

Dis/unity of Knowledge: Models for the study of modern esotericism and science

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Abstract

Research on relations between esotericism and science exhibit a fundamental asymmetry. While historians of science have been eager to uncover esoteric contexts for early modern sciences scholars of modern esoteric movements look almost solely at esotericism in the context of scientific progress. This asymmetry is largely due to a division of intellectual labor following lines of specialization in the humanities. The early modern period has been of supreme interest for historians of science, who have employed their expertise to uncovering important connections. Late modern esoteric thought, on the other hand, has almost exclusively fell under the purview of religious studies scholars, lacking the tools (and often the interest) to dissect the workings of the sciences. The result has been that, for relations of science and esotericism in the late modern period, the prevailing picture has been one of a unidirectional influence from “proper” science to a culturally parasitic esoteric discourse.

The present article aims to remedy this asymmetry. A systematization and evaluation of existing approaches to esotericism/science leads to an argument that new methodology and conceptual tools are needed for a sufficient analysis of esotericism/science relations in the modern world to develop. These tools are found in the interdisciplinary field of science and technology studies.

Keywords

esotericism; history of science; science and technology studies (STS); science and religion.

Introduction: The Problem

The academic study of “Western esotericism”, although primarily recognized as a subfield of religious studies, is strongly indebted to the history of science.

Frances Yates' (1964) now largely rejected thesis that the scientific revolution was spawned by a "Hermetic" revival attracted much attention in the 1960s and 1970s.¹ It also provided what has been called the first "paradigm" for research on esotericism (Hanegraaff 2001). According to this paradigm, the scholarly value of esoteric thought hinged on its status as a "progressive" impulse in the Renaissance, pointing towards science, humanism, and religious reform.

In keeping with this assumption, the relation of esotericism to science has mainly been of interest to specialists of early modern intellectual culture, presenting "esoteric" knowledge systems and practices as a valuable context for the scientific revolution. I shall argue that an unfortunate and most likely unforeseen consequence of this focus has been the *preclusion* of more nuanced analyses of esotericism/science relations in the modern and contemporary periods. Following a "Whiggish" narrative, esotericism's only relevant relation to modern science is as a cluster of "proto-sciences" that later informed or developed into *proper* science. When the transition had taken place (sometime during the Enlightenment), the only role left for esoteric cultural systems is as antique *curiosa* that only misguided "pseudoscientists" would continue to take seriously. Thus, when scholars (typically in religious studies) view the relation of esotericism and science in the modern period, the relation of text and context has been turned around: the conceptual innovations of modern science now provide a context for the choice of metaphors and rhetorical strategies for modern esotericists (e.g. Hammer 2001:201-330). Modern esotericism is, in short, parasitic on the cultural system for which it once provided valuable intellectual resources.

Yet, historical evidence reveals a much more complex picture. Long after the Enlightenment, attempts to synthesize esoteric and scientific knowledge has been carried out not *only* by "fringe-science" amateurs or occultist obscurantists lacking a proper understanding of modern science, but by cutting-edge professional scientists as well. Examples from the 19th and 20th centuries are numerous. The development of a metaphysics and theology of ether in the context of Victorian physics was pioneered by physicists such as Balfour Stuart,

¹ In fact, it was heavily contested by historians of science and specialists of the Italian renaissance from the beginning, and increasingly since the early 1970s. See especially Debus 1964; Hesse

P. G. Taite, George Johnston Stoney and others, culminating in the works of Sir Oliver Lodge (cf. Grean Raia 2005; Asprem 2011; 2013:206-224). The entire current of “psychical research”, emerging as the scientific wing of late-Victorian spiritualism, owes its prestige and success to the active participation of celebrated scientists such as Lodge, Sir William Crookes, Nobel prize winner Charles Richet, not to mention William James – who at the end of his life remained convinced that the psychology of the future would look a lot like the highly Romantic (and esoteric) system developed by classicist and psychical researcher Frederic Myers (cf. Asprem 2010; 2013:224-232, 322-332; Taves 2003; Kripal 2010:36-91). The list goes on. The old vitalism controversy returns in the discipline of biology in semi-regular intervals, and is typically spearheaded by a biologist with an esoteric bent: from Hans Driesch (1908) at the beginning of the 20th century to Rupert Sheldrake (1981) at its close. Even the well-known phenomenon of “quantum mysticism” has its origin with the first generation of quantum physicists; more precisely in the amateur philosophizing, spiritual searching and popularization strategies of men such as Werner Heisenberg, Niels Bohr, Pascual Jordan, Wolfgang Pauli, Erwin Schrödinger, James Jeans, and Arthur Eddington (cf. Forman 1971; Asprem 2013:260-281). This new esoteric trend, too, continued among professional physicists in the post-war period, such as John Wheeler, David Bohm, and the UC Berkeley group calling itself the “Fundamental Fysics Group” (Kaiser 2011). Indeed, most contributors to the “New Age science” discourse – from Fritjof Capra to Amit Goswami – appear to have legitimate PhD degrees. While these degrees are certainly put on display as part of discursive strategies for seeking scientific legitimacy, the fact remains that those who produce the New Age science discourse are not coming from some pseudoscientific margin far removed from the world of academia, but straight out of our best institutions of higher education. Scientific parapsychology, psychedelics research, certain segments of complexity theory, and the emerging transhumanist movement may stand as other examples of discourses that tend to blend science with esoteric ideas while being shaped *within* the confines of the professional research university, and funded through the regular channels. This is a phenomenon that deserves much closer attention than is typically given.

The purpose of this article is to move towards an analytical framework that is able to examine the complex relations that still obtain between esotericism and science. It starts from the recognition that current models are incomplete: the religious studies “standard model” (see e.g. Hammer and Lewis 2010) remains crucial for understanding how heterodox religious systems respond to modern science, but, I shall argue, it also leaves the intriguing continuum with “real” scientific practice untouched.

The first part of the present article will serve as a critical and systematic *Stand der Forschung*, aimed at filtering valuable from less valuable approaches in the study of modern esotericism/science. Focus is turned to the way that different ways of defining both “esotericism” and “science” contribute to a bewildering array of models for understanding the relation between these two terms. The overview crosses disciplinary boundaries as it includes work in religious studies, sociology, and intellectual history. I will argue that religious studies and esotericism research can benefit from a closer dialogue with science and technology studies (STS). This interdisciplinary approach can help us uncover new insights about the relation between esotericism and science in the modern and contemporary periods, and generate new research questions. The objective of the research review is to show that such an approach can incorporate the most valuable aspects of previous research, while ameliorating deficits.

