we broaden the analytical gaze and look *outside* of the category of the esoteric, we will also have to count university professors and Nobel laureates among the dissidents, people working at the cutting edge of fields as diverse as physics, chemistry, physiology, and literature. The modern academy and especially the natural sciences were supposed to have been the very engine

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<sup>8</sup> Hanegraaff, *Esotericism and the Academy*; cf. idem, *Western Esotericism*.

<sup>9</sup> Hanegraaff, *Esotericism and the Academy*, 371–372.

of the disenchantment process in the modern world. It was to have been the institution foremost responsible for the rejection of “esotericism”. What happened?

The disenchantment thesis grasps something important about trends in modern Western intellectual history. However, it was formulated on the level of the ideal type, and as Weber very well knew, ideal types rarely correspond to ground-level historical realities.<sup>10</sup> Narratives of the disenchantment process as a *longue durée* in Western history thus run the danger of obscuring the plurality of epistemological positions available within post-Enlightenment intellectual culture. Setting up certain intellectual developments as major causal agents of a “disenchantment process”, there is a tendency to prioritise a specific set of cultural impulses—above all Protestant theology and Kantian philosophy—when determining normativity and deviance in Western intellectual history. Whereas both Protestantism and Kantianism have been extremely important in forming the mental life of modernity, they should not be assumed to have been uniformly victorious. Moreover, to assume that their various negations must belong to the margins of culture—e.g. in the form of esoteric “rejected knowledge”, or by compromising intellectual integrity—is to beg the question of normativity in Western intellectual and religious history.

I argue that we can reconceptualise disenchantment to do a different and more fine-grained sort of analytic work on the intersection of the history of religion and the history of science. As Richard Jenkins wrote in a programmatic article on the future of “Weber studies”, “[s]cepticism about the disenchantment of the world thesis does not... require that the entire notion should be dumped’.<sup>11</sup> In this spirit, I propose that we can avoid the obstacle hinted to above and create a useful analytical framework if we abandon the notion of disenchantment as a socio-historical

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10 E.g. Weber, *Economy and Society*, 9. ‘[Ideal types] state what course a given type of human action would take if it were strictly rational, unaffected by errors or emotional factors and if, furthermore, it were completely and unequivocally directed to a single end... In reality, action takes exactly this course only in unusual cases... and even then there is usually only an approximation to the ideal type.’ The main problem with Weber’s method of ideal types is that behaviour is modeled on the basis of what he considers “purely rational” action. As I will suggest elsewhere in this book, we now have better ways to model action coming out of more recent psychological and cognitive science research. On the psychology of Weber’s sociological method, see e.g. Martin E. Spencer, ‘The Social Psychology of Max Weber’; for a more recent contribution arguing the merging of Weber’s approach to social action with recent cognitive science of religion, see Ann Taves, ‘Non-Ordinary Powers’. See also my discussion of consequences for the study of religion in the conclusion of this book.

11 Jenkins, ‘Disenchantment, Enchantment, and Re-Enchantment’, 13.

*process*, and instead reconceptualise it as a cluster of related intellectual *problems*, faced by historical actors. The implications of this move will be discussed in detail in chapter one, but I wish to clarify some important points already at this stage. One point concerns the theoretical *foundations* of the move from process to problem, the other concerns the *scope* of the resulting claim. First, my proposal is to reconceptualise disenchantment in the context of “problem history” (*Problemgeschichte*).<sup>12</sup> This word, *Problemgeschichte*, used to be associated with a predominantly Platonic (and completely unhistorical) history of philosophy that looked for “timeless philosophical problems”.<sup>13</sup> In recent years, however, problem history has been reinvented to form a methodology for intellectual and cultural history that emphasises the contextual, situated, and embodied nature of intellectual questioning. The problems of problem history are always bound up with culture at large, while an insistence on embodiment and experience means our analysis cannot neglect the biological, psychological and cognitive level. It is a strongly interdisciplinary approach that potentially engages all aspects of cultural history, including religious history and the history of science and technology.<sup>14</sup> This new problem history, then, has no place for *eternal* problems, whether connected with Platonic ideas, trans-historical concepts or even “unit ideas” in the Lovejoyan sense.<sup>15</sup> It emphasises historical, cultural and social contingencies, and to the extent that problems display a degree of stability, explanations are to be sought in the commonalities of human experience and the historical stability of some cultural representations and cultural-cognitive schemas. Problem history is related to a Foucauldian understanding, in so far as its problems

