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Experimental Methods in the Study of Esotericism

Esotericism research is slowly beginning to draw its methodologies from a broader palette.[1] While such developments allow new and exciting issues to be addressed, they may be hampered by methodological inexperience among researchers attempting to cross disciplinary boundaries. This chapter aims to ease one such transition by introducing experimental methods to qualitatively minded scholars of esotericism. I begin by introducing the basic concept of the experiment. I then discuss why scholars of esotericism could benefit from using experiments in addressing certain research questions. The section immediately after this introduces a typology of experiments and discusses which types are particularly applicable to the study of esotericism. Finally, I discuss the steps qualitative scholars of esotericism might take in order to facilitate the development of cross-disciplinary research on esotericism.

1. What is an experiment?

Whereas the stereotypical qualitatively oriented scholar of esotericism thrives on the deep analysis of topics of great complexity and may even have an appetite for uncertainty, the stereotypical experimentalist is the polar opposite. Above all, experimentalists value simplicity, control, and certainty, and are typically obsessed with directions of causality. For this reason, qualitative scholars may sometimes feel that experiments are overly simplified and abstract, bearing little or no relevance to real world phenomena. And although it may sometimes be true that demands for simplification, control and certainty can be the Achilles' heel of the experimental approach, they are also what give experiments incomparable power in addressing certain research questions.

Basically, an experiment is an attempt to gain insight into cause-and-effect relationships by observing what happens (the effect) when a factor is manipulated (the

[1] Parts of this chapter are excerpts from the PhD dissertation *Supernatural Agents in Predictive Minds* (Andersen 2017).

cause). My 4-year-old daughter claims not to like onions in her meatballs. If I wished to learn whether this is in fact true, I could conduct a simple experiment to test her claim. While preparing supper with her, we could make meatballs with onions on Monday, and meatballs without onions on Tuesday. By counting the number of meatballs she eats during each meal, I could obtain a measure of her food consumption. This way, I would test the effects of onions (the cause) on her food consumption (the effect). After having conducted my meatball experiment, my results may reveal that the presence of onions in my daughter's food significantly decreased her food consumption.

In order to establish a critical amount of certainty, however, good experiments also need to be able to rule out alternative explanations. In our case, there is an obvious alternative explanation, namely that it may only be the *idea* of onions that my daughter dislikes, which is then driving the effect of her decreased food consumption. To account for this possible explanation, I could choose to develop my experimental design by insisting that we eat meatballs on Wednesday and Thursday also. On Wednesday, I would then secretly put onions in the meatballs, but deceptively tell my daughter that I have not done so. On Thursday, I would do the opposite by telling her that I have put onions in the meatballs although I really haven't. Such an experiment may reveal that my daughter's food consumption only decreases when she is *told* that onions are in the meatballs, whereas the onions themselves do not produce a decrease in food consumption (see table 1).

TABLE 1	**Message: "There are onions in the meatballs"**	**Message: "There are no onions in the meatballs"**
Reality: There are onions in the meatballs.	My daughter eats 1 meatball	My daughter eats 3 meatballs
Reality: There are no onions in the meatballs.	My daughter eats 1 meatball	My daughter eats 3 meatballs

Although there are still quite a few problems with my experimental design, the point of this example is to showcase the logic behind thinking experimentally about research questions. The design of experiments is an exercise in isolating single causes, assessing their effects on one or more outcomes, and systematically ruling out other explanations for findings. In this way, experiments allow researchers to disentangle different variables and reveal the crucial factors that generate the changes in which we are interested. My experiment was able to reveal that although my daughter claimed that she did not like onions, it was really the idea of onions that had an impact on her food consumption. This illustrates the great advantage of conducting experiments and applying experimental logic; it can uncover the hidden internal workings of complex phenomena, revealing what is really going on beneath the immediate surface.