Clarifying Concepts

The liberal use of both key terms has led to a fundamental conceptual confusion confronting the study of relations between esotericism and science. In the present section I will sketch a few common definitional strategies, which may be combined in various ways to produce quite diverging models for framing esotericism/science relations. Let us begin with that conspicuous noun “esotericism”.

Two Modalities of “Esotericism”

The concept of esotericism has been the object of thorough and repeated scholarly dissection. While there is currently a sense of reconciliation in a flexible interdisciplinary paradigm of “Esotericism 3.0” (Hanegraaff 2012b), there are still important differences to be found. I will not engage in a fine-grained discussion of the nuances of prevailing definitions here; it will suffice to make a broad distinction between two main strands of theorizing, departing from diverging scholarly intuitions.² These strategies may be described respectively as *historical* and *typological* (cf. Hammer 2004).

1) *Esotericism as historical current(s)*

The recent institutionalization of esotericism research has largely been driven by an intuition that esotericism is a particular *historical* phenomenon, emerging in response to specific historical conditions. Historians may disagree on the temporal and geographical scope of the field as well as the precise parameters for delimiting it (e.g. cf. Faivre 1994 and von Stuckrad 2010), but they will tend to focus on a cluster of related currents, texts, ideas, groups, and practices associated with Hermetic, Neoplatonic, magical, Kabbalistic, and pagan discourses that gained currency during the Italian and later North-European renaissance (cf. Hanegraaff 2012a).

Historical approaches of this type may still make a number of different choices about where to put emphasis. For instance, one might choose to focus on the ideas, concepts, worldviews, and practices associated with esotericism, or on the people and social milieus that created them – e.g., a content-driven “history of ideas” versus a sociologically informed contextualizing “intellectual history”. One might look for *longue durée* in Western cultural history (e.g. the fascination with secrecy, magic, and correspondence-thinking), write thoroughly historicized studies of specific esoteric spokespersons in their immediate contexts, or trace the gradual or sudden changes in idea complexes over time. The historian might attempt an “archaeology” of epistemes,³ or a “genealogy” of

² For major contributions to, and overviews of, definitions of esotericism, see e.g. Faivre 1994:10-15; Hanegraaff 2008, 2012a:355-379, 2012b, 2013; von Stuckrad 2005, 2008a, 2010; Bergunder 2010.

³ E.g. Tomlinson 1994; von Stuckrad 2010.

concepts.⁴ These possibilities have all been tried, and attest to the multiplicity of historical approaches to esotericism.

2) *Esotericism as “type”*

Besides historical conceptualizations, a *typological* intuition regarding esotericism is also widespread. Found primarily among sociologically oriented scholars (e.g. Tiryakian ed. 1974; Urban 1997, 1998; cf. Hammer 2004), typological constructs see esotericism as a universalizable (ideal-)type of knowledge and/or religious praxis, typically connected with epistemic strategies that involve secrecy, *gnosis*, and claims to higher or absolute knowledge (e.g. von Stuckrad 2005, 2010). This concept, now seen as a second order analytical category rather than the descriptor of a specific historical phenomenon, permits universalisms of various sorts, from positing an esoteric “cognitive style”, to recognizing specific strategies for producing and legitimating knowledge claims, whether by a rhetoric of secrecy or an appeal to privileged knowledge of higher worlds. *Tokens* of this type may in principle be found anywhere; the scholar who follows a typological definition may recognize an “esoteric” dimension in cultural systems that are otherwise geographically and historically separated.⁵

“Science” as an Analytic Category

A similar ambiguity exists in the historiography of science. Again, this is not the place to enter a long-winded discussion of all philosophical nuances in shifting definitions of science that have been produced since the Enlightenment. We should, however, mention one central problem that has a bearing on the present agenda, namely the question of the *autonomy* of science relative to social, cultural or economic factors.

Historians and philosophers of science have been divided into an *internalist* and an *externalist* camp with regards to the autonomy of scientific activity. Internalists tend to look at science in terms of rationality, methodology,

⁴ This is, arguably, the motivation of Hanegraaff 2012a.

⁵ See, e.g., Hugh Urban’s analyses of secrecy in contexts as diverse as South Indian tantra, French Freemasonry, Scientology, and neo-conservative politics (Urban 1997, 1998, 2005, 2006). Also cf. von Stuckrad 2010.

justification and so forth – the “internal workings” of science, its “rational core”, its “essence”, and have attempted to stipulate rational demarcation criteria. Science is thus seen as an autonomous truth-finding activity: the knowledge it produces is derived from the nature of things by way of the methods that it deploys. This view was common among philosophers in the first half of the 20th century, most notably in Vienna circle logical positivism and its heirs (e.g. Popper 1959), and in the first generation of self-conscious historians of science, including the founder of *Isis*, George Sarton (e.g. Sarton 1924). By contrast, externalists insist on seeing science in context and tracing its dependence on cultural and social factors. Externalism won terrain from Kuhn (1962) onwards, although it must be recognized that the most excessive forms thereof have less to do with Kuhn’s own ideas than with the *reception* of those ideas among certain sociologists and historians of science.⁶ On the externalist view, science loses some or all of its autonomy. Weak forms of externalism might point to the importance of various non-scientific contexts as *resources*, informing, shaping or supporting scientists in their pursuits and thus contributing to the production of scientific knowledge (e.g. Laudan 1977). This modest version merely holds that our (historical) picture of science is not *complete* without an investigation of cultural and social contexts. A somewhat stronger version states that the *worldviews* and *interpretations* extracted from scientific theories are framed by cultural suppositions and biases (e.g. Forman 1971, 1984). The “superstructure” of science is socio-culturally determined, but “rational” autonomy may still be preserved for its inner workings. In the strongest sense, science is completely *determined* by non-scientific factors.⁷

Both internalist and externalist views are found in studies relating science to esotericism. As I will venture to show, an internalist view of science is typically assumed in approaches that see (early-modern) esotericism as proto-science, and in studies where modern esoteric systems are seen as parasitic on “real science”. By contrast, I argue that a mildly *externalist* picture of science is a prerequisite for understanding the complex relations between esotericism and

⁶ On this “radicalization of Kuhn”, see e.g. Kitcher 1998, Hacking 1999, Zammito 2004.

⁷ E.g. the so-called “Strong Programme” in the sociology of scientific knowledge (SSK), associated with Barry Barnes and David Bloor. Also cf. the relativist program of Collins & Pinch 1982.

science. To paraphrase Peter Galison (2008:112-113), the focus of our inquiry should be not *whether*, but *how*, *when*, and to *what degree* “context” is important for understanding scientific production.