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12 Key works in this recent revival of *Problemgeschichte* include Otto Gerhard Oexle, (ed.), *Das Problem der Problemgeschichte 1880–1932*; Oexle, *Geschichtswissenschaft im Zeichen des Historismus*; Riccardo Pozzo and Marco Sgarbi (eds.), *Begriffs-, Ideen-, und Problemgeschichte im 21. Jahrhundert*; Sgarbi, ‘Umriss der Theorie der Problemgeschichte’; Pozzo and Sgarbi (eds.), *Eine Typologie der Formen der Begriffsgeschichte*. For an instructive application in the history of esotericism, see Kocku von Stuckrad, *Locations of Knowledge in Medieval and Early Modern Europe*, 64.

13 Especially associated with scholars like Wilhelm Windelband and Nicolai Hartmann. E.g. Windelband, *Geschichte der Philosophie* (1892); Hartmann, ‘Zur Methode der Problemgeschichte’ (1909). On Windelband’s conception, see e.g. Matthias Kemper, ‘Der Problembegriff der Philosophiegeschichtsschreibung’; on Hartmann, see Cekic, ‘Philosophie der Philosophiegeschichte von Hegel bis Hartmann’. Cf. Sgarbi, ‘Concepts vs. Ideas vs. Problems’.

14 Oexle, *Geschichtswissenschaft im Zeichen des Historismus*, 9–10; Sgarbi, ‘Umriss der Theorie der Problemgeschichte’, 196–198.

15 E.g. Arthur O. Lovejoy, *The Great Chain of Being*, 3–23.

are constituted by the *epistemes* of specific historical contexts and thus governed just as much by the ruptures of history as by its continuities.<sup>16</sup> The cognitive, social, cultural, and historical processes that together conspire to *create* the discourses in which problems emerge and are formulated is one avenue of research for *Problemgeschichte*.<sup>17</sup> However, the main thrust of its approach is to allow a synchronic analysis of the ways in which these problems are formulated, answered, and embedded across different fields: ‘The richness of the history of problems is grounded on the limitless possibility to formulate parallel and jointly and not simply chronological solutions.’<sup>18</sup>

With this in mind it should be easier to appreciate the scope of my claim about disenchantment. Reconceptualising disenchantment as a historically situated “problem” first and foremost creates a new conceptual tool, “the problem of disenchantment”, that can do some interesting analytical work in the interdisciplinary field strung out between the history of religion, the history of science, and the history of esotericism. It should also be clear that the intention is *not* to suggest a new authoritative way of “reading Weber”. Nor do I suggest that the complex historical and socio-economic processes covered by Weberian analyses ought to be converted to a problem historical approach. In fact, the processes of *rationalisation* that form the core of Weber’s socio-historical work—from the theological intellectualisation of monotheism to the modern proliferation of means-end rationalities through new forms of social organisation and bureaucracies<sup>19</sup>—remain an important backdrop to my argument in the present work. Put differently: the *processes* of rationalisation have created the conditions for the *problem* of disenchantment to emerge. The problem-historical outlook developed in this book only diverges from the standard Weberian view in that it proposes a way to operationalise disenchantment for *synchronic* analysis of intellectual discourses, with a primary focus on the agent level. This operationalisation is offered as complementary to

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16 On the connection with Foucault (more specifically his “archaeology”), see especially Sgarbi, ‘Umriss der Theorie der Problemgeschichte’, 192.

17 Sgarbi, ‘Umriss der Theorie der Problemgeschichte’, 193.

18 Sgarbi, ‘Concepts vs. Ideas vs. Problems’, 78.

19 On these intertwined processes, see especially Guenther Roth and Wolfgang Schluchter, *Max Weber’s Vision of History*, 11–64; cf. Schluchter, *Die Entwicklung des Okzidentalen Rationalismus*. Further on the complexity of the “rationalisation” concept in Weber, see Reinhard Bendix, *Max Weber*; but cf. the criticism in Friedrich Tenbruck, ‘The Problem of Thematic Unity in the Works of Max Weber’, 321–326. On Weber’s various approaches to rationalisation and their impact on theories of modernity, see the contributions by Mommsen, Roth, Schluchter, Bourdieu, Schroeder, Turner and others to Scott Lash and Sam Whimster (eds.), *Max Weber, Rationality, and Modernity*.

