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Taking the Broad View: Differentiating Between Natural and Paranormal Phenomena in
Science

1. Abstract

What differentiates natural phenomena from paranormal ones? C.D. Broad has developed conceptual means in line with an emerging analytical philosophy by which to view paranormal phenomena, which is of note due to the fringe-science status generally ascribed to the study of the paranormal, yet C.D. Broad being a respected member of a very science-minded academic community in his time. This thesis will look at the framework he proposes in *Lectures on psychical research* in an attempt to answer this question. As an exercise in applicability the proposed framework will be applied to a case study. Paracelsus' *Aurora of the Philosophers*, an alchemical text, will be subject to analysis, after which we will evaluate the merits of the system and whether the philosophical claims made by C.D. Broad can be maintained.

2. Studying the Paranormal

The study of the paranormal is not new by any stretch of the imagination. People have always made claims about matters outside the scope of normal life, ranging from 'ghost' sightings and dealings with otherworldly devils to attributing miraculous supernatural powers of foresight or telekinesis, manipulating objects from afar, to themselves or their fellow men. But what actually differentiates these paranormal phenomena from natural ones?

What discipline is best suited to answer this question? Paranormal phenomena have often been claimed as being divine miracles, in which case, it seems that the domain of God is best studied by the theologians, as was indeed done for centuries. In this view, paranormal phenomena cannot contradict the laws of nature, for nature is simply an extension of God's will, and as an infallible being, God is unable to contradict themselves (Daston 95). However, science has long abandoned this view on the nature of nature. Nature and the divine are now

seen as separate categories (Daston 124). With the separation of God and nature the possibility gets introduced for paranormal phenomena to contradict natural laws. Should we now abandon the theologians and instead have investigative specialists, well-read in the relevant laws of nature, study the paranormal phenomenon in question? Or are paranormal phenomena in a category of their own, separate from natural laws? In which case, shouldn't there be a specialized field and methodology with which to study paranormal events? And if so, how do we differentiate between good and bad science when it comes to the paranormal?

By the 20th century, multiple attempts were made at standardizing and critically assessing the study of the paranormal. These attempts took their inspiration from the standards and methodologies developed in early analytic philosophy, psychology, etc. These attempts often fell into one extreme or another, either trying to completely disprove that anything paranormal could happen, or fully accepting that paranormal phenomena existed.

For example, there was the Dutch academic W.H.C. Tenhaeff, who occupied Utrecht University's chair for parapsychology from 1953-1978, and led the *Parapsychologisch Instituut der Rijksuniversiteit Utrecht* (Tenhaeff 13-14). Tenhaeff rejected the historical view of paranormal events as being miracles, and instead classified them as belonging to the study of a-normal psychology, subdividing a-normal psychological phenomena into abnormal phenomena, the study of illness relevant for psychiatry, supra- or sub-normal phenomena, the study of improved or decreased cognitive function, and paranormal phenomena, the study of function outside regular human ability (Tenhaeff 9-10).

Still active even today, though largely considered a fringe science—an actually refuted or at least largely speculative science (Dutch 6-13)—parapsychology sets itself apart from regular psychology while still being modeled on psychology's experimental methodology. It uses peer reviewed publications, in-depth interviews of individuals with

claims of paranormal powers and so on (Cardin 213). Tenhaeff primarily concerned himself with quantifying and categorizing different paranormal events (Tenhaeff 17-18).

Additionally, he spent considerable efforts examining the history of parapsychology and clarifying the terminology it uses, such as the use of the term *psi*, which was first proposed by the Austrian physiologist Bertold Wiesner and the British psychologist Robert Thouless in 1942 (Cardin 239). *Psi* was a neutral term to be used to refer to paranormal events, with a hypothesis that *psi* power is distributed throughout the general population in a similar manner to intelligence. Some people simply had more *psi* power, or intelligence, than others. (Cardin 239). But ultimately Tenhaeff did not overly concern himself with the question of whether or not paranormal events existed at all—taking it for granted that the events really did happen as described, but were simply incorrectly ascribed to divine influence, when in fact they were a case of cognitive prowess outside the human norm.

As an example from the other end of the spectrum, with no real quantifying efforts of paranormal phenomena made, instead focusing on debunking their existence, we have M. Bunge (Bunge 36-46). A skeptic and Frothingham Professor of Logic and Metaphysics at McGill University, Bunge took a dim view on the existence of paranormal phenomena. Believing that the existence of so-called pseudoscience was actively harmful to scientific progress, he spent his efforts debunking them and differentiating them from legitimate science.