In the following subsections I describe three main perspectives on science, beyond the internalism/externalism debate, that are all found in the literature on esotericism and science. As will be seen, these lead to quite different questions being asked of that relation.

1) *Science as a body of knowledge*

A common strategy for intellectual historians, especially specialists of the early modern period, is to define “science” as a *body of knowledge*. In this sense, science is an intellectual current, stretching back at least to the Renaissance era (with roots in Greek antiquity), which has produced specific knowledge about the natural world. A wide array of historical connections, correlations and transfers of ideas can be discerned under this model. One can focus on mentalities and systems of thought, or distinct concepts, theories, technologies, and worldviews. When we enter the modern period, “scientific knowledge” will be seen as constituting a wide pool of concepts, theories and models, from electromagnetism and evolutionary biology, to particle- and high-energy physics, relativity theory, and quantum mechanics. Long-term controversies between clusters of ideas or philosophical positions may also be the focus, such as idealism vs. materialism, transcendence vs. immanence, organicism vs. mechanism, or holism vs. reductionism. All of these possible themes have ramifications for attempts to bring esotericism into dialogue with “science” (see Asprem 2013:82-290).

2) *Science as profession*

A quite different approach emerges if one chooses to focus on science as a *profession*. As professionals, “scientists” constitute a class of knowledge-producing specialists embedded in specific institutional and social formations, and did not exist prior to the 19th century (but cf. Lucier 2009). This approach makes it possible to distinguish the role and function of “modern science” from those of early modern natural philosophy on grounds of the social *organization*

of science, and the strategies employed in structuring, rearranging and situating science in society (e.g., Gieryn 1999). An important complex of issues in this respect is the social ascent of the scientific class in context of the modernization, industrialization and rationalization of post-Enlightenment societies.

Analyzing the rise of a professional class of scientists one should not neglect the associated *ideologies* of science: positivism in France, scientific materialism in Germany, and scientific naturalism in Great Britain (Olson 2008; Turner 1974). The public promotion of science in the 19th century, through popular lectures, expositions, text books, and educational reforms, is framed as parts of a professionalization process that results from the struggles of an emerging class of knowledge specialists to emancipate itself from the grip of established hierarchies (e.g. religion and church), and to establish and advance its position in society (Turner 1993).

3) *Science as method*

Thirdly, there is the notion of “the scientific method”, common in philosophical demarcations and definitions of the presumed underlying unity of the sciences. This internalist understanding is common among scientific spokespersons and philosophers of science. Following Robert Merton’s (1973) distinction, a focus on method implies looking at science as a *cognitive* system, as opposed *or* in addition to, its functions as a *social* system. Consequently, demarcation from other systems will be justified on epistemological grounds.

Conceptions of sound method have, however, also been subject to historical change. New methodologies have been invented in response to new problems and contexts of inquiry; the adoption and developments of statistical analyses and probability theory have, for instance, had drastic repercussions for methodology in a wide range of disciplines in the 20th century (cf. Hacking 1975, 1990; Gigerenzer et al. 1990). The revisability of method itself has even prompted modern naturalist philosophers of science to declare the death of normative epistemology: “philosophy of science is philosophy enough” (Quine 1953:446; cf. Quine 1969).

Nevertheless, any analysis of science’s relation to other cultural systems ought to take notice of the notion of method, even when coming from an

externalist perspective. In addition to the cognitive function of method, there is also the question of how appeals to method are employed *discursively*: i.e., how may we frame appeals to method in terms of a broader rhetoric of rationality?

Framing Relations: Three Models

Combinations of these definitional strategies give rise to a plethora of possible research projects. In the present section I will discuss the main models that have been employed (implicitly or explicitly) to frame esotericism/science relations in the past, and identify the definitional choices and commitments that underlie them. The agenda is to identify strengths and weaknesses for the study of modern and contemporary phenomena, leading to recommendations for future research.

On the most general level of analysis I recognize three classes of models that have been used to frame the relation between science and esotericism. From these we may distinguish a number of subclasses, or types of specific approaches. The three general classes are:

- 1) Continuity models
- 2) Conflict models
- 3) Exchange models

Continuity models

The continuity models are typically based on a historical approach to both science and esotericism. Both are seen as sets of concepts, theories, worldviews, and practices, and the claim is that there exists some significant historical or conceptual continuity between the two sets. Three types of continuity models may be distinguished, all of which have enjoyed some popularity in academic as well as public discourse:

- a) Esotericism in/as proto-science
- b) (Re-)enchantment of science

c) Complexity

A) *Esotericism in/as proto-science*

The *proto-science* model focuses on the role of “esoteric” currents in paving the way for practices later associated with modern science. This is an essentially “Whiggish” or present-centered approach (Butterfield 1931; Wilson and Ashplant 1988a, 1988b), where esoteric practices are credited with a role in the early stretches of the unfolding march of progress (figure 1). Examples include alchemy’s relation to chemistry (cf. Principe & Newman 2001), and the place of “occult qualities” and forces (*qualitates occultae*) in the epistemological upheavals of the scientific revolution (cf. Hanegraaff 2012:177-191). The Yates thesis remains the most influential example of this model, postulating a “Hermetic phase” to the scientific revolution and casting the renaissance magus, with a will to operate on the world, as forbear of the modern experimental scientist.

A historically more recent example of this model is found in the view that Mesmerism offered the first psychology of the unconscious (Ellenberger 1970; Crabtree 1993). This narrative traces a conceptual progression from Mesmerism via spiritualism and psychical research to (certain strands of) modern psychology – thus emphasizing those elements of mesmerism that, from the contemporary psychoanalyst’s perspective, appear most “progressive” (that is: are closer to his or her own views of the mind). This is a variety of the present-centered historiographic fallacy that Andrew Pickering (1984:404) has termed “retrospective realism”: the analysis itself rests on “facts” that have been established through the very process that they are being interpreted or explained. Thus, Adam Crabtree’s (1993) *From Mesmer to Freud* takes contemporary psychoanalytic theory as its starting point, projecting it backwards in order to create a lineage of certain psychological healing techniques that point towards Freud. Thus, with Freud as witness, the implicit assumption is that the mesmerists and somnambulists discovered something “real” – which would only be *properly* understood with the emergence of the modern psychoanalytic movement. While this type of reasoning is always problematic, it is even more so in the field of psychology, where scientific objects

often prove transient (cf. Hacking 1998) and the status of major schools – including psychoanalysis itself – remain highly controversial.