the diachronic analysis of rationalisation processes as a *longue durée* of (Western) history at large.<sup>20</sup>

Reframing disenchantment in view of *Problemggeschichte* has two major benefits that undergird the entire present study. First, it opens up a vast interdisciplinary field that makes it possible to bring the history of religion into an, in my view, much needed dialogue with the history of science and intellectual history. It allows me to draw inspiration from the ambitious “history of knowledge” that has been conceptualised in recent years by Peter Burke,<sup>21</sup> while also borrowing recent theoretical perspectives from the history of science revolving around the concept of “historical epistemology”.<sup>22</sup> Secondly, the problem of disenchantment provides a way to re-situate—and critique—the historiographic category of “Western esotericism”, a category that has for a long time been lodged between precisely those fields that this study engages. Thus, Kocku von Stuckrad has suggested that “esotericism” can itself be conceptualised in terms of *Problemggeschichte*:

[t]he problems addressed by the academic study of esotericism relate to basic aspects of Western self-understanding: how do we explain rhetorics of rationality, science, Enlightenment, progress, and absolute truth in their relation to religious claims? How do we elucidate the conflicting pluralities of religious worldviews, identities, and forms of knowledge that lie at the bottom of Western culture?<sup>23</sup>

I follow von Stuckrad’s general plea, but while he construes “esotericism” as “the problem” (having to do with the dialectic of secrecy and revelation tied up with discourses of higher or perfect knowledge) I suggest that a focus on the problem of disenchantment can do much of the same analyti-

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20 On the notion of rationalisation as a *longue durée*, see the discussion of Weber and Fernand Braudel by Guenther Roth, ‘Duration and Rationalization’. Cf. Roth, ‘Rationalization in Max Weber’s Developmental History’.

21 See especially Peter Burke, *A Social History of Knowledge*; idem, ‘*A Social History of Knowledge Revisited*’; idem, *A Social History of Knowledge II*. The roots of such a history are found precisely among the German social analysts of the early twentieth century, including Weber, Karl Mannheim, and Georg Simmel.

22 This approach has been associated with researchers at the Max Planck Institute for the History of Science in Berlin, especially Peter Galison and Lorraine Daston, and with the related approaches of Ian Hacking and others. For key references, see Daston and Galison, *Objectivity*; Daston (ed.), *Biographies of Scientific Objects*; Mary Poovey, *A History of the Modern Fact*; Hacking, *Historical Ontology*. For a similar line of approach in religious studies, see von Stuckrad, “Discursive Study of Religion”, 10–14.

23 Von Stuckrad, *Locations of Knowledge in Medieval and Early Modern Europe*, 64.

cal work. Thus I am also led to find a different place for esotericism in the conceptual structure of my historical analysis. The problems formulated in the above quotation can be framed as generated by the problem of disenchantment. This, in turn, opens the door for reintroducing esotericism not as a discourse-theoretical tool, but as a historiographic category. As mentioned, Hanegraaff has suggested that the construction of esotericism as a category is intimately tied up with disenchantment. Replacing a process-oriented approach to disenchantment with a problem-oriented one challenges this model as well. The closest Hanegraaff comes to a definition of esotericism is as ‘a large and complicated field of research that (1) has been set apart by mainstream religious and intellectual culture as the “other” by which it defines its own identity, and (2) that is characterised by a strong emphasis on specific worldviews and epistemologies that are at odds with normative post-Enlightenment intellectual culture.’<sup>24</sup> The normativity in question is characteristic of disenchantment as described by Weber in ‘Science as a Vocation’, and the resulting model is one of esotericism as “rejected knowledge”.<sup>25</sup> As I hope to demonstrate in this book, a problem-historical approach to disenchantment shows that we must resist the temptation of assuming a strict “Establishment vs. Underground” divide, embodying the presumed “self” and “other” of Western intellectual culture.<sup>26</sup> The juxtaposition of an academic, disenchanted, established elite and underground milieu peddling rejected and stigmatised knowledge obscures the fact that analogous problems have been addressed in analogous ways across a range of disciplines and cultural fields. Indeed, analysing formulations and responses to the problem of disenchantment shows that the normativity of the ostensibly “disenchanted” post-Enlightenment intellectual culture is itself multifaceted; the assumed “other” is present within the “self”—not only as a polemically constructed mirror image, but also as a viable identity for which to aspire.