Superstition, pseudoscience and antiscience are not rubbish that can be recycled into something useful; they are intellectual viruses that can attack anybody, layman or scientist, to the point of sickening an entire culture of turning it against scientific research. (Bunge 46)

Bunge saw both the sciences and the pseudosciences as cognitive fields, a “sector of human activity aimed at gaining, diffusing, or utilizing knowledge of some kind, whether this knowledge be true or false” (Bunge 36). These cognitive fields are made up of multiple components. The people that work in the fields, the presuppositions about the topic studied from other fields, the aims and goals of the cognitive fields, etc. The components which make up the cognitive field collect the relevant factors which differentiate legitimate science from pseudoscience (Bunge 37). Bunge attempts to systematically show how science and pseudoscience differ along these categories. Bunge does not concern himself with the exact details of the fields which he compares, but rather in the way that the researchers in these fields operate. He ultimately posits that paranormal research has more in common with belief systems than actual research (Bunge 38).

The components that make up science are constantly in flux. Without the constant change, there could be no science. As new research gets done, world-views and presuppositions change, theories get revised or discarded, etc. As a result, science is constantly innovating and reinventing itself. Whereas the opposite is true for pseudoscience. Its components are largely stagnant, standing firm and unchanged unless some major crisis necessitates adaptation so that the cognitive field might survive. In this way pseudoscience functions more like a system of beliefs than a science (Bunge 38-40).

While admitting that paranormal phenomena might occur, he argues that the belief-ridden, dogma-bound nature inherent to pseudoscience is intrinsically unable to learn anything about the paranormal phenomena. In the event that paranormal events would get successfully studied the field would simply transition into being ordinary scientific research (Bunge 49). Due to his lack of interest about the exact contents of the disciplines, rather than the way the fields behave, he does not spend any effort on categorizing different paranormal

phenomena from each other—since he is skeptical about their existence, why bother classifying them?

3. C.D. Broad

Professor C.D. Broad occupies an interesting place in between these two extremes. Broad was a prolific author, active mostly in the fields of moral philosophy, epistemology, philosophy of science and history of philosophy. Born in 1887 in Middlesex, England, Broad's career saw him work at Trinity College, St Andrews University and Bristol University, before spending several decades occupying the chair of Knightbridge Professor of Moral Philosophy in Cambridge University (Schilpp 3-68). By all accounts, Broad was an established and respected member of the academic community at Cambridge, which was a very science-minded setting! This makes the fact that he conducted extensive research into the paranormal all the more interesting.

What makes Broad's approach so compelling is that while seemingly believing in the existence of paranormal phenomena, he nonetheless proposes a rigorous framework and gives us criteria for determining whether a phenomenon actually happened or not, after which he moves on to efforts to quantify various phenomena. In doing so he combines the mentality of both Tenhaeff's quantifying efforts with Bunge's debunking efforts, occupying a critical stance in the middle of the landscape of paranormal research.

It was during Broad's tenure at Cambridge that he founded, and was president of, the Society for Psychical Research. The SPR exists to this day and has a stated purpose to understand "events and abilities commonly described as psychic or paranormal by promoting and supporting important research in this area" and to "examine allegedly paranormal phenomena in a scientific and unbiased way" (Society for Psychical Research).

Psychical research was founded in response to an earlier framework of studying paranormal phenomena called Spiritualism (Cardin 243). Spiritualism was a religious and philosophical tradition based on using an interpreter to speak to the souls of the dead. In this manner the so-called 'medium' was able to gather information from and about the afterlife. Many paranormal events, such as possessions, automated writing, the discharge of ectoplasm etc., were claimed by Spiritualists as being attempts of ghosts to communicate with or otherwise affect the world of the living. Spiritualists used various means to invoke communication with these restless spirits. Such as séances, having a group of people sit around in a circle, holding hands in order to let a spirit possess a member of the circle which they'd speak, or having a possessed medium point to letters to spell out words on a so-called Ouija board (Cardin 304).

Broad defines the basis of Spiritualist beliefs as follows:

1. After the death of a person's body their consciousness persists in some capacity.
2. After bodily death a person's consciousness takes up a life somewhat like the life they had before bodily death, but differentiated from material life in some capacity.
3. The deceased's consciousness can communicate with material life in some capacity.
4. Finally, that the nature and content of these communications proves the first 3 propositions, and are a sound basis for detailed knowledge about the afterlife.