A side-effect of presentist approaches is that they may bar any serious interest in esotericism/science relations in modern and contemporary times. The historical value of esoteric currents hinges on their relation to the future progress of “proper” scientific disciplines, so the only place left for “survivals” of esoteric thought is as misguided irrationalism or backwards pseudosciences. Mesmer was only right insofar as he stumbled upon Freud’s insights, and alchemy was only valuable in so far as it involved experimentation with some chemical properties – the rest was superstitious nonsense. Alternatively, these currents had little to do with science and reason in the first place, and should therefore be relegated to a separate category – as has been the case with the category “religion” itself. Indeed, the notion of esotericism as rejected proto- or pseudo-science is one of the reasons why it has ended up as subject matter for religious studies rather than for historians of science (cf. Hanegraaff 2012a).

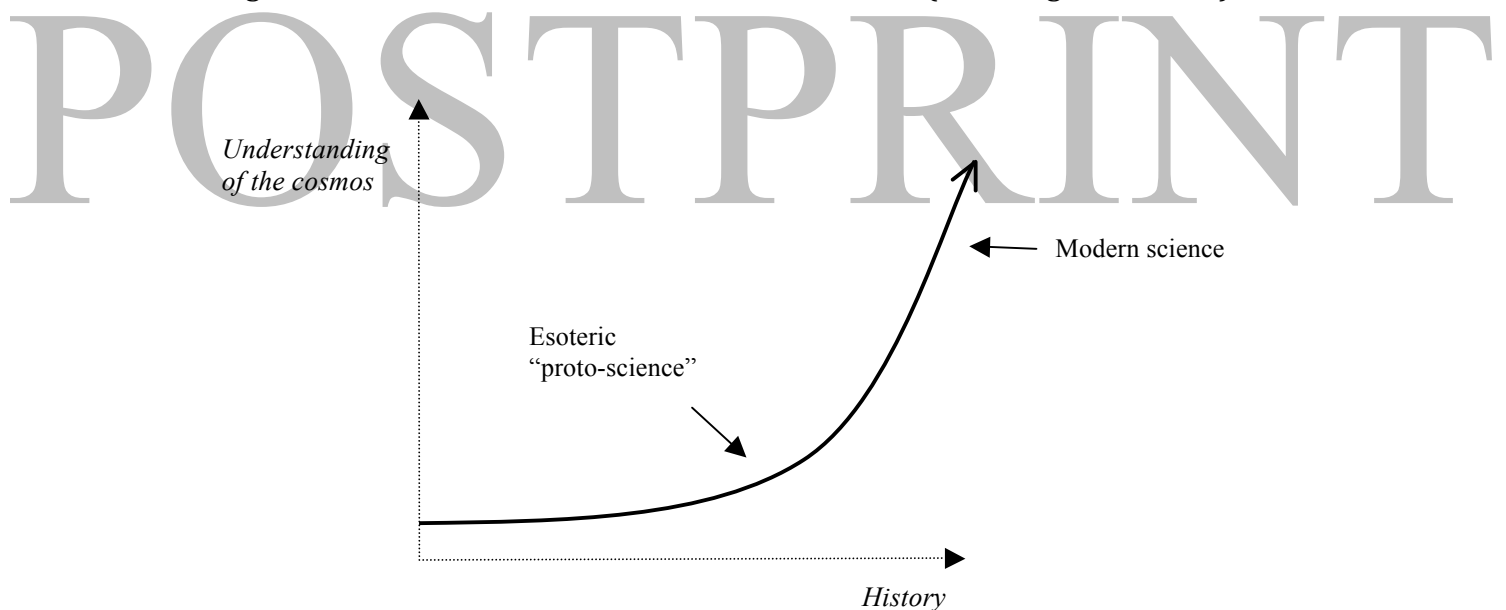


Figure 1: Proto-Science Model and “Progress”

B) (Re-)enchantment of science

The second type of continuity model is not taken seriously by academic historians, but has been influential enough on a popular level to merit discussion. The “(re-)enchantment model” is built upon the dubious premise that modern

science (particularly physics) is, or ought to be, moving towards a worldview that is in accord with “pre-modern” or “eastern” conceptions (for an extensive critique, see Asprem 2013:37-80). On this view, science will abandon the “materialism”, “reductionism” and “mechanism” that have allegedly characterised it since the scientific revolution. These views have been developed by certain academics discontent with what they perceive as a spiritually unsatisfying science. Thus, the historian of science Morris Berman (1981) and the philosopher of religion David Ray Griffin (1988) take issue with what they construe as “the mechanistic worldview”. The analysis rests on the presumed distinction between a pre-modern “enchanted” world and a modern “disenchanted” science, as well as a sharp distinction between “classical” physics and an emerging “new” physics that supposedly rejects mechanism, determinism, and causality (for criticisms of this historiographical genre, see e.g. Cantor & Brooke 1998:75-105; Asprem 2013:90-142). In place of the upward arrow of progress suggested by Whiggish narratives, re-enchantment theorists present a “U”-shaped picture where modern science is currently experiencing a “return” to a deeper, spiritual understanding of the cosmos.

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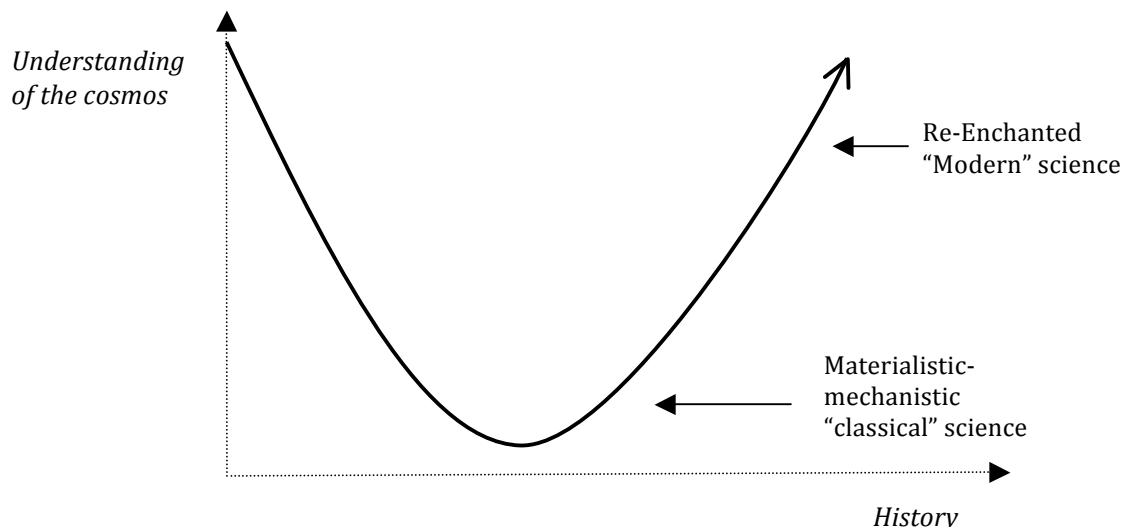