Besides disenchantment and esotericism, a third concept is highlighted in the title of this book: scientific naturalism. By this term I refer to

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24 Hanegraaff, *Western Esotericism*, 13–14.

25 Cf. the criticism in Marco Pasi, ‘The Problems of Rejected Knowledge’.

26 That is, we should not be enticed to conflate this rejected knowledge model with the one presented in the 1970s by James Webb, and later by sociologists interested in “deviance” and the “sociology of the occult”. E.g. Webb, *The Occult Underground*; idem, *The Occult Establishment*; Edward Tiryakian (ed.), *On the Margins of the Visible*. We should even be cautious of the underground/establishment dichotomy in more widely used models such as Colin Campbell’s “cultic milieu”. Campbell, ‘The Cult, the Cultic Milieu, and Secularization’; Jeffrey Kaplan and Heléne Löw, *The Cultic Milieu*. For a criticism of these sociological models that follows similar lines, see Christopher Partridge, ‘Occulture Is Ordinary’.

a dominant epistemological current arising mainly in the Anglo-American intellectual sphere in the nineteenth century. It was the most important epistemological backdrop of discourses on science, philosophy, and religion alike. However, as a number of studies in intellectual history have demonstrated, it was also a flexible and not very well-defined intellectual framework:<sup>27</sup> self-identifying naturalists would define the domain of “nature” in conflicting ways. A crucial part of my argument is thus that an intellectually normative, but flexible and ultimately *open-ended* naturalism already provided a broad space of possibilities for engaging with the problem of disenchantment. Scientists, occultists, and religious spokespersons could share epistemological foundations that allowed them to speculate on questions such as the limitations of reason, the reach of science, and the relation between scientific inquiry and religious beliefs and experience in roughly comparable terms.

In *Fits, Trances, and Visions* (1999) Ann Taves argued that the nineteenth century saw the emergence of a “religious naturalism”, which broke with post-Reformation and Enlightenment tendencies to dichotomise “nature” and “religion”. Deeming something a “religious experience” had implied the attribution of supernatural agency, and explaining experiences in natural or psychopathological terms therefore used to be a delegitimising strategy. As Taves shows, a new trend taking shape from German romanticism, Mesmerism, somnambulism, psychical research, and the emerging psychological discourse on “the unconscious” rejected this dichotomy and instead sought to reconcile natural explanations with experiences that were being deemed “religious”.<sup>28</sup> I am mentioning Taves’s important research into the shifting patterns of deeming and attribution of “religious experience” because there exists a significant parallel to the argument of the present book. The emergence of a “religious naturalism” explored by Taves—with key proponents found among Victorian spiritualists and Mesmeric clairvoyants, but also in pioneering psychologists such as Frederic Myers and William James—takes place within the epistemological space that I propose to call open-ended naturalism.<sup>29</sup> Open-ended naturalism allowed for negotiating “religion” and “nature” in broadly immanentist ways, thus formulating responses to the problem of disenchantment that diverged from the presumed normativity of Reformation

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27 See e.g. Frank Miller Turner, *Between Science and Religion*; idem, *Contesting Cultural Authority*; Roger Luckhurst, *The Invention of Telepathy*; Richard Noakes, ‘Spiritualism, Science, and the Supernatural in Mid-Victorian Britain’.

28 Taves, *Fits, Trances, and Visions*, 6–7. On “deeming”, see Taves’s more recent book, *Religious Experience Reconsidered*.

29 For a definition of this concept, see chapter two below.

and Enlightenment discourse. As I hope to show through the chapters of this book, an open-ended understanding of naturalism made it possible not only to reconsider contested experiences in light of novel explanatory frameworks, but also to establish a whole range of *new natural theologies* that have since become significant features of twentieth-century history of religion. These natural theologies undergird the popular post-war “New Age science” discourse, they are built into the metaphysical outlooks created in parapsychological and “Fortean” discourse, and they permeate the theological conceptions of “occulture” and “alternative spirituality” that so frequently call for a synthesis of cutting-edge science with “religion”, “esotericism”, or “spirituality”.<sup>30</sup> One central claim that emerges from my analysis is that a common natural-theological framework connects these different late-twentieth century discourses. This framework has its origin in early-twentieth century engagements with the problem of disenchantment, taking place in the established sciences, the “fringe” sciences of psychical research and parapsychology, and in esoteric and occult communities.<sup>31</sup> If this thesis is accepted, it strongly suggests that a more serious engagement with the history of science than has hitherto occurred offers the study of modern religion not only fresh perspectives, but access to crucial source material for religious innovation as well.