2. Why should scholars of esotericism use experiments?

To date, scholars have predominantly utilised historical and ethnographic methods in their approach to esotericism (Asprem 2016). What benefits might scholars of esotericism stand to gain by expanding their methodological toolbox to include experimental methods? The short answer is that while experiments are horribly unsuited to address some research questions in esotericism research, they are perhaps the most perfectly suited candidate for addressing others.

In the article "Reverse-Engineering 'Esotericism'" (2016), Egil Asprem performs an attributional analysis on existing esotericism literature, concluding that "for scholars, 'esotericism' concerns special kinds of knowledge, and the social formation, material means, practices, and experiences through which this knowledge is developed, taught, implemented or transmitted" (Asprem 2016, 169). Of these elements, let us for a moment consider the issue of "experience" and discuss the use of different methodologies in investigating how such esoteric experiences are interpreted or produced in the first place.

At the very outset, the study of esoteric experience is fraught with problematic methodological issues. How do we study phenomena that inherently reside within the minds of individuals, hidden from scientific scrutiny? Much like in the literature on mysticism (e.g. Stace 1960, Smart 1965, Katz 1978), experiences in the study of esotericism have predominantly been investigated by analysing textual accounts written by those who have engaged in esoteric practices (e.g. Owen 2004, Hanegraff 2008, Fanger 2015). Unfortunately, written accounts of such experiences constitute a very problematic source of data for a number of reasons (Andersen et al. 2014). First, written testimonies of esoteric experiences

are often formulated within certain religious or spiritual discourses, and such accounts often have aims other than the accurate description of the experiences in question, for instance the transmission of certain moral ideas (Keller 1978; Andersen et al. 2014). Second, textual accounts of esoteric experiences are often written down some time after the experience occurred, meaning that the memory upon which the account is based could have transformed over time prior to transcription. Furthermore, because the writing and transcription of experiential reports can contain numerous editorial processes, these problems weigh heavily on textual accounts as compared to other sources. In essence, such problems echo the linguistic turn's insight that scholars only have access to experience through language (Taves 2009). As my meatball experiment demonstrated, this is not always a very reliable source of information. Since experiential reports can be heavily distorted by processes taking place both before and during the writing and editing processes, the limits of what we can infer from language are emphasised in the case of textual accounts. Taken together, this means that scholars relying on textual analysis cannot reliably investigate certain basic questions pertaining to esoteric experiences, perhaps most importantly the means by which such experiences are actually produced and interpreted in everyday life (Asprem 2016).

Another method sometimes applied by qualitatively oriented scholars of esotericism is ethnographic field observation and interviews. Such methods overcome many of the problems related to textual analysis raised above by providing rich descriptions of esoteric experiences and practices in their immediate contexts, which minimise the issue of report distortion due to temporal and editorial processes (Andersen et al. 2014). In this way, such methods are advantageous in terms of gathering reliable data. However, they still suffer several drawbacks that make them problematic for those wishing to make explanatory claims regarding esoteric experiences as mental phenomena. Because such methods lack high levels of control and standardisation (unlike my meatball experiment), scholars run the risk of observer bias (finding what they think they will find); they cannot reliably compare their findings across different groups (which, if administered on other children, my meatball experiment would allow me to do); and, since ethnographers still only have access to experience through language (namely the verbal reports of their participants), their data are vulnerable to social desirability effects (the risk that participants will report socially desirable narratives instead of real ones) (Andersen et al. 2014).

If we wish to systematically investigate and explain how esoteric experiences and interpretations form in the minds of individuals, an experimental approach has several advantages. Experimental studies can provide the necessary levels of control, standardisation,

and number of participants needed to reliably start making inferences about how esoteric experiences are produced and interpreted by systematically isolating and analysing factors hypothesised to be of importance in the matter. Perhaps more importantly, experiments can more easily administer behavioural and physiological measures, and these can often be more reliable than self-reports. In my meatball experiment, I utilised a behavioural measure of food consumption. This measure revealed that although my daughter claimed that she did not like onions, it was really the idea of onions that she did not like. In other words, had I only used a self-report measure, I would have reached a false conclusion. On the other hand, when behavioural measures are congruent with self-report, this provides evidence for the reliability of the self-report in question. If my daughter, for instance, had consumed fewer meatballs on the day that I had included them unbeknownst to her, this would enhance the reliability of her claim that she does not likes onions.