(Broad 6)

These beliefs informed all Spiritualist study that followed. But not every researcher felt that a belief in the afterlife was necessary in order to study the paranormal. Why couldn't predicting the future or manipulating objects from afar be possible without invoking restless

spirits? In order to escape the yoke of the afterlife hypothesis, some researchers eventually turned to the methodology of experimental psychology, giving rise to the field of psychical research.

The name *psychical research* was chosen in an attempt to distance itself from Spiritualistic beliefs. While the latter field of parapsychology announced in its name that it was no longer a part of mainstream research, psychical research intentionally styled itself as a natural science in an attempt to distance itself from Spiritualism (Cardin 243).

4. Broad's System of Psychical Research

“I shall define ‘psychical research’ as the scientific investigation of ostensibly paranormal phenomena”, Broad begins (Broad 3). As a science, psychical research has strict criteria for what marks a phenomenon as an ostensibly paranormal phenomenon. A phenomenon gets classified as a paranormal one by violating one of, what Broad calls the *basic limiting principles*. The *basic limiting principles* are a set of very general principles that together form the framework within which all practical life and scientific theories are confined.

Broad goes on to list some of his *basic limiting principles*:

1. Person A cannot know what experiences person B is having or has had, except by B describing the experiences, interpreting interjections and social cues B makes or by making inferences from material objects which B has constructed or used.
Persons can only learn about the world through perception and reasoning.
2. A person cannot foresee any event that has not yet happened.
3. A person cannot directly affect the movement of anything but certain parts of their own body.

4. When a person's body dies their consciousness either ceases to exist altogether or becomes unable to manifest itself in any way to living people. (Broad 3-4)

This list is by no means exhaustive. Rather, they are examples of important restrictive principles of a wide range which are commonly accepted by scientists.

If we look closer at these principles, it becomes clear that Broad assumed a physicalist world-view, where everything that happens is the result of material events. Consequently, backwards causation does not exist, future events cannot affect past ones, as they rely on these past events to exist. Yet he does not dismiss the immaterial outright. Instead, he believes that the immaterial cannot interact with the material, but is open to the possibility of paranormal events violating these principles.

An event that conflicts with the known laws of nature but not one of the *basic limiting principles* can be seen as an abnormal event, which occurs rarely in nature, e.g. constructing a device that generates more energy than it expands. Study might show that it does not ultimately conflict with the known laws of nature, or lead to revising or extending said laws.

An event which conflicts with the *basic limiting principles*, not just a law of nature, can be called an *ostensibly paranormal phenomenon*. If upon investigation, it is found that the event really did violate the *basic limiting principles* it would become a *genuine paranormal phenomenon*.

For example, mindreading and telekinesis violate the belief that physical and non-physical things cannot interact. Foreseeing the future violates backwards causation, and the existence of ghosts would clash with a physicalist worldview. All these phenomena would thus be classified as *ostensibly paranormal phenomena*, pending further study.

Broad also divided paranormal phenomena into either *sporadic* or *recurrent* phenomena. As the names imply, a sporadic phenomenon is generally an isolated event that is

difficult or impossible to reproduce, while a recurrent phenomenon can be reliably reproduced (Broad 7). Consequently, the way in which these different types of phenomena must get studied differs.

A *sporadic phenomenon* cannot be studied experimentally due to its lack of availability and predictability. One-off incidents such as ghost sightings fall under this header. Investigation into a particular phenomenon should proceed in the order of Critical Appraisal, Classification and Synopsis and Generalization:

1. Critical Appraisal

- a. Did the event really happen? The first step should be to determine if the event happened at all.
- b. If the event happened, is it an *ostensibly paranormal event* or not? Does the event violate any of the *basic limiting principles*?
- c. Can the known laws of nature be adjusted in such a way that the event does not violate any of the *basic limiting principles*?

2. Classification

- a. Classifying events into groups based on the likenesses and unlikenesses in them

3. Synopsis and Generalization

- a. Once there are enough *sporadic phenomena* of a certain class it becomes possible and profitable to investigate them as a whole. (Broad 8-10)

Or to put it simply, an investigator needs to first determine if the event is worth studying at all. Only once it has been confirmed to be a proper *ostensibly paranormal event* should the investigator begin classifying the event, comparing and contrasting it with others. With enough confirmed instances of paranormal phenomena, eventually it becomes possible

to analyze groups of similar phenomena to see whether one can detect and formulate any general rules about them (Broad 10).