#### OUTLINE OF THE BOOK

The book is divided into four parts. While the first of these spell out my arguments concerning disenchantment and naturalism in more detail, the following three are arranged thematically in order to cover three empirical contexts: science, parapsychology, and esotericism. Part two concerns conceptual developments in the natural sciences in the early twentieth century, and some of the epistemological and theological discussions they sparked; part three covers the development of the discipline of parapsychology, understood as a border zone that mediates between “esoteric”

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30 On these contexts, see especially Hanegraaff, *New Age Religion and Western Culture*, 62–76, 113–181, 203–255; Olav Hammer, *Claiming Knowledge*, 201–330; David J. Hess, *Science in the New Age*; Christopher Partridge, *The Re-Enchantment of the West*, 2 volumes; Jeffrey Kripal, *Authors of the Impossible*; idem, *Mutants and Mystics*; von Stuckrad, ‘Discursive Transfers and Reconfigurations’; Asprem, ‘Psychic Enchantments of the Educated Classes’.

31 The argument concerning this natural-theological framework is laid out in detail in chapter six.

and “scientific” milieus. The final part concerns “esoteric epistemologies”. These empirical contexts are brought together by an analytical focus on formulations of, and responses to, the problem of disenchantment. Such an analysis brings patterns and links between these three contexts to the fore, providing a complex picture of overlapping modern knowledge cultures.

The first two chapters spell out my argument for reconceptualising disenchantment by moving from process to problem. The first chapter revisits Weber’s thesis and presents my problem-oriented alternative, while the second focuses on its implications for how we conceptualise the relation between science and worldviews. I also take the opportunity to critique what may be called the “re-enchantment paradigm”—a heavily politicised historical approach to questions about science and disenchantment that developed during the last decades of the Cold War, often with explicit links to “New Age science” and counterculture movements as well as to broadly postmodern academic trends.<sup>32</sup> Together, the two chapters of part one present the major theoretical and methodological implications of my approach to disenchantment, setting up a conceptual framework for the rest of the book.

Part two concerns itself with the problem of disenchantment in the natural sciences during the first four decades of the twentieth century—a period characterised not only by the massive social and political upheavals of war, revolution, and economic collapse, but by radical scientific change as well. Chapter four discusses the revolutionary developments in the physical sciences (physics and chemistry), looking particularly at the relation between the *construction* of “revolutionary science”, the *interpretations* offered up by the scientists constructing it, and the broader cultural context in which these constructions and interpretations have been formulated. It revisits the (in)famous Forman thesis on the cultural contingency of the development of quantum mechanics between the world wars, arguing in favour of a revised version.<sup>33</sup> Chapter five moves on to the sciences of biology and psychology, focusing on fundamental debates concerning the definition of “life”, the relation between the parts and wholes of organisms, the place of mind in nature, and questions concerning mechanism versus teleology in accounting for the evolution of species and the psychology of individual human beings. All of these theoretical questions tie in with the problem of disenchantment, and they were often related to discussions in the presumably more fundamental science of physics. The

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32 The primary examples of this approach are Morris Berman, *The Reenchantment of the World*; David Ray Griffin (ed.), *The Reenchantment of Science*.

33 E.g. Forman, ‘Weimar Culture, Causality, and Quantum Theory’.

conceptual relations between these discussions come to the fore in the vitalism controversy in biology and the behaviourism controversy in psychology, which for this reason are given centre stage. These discussions culminate in chapter six, where I turn attention to the creation of five distinct *new natural theologies*, developed and expounded by academics, scientists, and other intellectuals of the early twentieth century. Basing themselves variously on research into radioactivity, quantum mechanics, the fringes of psychology, ether physics, and the philosophy of biological evolution, these theologies are all examples of responses to the problem of disenchantment that reject the ideal-typical “disenchanted world”. As mentioned above, some of these natural-theological schools have had an important impact on modern Western religious thought, fuelling various post-war forms of deinstitutionalised, “alternative” religion/spirituality.