Figure 2: Lapse and Restitution – The Re-Enchantment Model

There are reasons to suggest that the re-enchantment of science discourse in its present form originated with professional scientists of the interwar period. The much debated “Forman thesis” may be read this way: the founders of quantum mechanics were led to reject causality not because their observations and experimental results forced them to (there were alternatives), but because they wanted to harmonize their interpretations with a post-WWI cultural climate characterized by neo-Romantic *Lebensphilosophie* and an opposition to mechanism, causality and determinism (Forman 1971, 1974, 1980; cf. Asprem 2013:119-130). It is thus intriguing to consider the collaboration between physicist Wolfgang Pauli and the *Lebensphilosoph* Carl Gustav Jung, resulting in the publication of Jung’s paper on “synchronicity” as an “acausal connecting principle” and Pauli’s Jungian interpretation of Kepler (Jung & Pauli 1952; cf. Westman 1984; Gieser 2005; Asprem 2013:137-141). Jung’s reinvention of occult “correspondences” in the guise of synchronicity is one of several reasons for characterizing him as an *esoteric* thinker (e.g. Hanegraaff 1996: 496-513; Maillard 2005; cf. Noll 1994).

C) Complexity

Since proto-science models are being superseded and re-enchantment was never a serious option, we are left with only one real contender among the continuity models: historical *complexity*. The typical focus of this type of research has been to identify esoteric dimensions of (early modern) natural philosophy, emphasizing that the attempt at separating the two is an anachronistic exercise to begin with. In a programmatic statement Hanegraaff (2001:30) urges that esotericism should not be taken as a “quasi-autonomous ‘counterculture’ but as *a neglected dimension of the general culture of the time*”. It should not be pitted up against “orthodox” Christianity, or against “the defenders of ‘reason’” in the Enlightenment (ibid.). Esoteric thought should be understood as an integral, but neglected, dimension of European cultural history, which cannot be grasped by simple distinctions of reason/irrationality, science/pseudoscience, and heresy/orthodoxy without committing anachronistic fallacies.

A good number of monographs in intellectual history and the history of science have appeared that provide nuanced perspectives on the role of esoteric

thought in the scientific revolution. Mary Jo Teeter Dobbs' (1975) research on Newton and alchemy opened up for reappraisals of alchemy's role in early modern natural philosophy (e.g., Westfall 1980; Newman and Grafton eds. 2001; Principe and Newman 2002; Newman 2004; Debus ed. 2004; Moran 2005; cf. Newman and Principe 2001). Other studies have continued to explore the intricate relations between Kabbalah, mathematics, astrology, alchemy, and emerging theories of astronomy, optics, and the "chemical" and "mechanical" philosophies (e.g. Clulee 1988, Newman & Grafton eds. 2001, Clucas ed. 2006).

Again we notice a richness of scholarship on early modern contexts, while studies of post-Enlightenment phenomena are hard to come by. Furthermore, most studies of 19th century esotericism have tended to portray the esoteric currents of the period (e.g. mesmerism, spiritualism, occultism) as more or less autonomous movements. When connections with contemporaneous science are made, it is usually a question of these movements "adapting" to circumstances that are essentially foreign to them. Thus we get (otherwise excellent) studies showing how post-Enlightenment esoteric discourse adopted the language and rhetoric of science, or strove to incorporate the ideas produced by the new scientific establishment (e.g. Godwin 1994; Hanegraaff 1996:411-513; 2001b), but relatively few attempts at probing the overlapping and blurry boundaries.

A few notable exceptions should be mentioned. Alison Winter's (1999) study of mesmerism in Britain placed the arrival of Mesmer's ideas on English shores in the context of the professionalization of the medical establishment and changing discourses on intimacy, gender, and physical and psychological health. That mesmerism was temporarily seen as a way to *increase* the prestige of medical practice at the progressive University College Hospital in London clearly nods at the call for complexity: We cannot understand mesmerism in separation from "Establishment" culture any more than we can disconnect it from "esoteric" discourse. Similarly, Alex Owen's (2006) work places late-Victorian occultism as an integral part of the emerging "culture of the modern". In a series of richly sourced articles, historian of science Richard Noakes (1999, 2004a, 2004b, 2005, 2008b) has looked at instances of genuine and relevant two-way contact between occultism and the physical sciences of the late-19th century. Significantly, referring to the involvement of cutting-edge physicists in late-

Victorian psychical research, Noakes describes the pursuit of this “pseudoscience” as taking place *within* late-classical physics (Noakes 2008b:326). Studies of this kind suggest that the presupposed marginality of esoteric ideas in relation to modern scientific thought must be reconsidered (cf. Morrisson 2007; Aspren 2011). The point is that marginality and separation should not be taken for granted as analytically useful tools; instead, the processes of marginalization and creation of boundaries that would, eventually, exclude these “esoteric” components become valuable objects of study.

Conflict models

In stark contrast to the models we have just described, the conflict models posit that esotericism and science are essentially discontinuous, discrete phenomena that find themselves in a state of *actual* or *potential* conflict. Depending on whether one opts for historical or typological definitions, we may distinguish at least two models:

- a) Rejected knowledge and occult revivals
- b) Cognitive clash

A) Rejected knowledge and occult revivals

A historical version of conflict models may be found in approaches that see “occult revivals” as countercultures that revolt against intellectual establishments. Thus the occult revival of the 19th century and the occult explosion of the 1960s and 1970s are both seen as revolts against the “disenchanted” post-Enlightenment world, perceived to be dominated by a “mechanistic-materialist” worldview. The common denominator is that “occult revivals” are revolts against rationalism, professional science, and the political establishment, and will typically base themselves on “rejected” or “stigmatized knowledge”. James Webb’s *The Flight from Reason* (1971) is a paradigmatic example, as are the sociological works that cast the emergence of “New Age religion” as a veritable onslaught against reason and science (Basil ed. 1988).