Recurrent phenomena, on the other hand, are able to get reliably reproduced. Examples of *recurrent phenomena* are the various psychic powers that still-living mediums, card readers etc. claim to be able to manifest at will. Since these subjects are available and able to showcase their powers at will, it is both possible and desirable to subject them to the methodology of experimental study.

When designing an experiment to conduct, it is important to design it with proper experimental controls in mind. While this is always important it is especially so when studying paranormal powers, as often the claimant or the investigator is either knowingly or unknowingly fraudulent. Experimental design should therefore be as thorough and unbiased as possible (Broad 12). Depending on the claims made, all available technology to measure and record what is going on should be used. With a medium which claims to speak with the dead, record everything that is being said and what the medium does. With a card-reader, calculate the chance of the results occurring coincidentally. Conduct double-blind studies to avoid investigator bias, and so on.

Due to the nature of the subject studied a high amount of skepticism is called for, and the burden of proof should be quite high. The more improbable an event is, the higher the amount of evidence required. Thus claims of the paranormal require a considerable amount of evidence indeed (Broad 14).

Firstly, we should lend more weight to well-designed experiments investigating *recurrent phenomena* than well-written reports of *sporadic phenomena*. It is easier to train people to perform experiments correctly than to estimate the proper value to be attached to reports of *sporadic phenomena* (Broad 19).

In addition, if a *recurrent phenomenon* is shown to violate *basic limiting principles*, the probability of *sporadic phenomena* doing so increase. It is difficult to accept a paranormal explanation for a reported event, since it is almost always more reasonable to assume error or fraud on the part of the claimant or investigator, regardless of how little evidence for this exists (Broad 15). But if an experiment shows that a certain paranormal phenomenon is possible, it increases the probability of similar events in the past actually having happened (Broad 19).

Finally, it is not just the aim of psychical research to assess whether paranormal phenomena exist, but rather to uncover the laws under which they operate (Broad 19). If paranormal phenomena are found to exist attempts should be made to deliberately invoke the phenomena and vary the conditions under which they operate, noting variations in the phenomena in an attempt to formulate the generalized laws under which the phenomena operate.

It is this final aim which proves that psychical research was a true attempt at creating a scientific study of the paranormal. Psychical research was largely focused on a few specific areas in its heyday, such as the supposed existence of Spiritualist phenomena or the “nature and extent of any influence which may be exerted by one mind upon another, apart from any generally recognized mode of perception” (Cardin 244), among others.

The conceptual means put forth by Broad open the way to rigorous philosophical analysis of paranormal phenomena. Of course, Broad was hardly the first to marry science and philosophy with the paranormal. There have been many instances of supposed paranormal phenomena with claims to scientific legitimacy throughout history which psychical research did not concern itself with. We will be applying Broad’s framework to an example from alchemical literature, before coming back to evaluate the merits of the system.

5. Alchemy – an Overview

“The classical applications of alchemy have always been two-fold: chrysopoeia and apotheosis (gold-making and god-making)—the perfection of metals and mortals” (Cheak 18). Cheak effectively sums up what makes alchemy a subject well-suited to analysis by Broad. Alchemical traditions rely on investigating and experimenting with matter (the gold-making) in order to understand the way that reality works, thereby attaining spiritual enlightenment (the god-making) (Cardin 5). Relying both on the interpretation of ancient texts and the conducting of original research, this blend of proto-science and religion makes for a very interesting test case for Broad’s system.

Of course, in the popular view gold-making is sometimes taken as the whole of alchemy. Alchemy is often seen to be little more than a pseudoscientific precursor to chemistry, its practitioners misguided men trying to transform lead into gold, ultimately amounting to little more than a curiosity in the history of science. This is a very uncharitable view of the field. In the first place, alchemy describes a wide set of different traditions and practices through the ages, from antiquity to the modern day. With alchemy being far older and far less homogenous than the popular conception, it would be disingenuous to dismiss it as a mere triviality, as was the popular view during most of the 20th century (Hanegraaff 13). Nor is alchemy a purely spiritual affair, an interpretation which got popularized in the 19th century, characterizing all alchemy as a quest for spiritual elevation (Hanegraaff 14). Rather, both the gold-making and the god-making were present in greater or lesser degrees in alchemical traditions through the ages.