Such advantages notwithstanding, experimental methods continue to be haunted by one very major hurdle. How can we meaningfully recreate the phenomenon we are interested in investigating in the laboratory, or, alternatively, how do we feasibly move the lab to the phenomenon? This problem pertains not only to research on experiences, but also to studies on esoteric practices, the transmission of esoteric knowledge, the formation of esoteric movements, and so on. Despite the great promise of experimental approaches this problem will sometimes prove insoluble, rendering other methodologies preferable.

3. How do we study complex cultural phenomena in experimental setups?

So, on a pragmatic level, how do we begin approaching some of the complex cultural phenomena in esotericism experimentally? By now, some readers may already be sceptical about the feasibility of such an endeavour, and rightly so. Experimental studies often suffer from problems with authenticity and ecological validity, and are often criticised for studying artificial abstractions that do not relate to real life (Schjoedt 2009). Some readers may even feel that experimentalists of religion are a presumptuous breed that regularly exhibit an inferential greed that leads them to advance inappropriately bold interpretations of results gleaned solely from samples of university students (Schjoedt and Geertz 2017). Fortunately, such preconceptions are not entirely true. Although many experimental studies on religious belief and behaviour do admittedly sample only university students using standard paradigms borrowed from cognitive science, experimental research on religion is in fact much more diverse than this. Overall, experimental research on religion can be categorised into three different types of studies, all with different characteristics and different aims. In the following,

I present a typology of experiments on religious belief and behaviour as developed by cognitive scientist of religion Uffe Schjoedt (Schjoedt and Geertz 2017) and discuss the relevance of each type for the study of esotericism.

The first type of experimental studies is the so-called "standard paradigm" (e.g. Shariff and Norenzayan 2007; van Elk et al. 2016). These studies are the most frequently encountered, which may be why they are often the first ones that pop into the head of the sceptical scholar. In standard paradigms, researchers use abstract forms of religious stimuli - such as priming participants with religious words - and then measure the effects of these stimuli on various measures such as monetary donations (e.g. Shariff and Norenzayan 2007) or detection tasks (e.g. van Elk et al. 2016). In such studies, researchers often try to rule out common confounding effects by manipulating variables outside of the awareness of participants, for instance by performing subliminal priming. These studies often look for universal biases and inclinations in human cognition, which are of great interest to researchers interested in evolutionary psychology and cultural evolution (Schjoedt and Geertz 2017). For this reason, such studies are often content to use convenient samples of university students. However, standard paradigm studies are seldom very interesting for scholars with an eye for a particular religious phenomenon for the simple reason that they do not address any particular religious phenomenon as such (Schjoedt and Geertz 2017). Despite such studies' irrelevance for esotericism specifically, standard paradigm studies should not lead scholars of esotericism to throw the baby out with the bathwater. There are other types of studies much better suited to help scholars of esotericism gain a deeper understanding of their object of inquiry.

The second type of experimental study is the so-called "religion-by-proxy" study (Schjoedt and Geertz 2017). In these studies, experimentalists attempt to study religious experiences and practices indirectly, by using stimuli or studying phenomena that closely resemble specific religious phenomena (e.g. Deeley et al. 2013; Andersen et al. in review). For instance, in a study conducted by Quinton Deeley and colleagues, a team of researchers attempted to investigate the brain processes underlying spirit possession. In the experiment, Deeley and colleagues took a sample of 15 highly hypnotically susceptible participants and hypnotised them into a state resembling possession, with participants induced to feel that their arm was being controlled by a machine operated by an engineer (Deeley et al. 2013). The strength of these studies is that they can study a range of phenomena that closely resemble certain religious phenomena whilst still being able to maintain a high degree of experimental control. While such studies do not investigate authentic religious phenomena,

they should nevertheless provoke a first glimmer of interest in scholars of esotericism, not only because they study accidentally similar phenomena, but also because such studies focus on specific causes that are sometimes assumed to be involved in esoteric phenomena as well.