These perspectives may in principle employ a variety of historical and typological strategies for understanding esotericism, and may consider any or all

aspects of science. However, we mostly encounter it as a socio-historical model. Webb's definition of "the occult" as "rejected knowledge" illustrates an emphasis on science as worldview, with the occult as a reservoir of knowledge rejected or suppressed from that worldview (cf. sociological varieties in Campbell 1972; Wallis ed. 1979; Barkun 2003:15-38). The "occult" is thus by definition always "underground" and oppositional, and this oppositional character is always based on historically contingent developments in a society's knowledge hegemony. The latter was a key point in Colin Campbell's influential theorization of the "cultic milieu" as well: with weaker church institutions and stronger scientific institutions, rejected and oppositional knowledge is more likely to be expressed as "pseudoscience" than "heterodox religion" (Campbell 1972).

B) Cognitive clash

A different conflict model frames the relation of science and esotericism as a veritable clash of entirely distinct *cognitive systems* – diverging ways of knowing, thinking, and experiencing the world. Here we easily get into philosophical discussions, where "the method of science" is juxtaposed with various epistemological features connected with esoteric systems of thought (e.g. "correspondences", analogical reasoning).⁸ The bottom line will be that esotericism and science embody two *irreconcilable* and (at least potentially) *conflicting* ways of relating to the world.

Although seldom embraced in full, we find hints of this approach throughout the literature on esotericism. There is, for example, a cognitive element in Faivre's (1994) famous definition of esotericism as a "form of thought" constituted by certain characteristics.⁹ In effect, Faivre stipulated

⁸ While a full-blown and systematic comparison and contrast between "esotericism" and "science" in cognitive terms has not yet been undertaken, a model for such an approach can be found in Robert McCauley's (2011) recent discussion of the cognitive foundations of religion and science.

⁹ Faivre famously defined the esoteric "form of thought" in terms of six characteristics, four of which are intrinsic and two merely frequently occurring. The four intrinsic ones are correspondences, living nature, mediation/imagination, and transmutation; the two non-intrinsic ones are transmission and concordances. It is notable that these characteristics are *not* to be taken simply as doctrinal features (e.g., "a belief that" nature is ensouled), but as elements in a

esotericism's reliance on certain cognitive elements – such as analogical reasoning (expressed as “correspondences”) and personal experiential inferences (“mediation/imagination”) – that conflict with typical Enlightenment preference for causal reasoning and experimentation. Another case is found in Hanegraaff's (1993; cf. 2008a) distinction between reason, faith, and *gnosis*. Here, *gnosis* represents an epistemological “third way” between dogmatic faith (based on revelation) and “rationalism” broadly conceived. *Gnosis* is considered a form of unmediated mystical apprehension, a knowledge beyond demonstration that cannot even be put into words. An emphasis on this type of (claim to) higher knowledge is seen as central to esotericism, while it is typically shunned by science as unverifiable obscurantism. Among historians of science we find a similar approach in Brian Vickers' (1988) critique of “occult thought” as relying on the collapse of analogy into identity, drawing on examples from Greek antiquity and early modern Europe, as well as Chinese literature and descriptions of non-literate cultures. Vickers distinguished “occult” from truly scientific thinking by stating that the latter had reasserted the “true function” of analogy, which avoids confusing it with identity and “real” connections (Vickers 1988:289; cf. the criticisms in Lehrich 2007:103-31; Hanegraaff 2012a:184-189).

Finally, we should note that Kocku von Stuckrad's (2005) model of “esoteric discourse” lends itself to a similar focus on *discursive* antagonism. “Esoteric” discourse claims a knowledge that is *absolute*, whereas “scientific” discourse stresses fallibility and contingency, holding that knowledge is essentially conjectural. Furthermore, while esoteric discourses would invoke mediation or direct mystical revelation as sources of justification, scientific

historically based *mentality* or *form of thought* (ways of thinking and experiencing that are implied by the statement that nature is ensouled). As Marco Pasi has emphasised, scholars commenting on Faivre's definition typically miss the fact that it is conceptualized in line with a French intellectual tradition preoccupied with the expression and constitution of cognitive and psychological concepts – whether as “collective representations”, “mentalités”, or “forms of thought” – in history and across cultures. This tradition includes such thinkers as Emile Durkheim, Lucien Lévy-Bruhl, Igance Meyerson, Jean-Pierre Vernant, and even to some extent Michel Foucault. Meyerson's concept of “historical psychology” is, for example, a demonstrable influence on Faivre's choice of defining esotericism as a “form of thought” in the first place. See Pasi 2013:208.

discourses stress observation and experiment, the obliteration of subjective bias through controls, randomization, and blinding, and calls for intersubjective corroboration through independent replication.

While a distinction on these lines may theoretically be extracted from von Stuckrad's framework, it must be noted that this is *not* the author's main intention. Instead, the distinction of epistemological strategies may be deployed to problematize our taken-for-granted historical definitions. If, for the sake of argument, we take "science" and "esotericism" in their most basic historical senses ("currents" and "body of knowledge"), we will find that rhetoric of rationality and claims to higher knowledge appear within both historical categories. We find occultists such as Aleister Crowley emphasizing experimental measures to avoid subjective bias in mystical and magical experience (Asprem 2008). In general, modern esotericists tend to be less interested in pure, uncorroborated *gnosis*, focusing rather on the *expansion of reason* beyond its generally recognized limitations (thus "paranormal" cognitions such as telepathy and clairvoyance) (Asprem 2013:446-456, 460-554). Meanwhile, we find "esoteric" traits in scientific discourse. In a somewhat prosaic sense, the search for "theories of everything" in theoretical physics share discursive similarities with "esoteric" claims of absolute knowledge (von Stuckrad 2013:238-243). The proposed "strategies of attaining" this knowledge, however, remain far removed from the esoteric mode. Unified field theorists, superstring theorists, M-theorists and the rest, all have to justify their views by advanced mathematics, coherence with empirical data, and the development of novel predictions. Visitations from angels simply won't do.

Exchange models

Continuity and conflict models generally seek to delineate, draw borders, and develop stable definitions – whether these are seen in the end to support a thesis of continuity or of conflict. Exchange models are, by contrast, interested in the gradual and recursive *construction* of boundaries, the transfers between categories, and the networks that extend *across* borders and tie different segments of culture and society together. Here I will mention three such approaches, which are to be seen as complementary to one another. I will argue

that it is to these models that we should turn for a framework for analyzing the relation of science and esotericism in the modern and contemporary period. Hence, instead of merely summarizing existing positions, I will make attempts at synthesizing the approaches discussed in useful ways. Named by their particular analytical focus, the final three models are:

- a) Cultural Capital and Scientific Legitimacy
- b) Pluralism and Discursive Transfers
- c) Networks, Borderlands, and Boundary-Work

A) Cultural Capital and Scientific Legitimacy

The first approach has become commonplace in the study of religion, and entails a focus on how legitimacy is established and defended in post-Enlightenment society. Instead of rejecting the authority of science, religious and esoteric spokespersons often attempt to claim it for themselves. There is a growing scholarship looking at *how* modern religious systems trade with the cultural prestige of science in order to gain and defend legitimacy (e.g. Hammer 2001; Hammer & Lewis eds. 2010).