“Although scholars generally agree that alchemists contributed to the origins of early modern science, more work needs to be done to establish the precise nature of their contributions” (Hanegraaff 42). Several key principles of science, such as a focus on analysis

as a means of understanding nature, and humans' ability to improve upon nature rather than accepting nature, being God's creation, as perfect, were already present in alchemical traditions. In addition, multiple important thinkers, such as Isaac Newton and John Locke, devoted a significant body of work to traditional alchemical pursuits, and were no doubt influenced by alchemical thought in their other work (Hanegraaff 15). One important thinker in alchemy was Phillipus Aureolus Theophrastus Bombastus von Hohenheim, more popularly known as Paracelsus.

6. Paracelsus and The Aurora of the Philosophers

Paracelsus lived from 1493 until 1541. Paracelsus was a physician, a natural philosopher, an astrologer and a mystic, who left behind a considerable body of work in these fields (Hanegraaff 922). It is this body of work which resulted in Paracelsus eventually enjoying popularity as a pseudo-mystical figure capable of amazing alchemical feats of transformation, after alchemy fell out of favor as a legitimate scientific practice sometime in the 19th century (Cardin 7). Paracelsus frequently utilized observations of nature in his work, as opposed to referencing and interpreting ancient texts, as was the dominant scholastic method of his time. This makes his work an ideal candidate for analysis by Broad's system. We are going to be examining his text *The Aurora of the Philosophers*.

Alchemists accepted transmutation, the changing of one material into another, such as turning simple lead into gold, as an observable part of nature. There were a number of different theories on how to achieve this. One such theory was that in order to perform transmutation the proportions of the elements present in a base metal should be varied to mimic the proportions of the elements present in gold. For this, a legendary substance called a *philosopher's stone* was needed. *The Aurora of the Philosophers* concerns itself with the creation of such a philosopher's stone (Hanegraaff 42).

Paracelsus begins the text with several chapters on the mystical origins of ‘the Art’, as he refers to alchemy. The biblical Adam handed this knowledge down, through Egypt and the Greeks before eventually making its way to western Europe. He then briefly goes over the contents, beliefs and origins of several different types of magical systems before moving on to make claims about the nature of the *philosopher’s stone*. Over the next chapters he proceeds to explain the different types of errors people have made in the pursuit of the *philosopher’s stone*, before giving out instructions on the proper way to obtain one, thus evidencing a strong critical attitude. Finally, he explains something about the function of the stone and how philosophers should conduct themselves.

7. The Aurora of the Philosophers – Analysis by Broad’s Categories

The first order of business is determining whether the text should be treated as a *sporadic phenomenon* or as a *recurrent* one. Unfortunately, this isn’t as simple a decision as it might appear to be, as the text contains features of both. Paracelsus makes claims about historical or mythical figures or events, “When a son of Noah possessed the third part of the world after the Flood, this Art broke into Chaldea and Persia, and thence spread into Egypt” (Hohenheim 49). But he also describes chemical processes, “Vitriol contains within itself many muddy and viscous imperfections. Therefore its greenness must be often extracted with water, and rectified until it puts off all the impurities of earth” (Hohenheim 61). This passage essentially says that sulfuric acid (Vitriol) should get diluted with water before use.

While the events described in the historical parts of the text can only be studied as *sporadic phenomena*, claims of chemical processes certainly can be empirically tested, which would allow them to be studied as *recurrent phenomena*. Thus we’d first need to separate the different types of claims made throughout the text, and analyze them separately, according to the method best suited to them. In addition, not all claims made are of an occult nature, which

doesn't make them particularly interesting for us, as seen in the quotes above. A number of other complications also exist, which we will discuss below. For the sake of brevity, we will restrict ourselves to only several examples from the text.

7.1 *The Aurora of the Philosophers – Recurrent Phenomena*

Others, according to the Venetian Art, as they call it, take twenty lizard-like animals, more or less, shut them up in a vessel, and make them mad with hunger, so that they may devour one another until only one of them survives. This one is then fed with filings of copper or of electrum. They suppose that this animal, simply by the digestion of his stomach, will bring about the desired transmutation. Finally, they burn this animal into a red powder, which they thought must be gold; but they were deceived. (Hohenheim 55).