Part three focuses on the struggles to create a new scientific discipline around the study of “supernormal phenomena”. The development from late-Victorian psychical research to professionalised modern parapsychology is explored in three chapters with different thematic and chronological focus. Chapter seven discusses the *epistemological* context of psychical research in light of the “agnosticism controversy” in Britain in the 1890s, and the wider discussion about the reach of scientific naturalism. I will show that psychical research, and later also the discipline of parapsychology, has based itself on an “anti-agnostic” discourse, which challenges the limitations put on the scope of science and rationality by certain spokespersons of Victorian naturalism. The agnosticism controversy can itself be framed as a struggle with the problem of disenchantment, based as it was on a reflection on the limitations of knowledge and certainty. The psychical researchers who attacked agnosticism, however, wanted to open up scientific naturalism, and hence remain within the purview of what I term open-ended naturalism. Chapter eight changes focus to look at the specific research programmes that were formulated in psychical research communities during the first three decades of the twentieth century. This is largely a history of failure: researchers could not agree between themselves on experimental protocols, fundamental hypotheses, or even whether or not one should seek acceptance from the scientific establishment in the first place. A number of “paradigms” for research were proposed, but none of them won general acceptance, and none of them managed to produce results that were convincing to outsiders. Thus, chapter nine sets out to explain the sudden and surprising success in professionalising parapsychology in the 1930s. I argue that the event can only be explained by reinforcing the largely “internalist” analysis provided in chapter eight with an “externalist” analysis focusing on the broader cultural, political,

and social circumstances in which parapsychology was formed, networked and institutionalised in interwar America. This is another highlight of the book's argument: parapsychology, it seems, was able to create a space for itself within American academia in part by mobilising the most dominant counter-disenchantment discourses that existed in the sciences at the moment, especially the vitalism and organicism debate in the philosophy of biology, and the opposition to the rising tide of behaviourism in American psychology.

The final part of this book delves into the context of modern occultism. In chapter ten I discuss the current state of research in the still adolescent field of Western esotericism, focusing on the theorisation of "esoteric epistemologies". Esoteric discourse is typically construed as focusing on the possibilities of achieving extraordinary forms of knowledge, considered as part of a path to salvation. In modern times, esoteric spokespersons are often found trading on the authority of the natural sciences. By presenting their knowledge practices as participating in both religious and scientific fields of discourse, modern esotericism provides an important context for discussing the problem of disenchantment. In these final three chapters I explore esoteric responses to disenchantment with the aim of demonstrating the necessity of taking up a problem-focused approach in order to grasp the complexity of modern esoteric knowledge practices. In chapter eleven I introduce the case of the Theosophical Society's rather unsuccessful struggle to harmonise an essentially static view of perennial, higher knowledge with rapidly changing conceptual structures in the sciences. Special attention is given to the Theosophical programme of "occult chemistry", which was an attempt to clairvoyantly describe the atomic and subatomic world, thus making a valuable *methodological* contribution to scientific chemistry. Instead of securing scientific legitimacy, however, the conflict between claims to perennial knowledge and the always uncertain and revisable knowledge produced in scientific practice became all too evident when Theosophists presumed to speak with self-asserted infallibility about the latter.

In the final chapter I present a comparative approach to esoteric "higher knowledge" by juxtaposing the systems of two highly influential early-twentieth century occultists: Rudolf Steiner and Aleister Crowley. This final comparison gives an opportunity to highlight the diversity of responses to the problem of disenchantment, and not least, the diversity of intellectual contexts that have been co-opted by esoteric spokespersons. This brings the underlying argument of the book to focus: views about the limits of reason, science, and knowledge in Western intellectual culture since the Enlightenment have been much more diverse, full of internal contrasts

and conflicts, than is commonly recognised by narratives of a progressive and irreversible disenchantment of the world. Reconceptualising disenchantment in terms of *Problemgeschichte* gives attention to the conflicting ways in which individual spokespersons have attempted to solve fundamental questions emerging in post-Enlightenment intellectual culture. It uncovers contested fields of knowledge where competing voices square off for authority to define what counts as “proper knowledge”. The result is an exploration of surprising links between discourses on science, religion, and esotericism, suggesting that modern Western knowledge cultures have been much more complex and pluralistic than has typically been assumed.