The final category has been dubbed "authentic religion studies" (Schjoedt and Geertz 2017). As the name suggests, this type of studies investigates genuine religious practices and experiences, either by bringing such phenomena into the lab or by taking the lab into the field (e.g. Schjoedt et al. 2009; Xygalatas et al. 2013, Andersen et al. in prep). In one such study, my colleagues and I attempted to explain why Ouija board users often report that the planchette, used for the generation of responses in Ouija board sessions, moves entirely of its own volition. In cognitive science, the feeling of being in control of one's actions and (through them) outside events is referred to as the Sense of Agency (SoA) (Haggard and Tsaris 2009). Prominent theories on SoA claim that the brain creates the feeling of control by predicting the consequences of an action and then comparing this model to the actual consequences of the action. If the brain can predict the sensory consequences of the action, people will feel that they had control over the action in question (Blakemore, Wolpert and Frith 2002). We conducted a field study at a paranormal conference, where we equipped Ouija board users with mobile eye trackers in order to investigate the degree to which they were able to predict which letters would be "picked" by the planchette. Consistent with theories on SoA, we found that participants were significantly less able to predict the actions of the planchette when they attempted to communicate with supernatural beings, compared with when they used the planchette to deliberately spell out words. In other words, our experiment supplied an explanation as to why Ouija users feel that the planchette moves on its own. More interesting, however, we also found an explanation to the apparent paradox of how participants are able to construct responses on the board given that they have difficulties predicting the letters in those very same responses. Our results suggest that while individuals cannot predict the responses, the *pair* of participants can. In other words, meaning seems to emerge from collective rather than individual efforts. Thus, Ouija users are correct when reporting that no individual in the pair is creating the responses. They are also correct when they report that a third entity is in fact doing so. The third entity, however, seems to be the collective "we" (Andersen et al. 2017 in prep).

This type of study can directly address esoteric experiences and practices with a new approach that brings otherwise unattainable insights, something that should excite scholars of esotericism. Such studies are, however, not without their drawbacks. While "authentic religion" studies have a high degree of ecological validity and authenticity, they often cannot

maintain as high a level of control as studies conducted in either the "standard" or "religion by proxy" paradigms (Schjoedt and Geertz 2017). Furthermore, "authentic" studies typically require large research teams. This is partly because of the sheer extent of the workload, partly because such studies often require dedicated experts on cultural and technical matters, and partly because they typically require multiple researchers on site when the experiment is actually conducted (Schjoedt and Geertz 2017). Despite these drawbacks, however, they are still the category most useful to the esotericism scholar with an interest in specific esoteric phenomena.

4. Bridging qualitative and experimental approaches to esotericism

While some scholars may now be convinced of the usefulness of applying experimental methods in their work on esotericism, many scholars may still find the thought of setting up their own experimental research lab too challenging. Luckily, there are still many steps qualitatively oriented scholars can take in order to facilitate the development of the study of esotericism as a cross-disciplinary endeavour.

Qualitative scholars excel at describing complex cultural phenomena and at making qualified and informed guesses to explain the emergence and structure of these phenomena. Often, however, theorising is conducted using particularistic categories that hamper fruitful dialogue between historians, ethnographers, and experimentalists, and theories are seldom formalised into testable hypotheses. In order to harmonise the study of esotericism for cross-disciplinary application, scholars of esotericism should therefore first and foremost attempt to formulate their ideas and concepts in generic terms that are easily transferable to other domains of knowledge (Asprem 2016). Secondly, scholars of esotericism should attempt to specify and formalise their claims into testable hypotheses. Although this may be difficult or even unfeasible in some instances, there are often one or more testable core hypotheses hidden beneath the crust of most theories in the study of religion.