The bulk of the text contains claims of a technical nature like these, which can be analyzed as *recurrent phenomena*. Paracelsus spends a lot of the time detailing the different ways people have gone wrong in attempting to make a *philosopher's stone*. These recipes can be reproduced, but since they are lacking a paranormal component they aren't of much interest to us—once we get past the terminology used we are simply left with a recipe for producing certain chemicals. Once he finishes telling us what other philosophers have done wrong, Paracelsus tells us the proper way of producing a *philosopher's stone*, again largely by listing chemical recipes that can be tested and verified.

Let these two oils in combination be shut up together in a phial after the manner described, hung on a tripod for a philosophical month, and warmed with a very gentle fire; although, if the fire be regulated in due proportion this operation is concluded in thirty-one days, and brought to perfection. By this, Mercury and any other imperfect metals acquire the perfection of gold. (Hohenheim 63)

This is the first observed instance of Paracelsus making a claim we might see as paranormal in nature during the technical components of *Aurora of the Philosophers*. However, the claim he makes—that the substance we have just made can transform other metals into gold—is not actually an occult one. It does not directly violate any of Broad's listed *basic limiting principles*, it simply does not obey the laws of nature as we currently understand them. Thus it is not actually a claim of paranormal events, but simply incorrect science.

This is not to say that Paracelsus did not know what he was talking about, but he was operating under a scientific framework that modern science has abandoned. "All things created by Nature consist of three primal elements, namely, natural Mercury, Sulphur and Salt in combination, so that in some substances they are volatile, in others fixed. Wherever corporal Salt is mixed with spiritual mercury and animated Sulphur into one body, then Nature begins to work, in those subterranean places which serve for her vessels, by means of a separating fire" (Hohenheim 65). Instead of seeing matter as a combination of Mercury, Sulphur and Salt we now have a detailed understanding of the atomic composition of elements. As an interesting aside, we are now even able to transmute lead into gold—through the use of high velocity particle accelerators. Both things Paracelsus had to do without (Bunge 49).

Through the rest of the technical components of *Aurora of the Philosophers* there are no claims made which seemingly violate any of the *basic limiting principles*. Despite talk of souls and divine compositions of matter, it never gets said that the immaterial interacts with the material, nor are there any further instances of predicting the future. Indeed, what we are left with is a fascinating look at an outdated worldview with a number of chemical experiments we can perform.

In any event, if claims of *ostensibly paranormal phenomena* had actually been made, the course of action would be much the same as we'd do now. Set up one of the listed experiments under laboratory conditions, taking care to measure as much as we can and obey proper experimental controls, and observe the results, then use them to classify events and to formulate general laws. But as it stands there is very little for Broad's system to examine. This raises two possibilities: either the *basic limiting principles* are too restrictive as a criterion, or alchemy simply was good science based on false premises.

7.2 *The Aurora of the Philosophers – Sporadic Phenomena*

Adam was the first inventor of arts, because he had knowledge of all things as well after the Fall as before. Thence he predicted the world's destruction by water.

(Hohenheim 48)

The opening statement to the *Aurora of the Philosophers*. The text begins with several chapters of historical and mythological accounts of events, which can be subjected to analysis as *sporadic phenomena*, of which this is a typical example. It should be clear to anyone with a cursory knowledge of Christianity that the Adam referred to is the biblical Adam. The Fall refers to Adam getting cast out of the garden of eve (Genesis 3), and the world's destruction by water would be the biblical flood (Genesis 7-8). Knowing this, we can move on to the critical appraisal.

As explained before, the first step is determining whether the event really happened or not. The main topics of investigation would be the existence of both Adam and a world-destroying flood. There has been much historiographical research done of biblical events, but for the sake of argument, let's assume that a historical Adam did exist, and there was indeed a large flood.

Now we need to ascertain if an *ostensibly paranormal event* occurred or not. The occult event being Adam's "knowledge of all things", as evidenced by his prediction of the world's destruction by water. If he correctly predicted the flood by telling the future, he violated the *basic limiting principle* of backwards causation. Of course, there are a number of ways in which someone could have predicted a flood without having to violate backwards causation—perhaps Adam was ahead of his time in his knowledge of oceanography and simply made an accurate prediction based on the data he'd gathered. Without more information on the exact circumstances of the prediction it becomes impossible to make a meaningful statement about what happened. So again let's assume he did indeed make his prediction because he literally had "knowledge of all things", is there a way to adjust the laws of nature to have this knowledge without violating backwards causation? Someone with "knowledge of all things" would necessarily know future events in explicit detail, meaning that future events are already set in stone. This knowledge would then be available to the past, which might alter the future events. This leads to a paradox, where future events are both unalterable yet known about in advance, thus able to get altered. It seems that there is no way to unite "knowledge of all things" with "the future cannot affect the past" while avoiding this paradox. The only option available to us would be letting go of this *basic limiting principle* entirely. Thus, if this event happened as said, a paranormal event did indeed occur.