Borrowing an analogy from Pierre Bourdieu, the need to adopt “science-talk” may be framed in relation to a “currency change” in the cultural economy of modern societies. According to Bourdieu (1986), different “forms of capital” (economic, social, cultural) may be converted into another: a newly rich stock broker may buy esteemed works of art, and through this culturally “adorning possession” attract new social capital in the form of club membership, new relations, and the accompanying elevation of status. Social capital (family, friends, colleagues, group affiliation) may lead to economic capital by making jobs and business contracts available, or by attracting donations. A trait frequently seen in new religious movements and modern esoteric spokespersons is an accumulation of an ostensibly “scientific” cultural capital in what Bourdieu calls the “objectified state” (“pictures, books, dictionaries, machines, etc.”; Bourdieu 1986: 47), as well as attempts to emulate it in its “embodied” (e.g. manner of speech and expression, as when citing scientific nomenclature) and “institutional” states (e.g. the granting of “PhDs” at non-accredited “spiritual

academies”). All of these may be seen as attempts to buy scientific currency – although the charge of fraud is often looming.

Models that frame the relation between science and esotericism as exchange of cultural capital will focus primarily on the *appropriation* of science in esoteric discourse, and less on science “as such”. A discursive approach to the use of scientific nomenclature and appeals to rationality in a culture where science enjoys high respectability will be in the driver’s seat. We are analyzing a *rhetorical imitation*, a transfer of cultural capital flowing exclusively from one system to the other without a reciprocal gain in value. In fact, at least some of the attacks on “pseudoscience” may stem from scientists worrying about an “inflation” of their cultural currency.

The best example of this approach (although not couched in Bourdieuan terms) is found in Olav Hammer’s (2001) conceptualization of “scientism”, as

the active positioning of one’s own claims in relation to the manifestations of any academic scientific discipline, including, but not limited to, the use of technical devices, scientific terminology, mathematical calculations, theories, references and stylistic features – without, however, the use of methods generally approved within the scientific community, and without subsequent social acceptance of these manifestations by the mainstream of the scientific community through e.g. peer reviewed publication in academic journals. (Hammer 2001:206)

Hammer eminently shows how the rhetoric of rationality and science has been adopted by esoteric spokespersons. There is, however, a tendency to understate any more substantial exchange or overlap that may exist between scientific and esoteric discourse. The influence between the two is represented as a one-way-street, from *real* science, embodied in peer-reviewed periodicals and academic institutions, to a parasitic, pseudoscientific esotericism that does not take part of this community. We are presented with a largely internalist picture of scientific activity, through “the methods generally approved within the scientific community”. There is an “essence” to science that, despite discursive similitude, esoteric spokespersons never truly approach. Science (mostly in popularized forms) can be a context and rhetorical resource for esoteric discourse, but there

is no significant transfer in the other direction. The final two approaches we shall discuss break with this trend as they open up for reciprocal relations.

B) Pluralism and Discursive Transfers

As seen in the discussion of typological conflict models, von Stuckrad's description of esoteric discourse can in principle be used to differentiate between knowledge cultures and frame a clash between irreconcilable and even incommensurable cognitive systems. Von Stuckrad's agenda is, however, to emphasize *pluralism* in the European history of religions, and emphasise transfers across transcultural fields of discourse. "Pluralism" is defined as the "organization of difference" (rather than the mere *existence* of difference), and in this sense, European culture may be viewed as a set of *interlocking pluralisms* (cf. von Stuckrad 2008a:218-9, 2008b; Kippenberg & von Stuckrad 2003). Scholars of religion are confronted not only by religious pluralism, but by a much broader pluralism of "cultural domains and systems" that include "religion, philosophy, science, law, art, etc." (von Stuckrad 2008b:37). Scholars ultimately take active part in the interlocking of pluralisms in several ways: by partaking in a particular scholarly discourse among other scholarly discourses, and by constructing, maintaining, or challenging organizations of difference through the very act of producing research on religion, science, or culture.

The concept of *discursive transfers* is crucial for viewing interactions of science and esotericism within this pluralistic framework (e.g. von Stuckrad 2008a, 2008b). It is not hard to find examples of transfers from scientific knowledge systems to esoteric discourse. But discursive transfers can go either way. Thus, with a modern example, von Stuckrad (2008c) has pointed to the discourse on "ciphers" and "codes" in modern biology's quest to "decipher" the human genome. Von Stuckrad interprets this metaphor as trading on essentially Kabbalistic ideas about the textual basis of nature. He furthermore argues that the return of this metaphor has had conceptual implications for the whole project of modern biology: reading implies writing, which implies authors.

Even if this case may seem overstated and the conclusions premature, the general approach is worth further consideration. Other intriguing cases could be made from Forman's thesis with regards to the interpretations of quantum

mechanics, discussed above, or from Mark Morrisson's (2007) study of the "alchemical" discourse of early twentieth-century atomic physics. These cases suggest that a focus on discursive transfers may reveal intricate relations between scientific and esoteric discourse that would otherwise remain hidden from view.

Networks, Borderlands, and Boundary-Work

The final model I will discuss rests on adopting the conceptual tools of science and technology studies (STS).¹⁰ The study of esotericism and modern science poses unique challenges that are simply not present in earlier periods, and STS can help us resolve these. One problem concerns the 19th century professionalization of science, and its role in creating some of the distinctions between science and non-science that now appear intuitive. Precisely *where* the boundary between science and pseudoscience eventually has been drawn should be the *explanandum* rather than the *explanans* of research (Noakes 2004b:24). We need to distinguish between "science-in-the-making" and "ready-made science" (Latour 1985).