Formalised hypotheses on the subject of esotericism will be of great interest to experimentalists of religion, who can then attempt to operationalise them in concrete experimental designs. Operationalisation is the process of deciding how to indirectly measure variables that are not themselves directly measurable. In my meatball experiment for instance, I operationalised my daughter's distaste for onions by the metric of meatball consumption, because her subjective attitude and experience cannot be measured directly. In other words, I assumed that the number of meatballs she consumed corresponded to how much she enjoyed eating them. Once a given hypothesis has been operationalised and

experimentally tested, results must be interpreted. This stage would also benefit from the expertise of qualitative scholars. Scholars of esotericism should therefore not shy away from cooperation with experimentalists, who are often quite used to conducting research in teams.

An exemplary illustration of how to prepare an esoteric object of inquiry for experimental investigation is provided by Guðmundur Ingi Markússon's article "Indices in the Dark: Towards a Cognitive Semiotics of Western Esotericism, Exemplified by Crowley's Liber AL" (2017). Markússon discusses the well-known esoteric text *Liber AL* by Aleister Crowley. First, Markússon asks the basic question of why anyone would want to read such a text considering how utterly difficult it is to interpret. Markússon then carefully lays out his ideas about how a text such as *Liber AL* might affect human cognitive processes. Texts that are read in religious contexts may, he argues, be processed differently than other texts. Whereas readers in most contexts expect texts to be intelligible and informative, religiously authoritative texts are different in that readers often expect them to contain important, but *concealed*, meanings. This, in turn, means that readers will have their expectations *violated* when encountering incomprehensible passages in normal texts, whereas they will have their expectations *confirmed* when encountering such passages in religiously authoritative texts (Markússon 2017).

Markússon formalises his idea about a particular esoteric phenomenon as a testable hypothesis using generic terminology, which makes the job of the experimenter much easier. His hypothesis could, for instance, be tested in a religion-by-proxy experiment by presenting various sections of text (all controlled to be of equal size and difficulty) to a sample of practitioners, while measuring their eye gaze behaviour. Studies on gaze behaviour in reading tasks have repeatedly shown that comprehension errors during reading result in participants regressing (going back) in the text (e.g. Rayner 1998). This means that regressions might be a reasonable way of operationalising confirmations and violations of expectations respectively, by assuming that breaches of expectations would result in a higher amount of regressions than confirmations of expectations. One could then let participants read an equal amount of text sections, created by the experimenter, from four different categories: 1) comprehensible sections that participants are told come from a newspaper; 2) comprehensible sections that participants are told come from an important esoteric text; 3) incomprehensible sections that participants are told come from a newspaper; and 4) incompressible sections that participants are told come from an important esoteric text. For each participant, one could then counterbalance the different text sections, so that sections presented as coming from a newspaper to one participant would be presented as coming from an esoteric text to another

participant. Such a randomisation procedure would rule out the possibility that it is the particular text sections that are driving any effect. In this way, the experiment would attempt to isolate the effects of comprehensibility and context on expectation violations (proxied by eye gaze regressions in the text). If Markússon's hypothesis is right, we would expect to find significantly fewer regressions in the incomprehensible sections that participants are told come from an important esoteric text than in the incomprehensible sections that participants are told come from a newspaper, while still being able to demonstrate proof of concept through the other two conditions.

Whether such an experiment would do justice to Markússon's hypothesis is another matter, and the conclusions that one could reasonably draw from any results is yet another. Whatever the case, experimental studies on esoteric phenomena will always produce new insights conducive to further research, perhaps on matters pertaining to esotericism, perhaps on matters pertaining to experimental design. However, if qualitative scholars of esotericism and experimentalists do not join forces, we may lose a crucial opportunity to see our way out from the obscuring fog of conjecture.

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