Now that we've determined the existence of an *ostensibly paranormal event*, we'd normally move on towards classifying it, and comparing it with other instances of similar events, hoping to eventually uncover the laws that allowed Adam to predict the flood. Under what conditions did Adam make his prediction? What were the features of the event he predicted? Has he made other predictions about other events which came true, and have there

been other people who have made similar predictions? Under what conditions did they make them, did they come true? Etcetera.

Unfortunately, we have had to make a lot of assumptions to get to the classification stage. The lack of data prevents us from examining any of these questions, so attempts to classify would be a largely pointless exercise. And most of the other claims of *sporadic phenomena* are much the same way. An event that may or may not have happened gets described and attributed to supernatural causes, but it is impossible to verify the exact details of the event happening.

For another example, the cabala gets described as a subtle understanding of the Scriptures, outlining the ways of God to man, which allows one to “know of and foretells the nature of things to come as well as of things present” (Hohenheim 51). When such forecasts fail, it gets attributed to the devil. “The devil attempted with his whole force and endeavor to darken this light; nor was he wholly frustrated in his hopes, for he deprived all Greece of it, and, in place thereof, introduced among that people human speculations and simple blasphemies against God and against His Son” (Hohenheim 52).

It is difficult if not impossible to determine whether the events happened at all, due to the lack of specific detail. In the case that we’d be able to narrow down a specific instance of foretelling which failed, the new problem becomes determining the influence of the devil’s presence to its failure. As it is impossible to prove a negative, we can’t prove that the devil did not cause the predictions to fail. Interestingly enough, Broad would not be overly concerned with the existence of the devil in this scenario, but by the actions which such a devil is supposed to have undertaken—the existence of a devil doesn’t violate any of the *basic limiting principles*, after all.

8. Evaluating Broad's System of Psychical Research

Broad's system of psychical research has its merits. The separation of *sporadic* and *recurrent paranormal phenomena* allows it to study a wide variety of occult subjects in a consistent, useful manner. In theory it is ideal for formulating hypotheses about the laws underlying paranormal phenomena. However, there are some difficulties present.

When studying *sporadic phenomena*, the analysis is only as good as the available source material allows. This makes it significantly better suited to studying events of which the original sources are available, as opposed to secondary or tertiary sources. Or historical writings, as was the case for *Aurora of the Philosophers*. Rather than come to a meaningful conclusion about the existence of a certain phenomenon, and how to categorize it, we get caught up in historiographical concerns. Assuming an event happened exactly as told is not ideal due to the unreliability of the narrators, and with the stricter requirements for confirming claims of paranormal events, to be avoided. Even if we were to get past the critical appraisal it would become difficult to classify a phenomenon, let alone synthesize general laws from them, without sufficient detail.

The study of *recurrent phenomena* in Broad's manner is overall a sound approach, but runs into some issues of its own. Laboratory study of experimental claims should be the gold standard, but the requirements to be considered for study are unexpectedly strict. The *basic limiting principles* make for a good rule of thumb whether something should be considered for study as a paranormal phenomenon, but it means that when something gets attributed to have a supernatural cause with entirely terrestrial effects, it is unable to research the claims made in a satisfactory manner. This is of course a problem of experimental methodology in general, but then science does not concern itself with the questions of 'Why?', but the 'How?', which this method sufficiently answers.

Despite the aforementioned problems, in the final calculus, Broad's system of psychical research is a solid foundation for studying the paranormal. It treats paranormal phenomena as a separate category from natural phenomena, but it has very strict requirements before a phenomenon gets ascribed this special status: what differentiates a paranormal phenomenon from a natural one is whether or not they violate the *basic limiting principles*. Once a phenomenon has been confirmed to indeed be an *ostensible paranormal phenomenon*, it is then subject to a process of categorization and classification in order to discover the laws under which paranormal events operate. Broad's system of psychical research thus functions not only as an efficient means of confirming or denying the existence of paranormal phenomena, but also makes an attempt at understanding the rules under which paranormal phenomena operate. In so doing Broad covers the full scope of ambitions that any prospective study of the paranormal should hold.

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