Thomas Gieryn's (1983, 1999) concept of "boundary-work" is essential in this respect. During and after professionalization, scientists have been eager to draw sharp distinctions between "real" scientific activity on the one side, and pseudoscience and amateurship on the other. This boundary-drawing is primarily a *social* process of creating in and out-groups, and will often occlude a more complex reality "on the ground". Furthermore, the notion of boundary-work may be expanded to include attempts by "science's Others" to negotiate these boundaries (Hess 1993). Boundary-work should thus be seen as "going on in all directions, not just in the direction of orthodox science towards religion or "pseudoscience"" (ibid.:145-6). Boundaries are recursive and multiple; the groups that have been constructed as "Others" will negotiate and maintain boundaries of their own – not only towards "more scientific" groups, but also internally amongst themselves (as when occultists quarrel over who is "more scientific"; Aspren 2012:146-154). Boundary-work helps us frame the plurality

¹⁰ For overviews, see Jasanoff, Markle, Petersen & Pinch eds. 1995; Galison & Stump eds. 1996; Latour 1999, 2005; cf. criticisms in Koertge ed. 1998; Hacking 1999.

of stances towards science in modern esoteric discourse, including the full repertoire of rhetorical strategies employed in different situations.

Focusing on the construction and maintenance of identities also points us towards the scientific “borderlands” where such negotiations and exchanges frequently take place. Scientific borderlands (see Traweek 1992; Star & Griesemer 1989:413; cf. Morrisson 2007b:198-9) are disputed areas of knowledge falling “in between” the firmly established and recognized scientific disciplines. At least *some* of the intricate science-esotericism relations mentioned at the beginning of this article have taken place in such borderlands (e.g. vitalism, psychical research, parapsychology) – precisely because of the permeable and unfixed borders. These borderlands are not necessarily powerless margins, however: disputed socio-intellectual territories have sometimes been the scene of surprising scientific innovations (Traweek 1992). Morrisson (2007a) argues that it was such a borderland that allowed for chemistry and physics to converge in modern atomic physics in the early 20th century. More surprisingly, Morrisson has demonstrated that the permeable boundaries of this borderland opened up for a re-appreciation of alchemy and a brief dialogue with *occultists* (cf. Hughes 2003). The discovery that chemical elements are not stable, and may even transform during radioactive decay, led to much talk about *transmutations*. The emerging new science was often labeled a “modern alchemy” – including by prominent scientists such as Frederick Soddy, William Ramsay, and Ernest Rutherford. This unexpected cross-fertilization was temporarily institutionalized in the Alchemical Society (founded 1912), sporting a blended membership of chemists, occultists, and historians of alchemy. While ultimately unsuccessful in the task it set for itself, this society exemplifies the messy relations that obtain when scientific frameworks are unsettled and borders still have to be drawn (Asprey 2013:247-260).

Perspectives from *actor-network theory* (ANT) may, furthermore, yield intriguing results for research on modern esotericism/science relations. ANT analyzes the networks of natural, social, cultural, economic, and political resources mobilized in scientific activity (e.g. Latour 1988, 1993, 2005). On this strongly externalist view, “scientific activity” is not simply found in laboratories or the peer review process, but in the elusive networks that tie laboratories and

scientists together with administrative functionaries, politicians, the press, businesses, humanitarian institutions, and the relevant cultural discourse of the day. The success or failure of a scientific research program depends on the significance of the allies (“actants”, in Latour’s jargon) it manages to enlist in such “actor-networks”. For example, the discipline now known as parapsychology only attained professionalization and university status (in the 1930s) after a process that involved distancing itself from its “unscientific” spiritualist heritage on the one hand (boundary-work), and allying its research program with scientific, social, and *religious* concerns that were hotly debated at the time (enlisting actants/building network) (see Aspren 2010).

ANT breaks down the distinction between “nature” and “culture” in talk about science, and moves beyond the tiresome debate between social constructionism and naturalism/scientific realism (Latour 1993). In its strongest formulation, ANT rejects both naturalism/realism and postmodern constructionism as giving too much credit either to nature or to culture. The point is *not* simply that scientific data are “socially constructed”, but that they are not “purely natural”. By focusing on the networks in which scientific objects emerge ANT thus talks of *hybrid objects*, constituted by resources mobilized from a whole range of domains. Textbook examples of hybrid objects include “the hole in the ozone layer”, “global warming”, and “genetically modified organisms” – all of which are objects entangled in vast webs of knowledge that tie together domains such as meteorology, economy, chemistry, politics, astrophysics, journalism, industry, ecology, biochemistry, activism, ethics, and so forth. Again, the point is certainly not that these objects are *unreal* (the naïve understanding of “constructed”), only that they are *impure* – and that this impurity, furthermore, cannot be helped.

Concluding Remarks: STS, Esotericism, and the Case of Rupert Sheldrake

STS approaches may be useful in unmasking the complex relations between esotericism, science, and other fields of culture. A combined focus on legitimacy and cultural capital, discursive transfers, boundary work, and actor-networks

equip us to tackle some of the examples mentioned at the outset of this article. Let me briefly illustrate with a single case: if we wish to understand the place of Rupert Sheldrake in contemporary esoteric (and popular) discourse, we need to consider *both* that he has a PhD in biochemistry from the University of Cambridge – and could not conceivably be considered separate from “proper science” as far as educational background is concerned – *and* that this degree, once attained, is discursively employed in strategic ways that transfer legitimacy to a whole range of ideas that are not necessarily supported by the majority of the scientific community at Cambridge. Thus a focus on scientism as a strategy of legitimacy does not necessarily *preclude* institutionalized scientific merit on the part of the person employing the strategy – to the contrary, merit may be a *prerequisite* for successfully transferring legitimacy from one domain to another.

Furthermore, an analysis of Sheldrake’s stature must look into the processes of recursive boundary-work: his neo-vitalist theories of “morphic resonance” and “morphogenetic fields” forced members of the scientific establishment to enforce the boundaries of proper science, to the extent that the senior editor of *Nature*, John Maddox, entitled his review of Sheldrake’s *A New Science of Life* “a book for burning” (Maddox 1981). The review not only represents an act of boundary-work from the editorial chair of *Nature*, however; commercially speaking, it was probably the best review Sheldrake could ever have hoped for. It enabled a form of recursive boundary-work that Sheldrake has been actively engaged in ever since, casting himself as the persecuted and heroic “heretic”, and bashing at the “dogmatic” and “closed-minded” materialists that he feels dominate modern science (e.g. Sheldrake 2012). Furthermore, it is the *networks* that connect a Cambridge PhD with popular publishers and a milieu of American New Age prophets, from Terence McKenna to Deepak Chopra, that has made Sheldrake a *commercial* success. This success has, in turn, paved the way for a broadly received, paranormally oriented, mildly oppositional esoteric spirituality, catering to those who like to think of themselves as scientifically minded, but are put off by the anti-religious rhetoric of the New Atheists. All these aspects can be unlocked by merging esotericism research and religious studies approaches with tools from STS, promising to generate a wealth of new research questions.

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