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EDITORIAL

RESEARCH ARTICLES

BOOK REVIEWS

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EDITORIAL

Probably, most *JSE* readers already have at least a rough idea of what the term "synchronicity" means. The concept of synchronicity—it hardly deserves its familiar classification as a theory—is usually credited to Carl Jung (Jung 1973), although Jung really didn't do much actually to clarify the notion. I'll say something shortly about the problems with Jung's approach, but what he had in mind—again, very roughly speaking—is this.

We've all experienced coincidences in our lives: surprising combinations of events that appear to be causally unrelated. Of course, what surprises us about the events isn't simply that they're apparently unrelated causally. That's true of many (if not most) pairs of events at any given time, and in fact the vast majority of events are completely unremarkable when considered in combination. The event-clusters in a coincidence attract our attention first, because something about their combination seems personally noteworthy or strange, and second because we consider that combination to be more or less improbable. In fact, the more improbable we believe the event-clusters to be, the more significant and remarkable the coincidences are likely to seem.

Nevertheless, a coincidence will often appear far less interesting after only a little reflection. For one thing, it's usually clear that the coincidental events probably have no *common* cause. And for another, we can recognize that each event probably has its own independent—and perfectly conventional—causal explanation. Consider the following example (taken from Braude 2007). Suppose I find myself thinking about an old high school friend, Paul, whom I haven't seen in decades, and suppose that at that moment I run into Paul on the street. On the face of it, that might seem quite astonishing. But I might realize later that there was nothing special or cosmic about our meeting. It might turn out that I was thinking about Paul because I had just read a magazine article about proctologists, and I remembered that good old Paul had (inscrutably) yearned for a career in proctology. And it might turn out that Paul was in town to attend the proctology convention that's held annually at the same hotel. It might then occur to me that I ran into Paul because I often frequent the neighborhood around the convention hotel. In fact, when I consider how often I'm near the convention site and how regularly Paul attends his professional meetings, I might even wonder how I had missed running into him in the previous years. Moreover, since I frequently read magazine articles about medicine, and especially since I might have subconsciously noticed signs and other

indicators of the convention as I passed the hotel, it seems considerably less amazing that I was thinking about my physician friend prior to our meeting.

Moreover, it's often the case, on purely statistical grounds, that the combination of events in a coincidence isn't as improbable as we initially thought. For example, many are surprised to discover that with as few as 48 people, there's a 95% chance that two of them are born on the same day and month. But causal and statistical naiveté aren't the only reasons we overestimate the importance of coincidences. Sometimes, our judgments are colored by a kind of egocentric bias—a tendency to overestimate the significance or rarity of an event-combination simply because it happens to us (see Diaconis & Mosteller 1989, Watt 1990.)

Now, a synchronicity is not supposed to be a coincidence which some person simply happens to find meaningful. Still, some coincidences seem, even after consideration, to be too unusual and too meaningfully appropriate to our lives to be explained away in normal terms. For these event-combinations, we have trouble believing that they're not really special and that we merely, more or less innocently, happen to find them meaningful and arresting. In fact, in the most impressive cases it looks almost as if the universe is speaking to us. The coincidences have a numinous or awesomely supernatural quality, and they're astonishingly specific and remarkably pertinent to major themes in our lives. As a result, we often find ourselves thinking that no conventional explanation, no matter how intricate, will successfully normalize the experience. In these cases it seems that appeals to conceptual naiveté and observer bias are simply beside the point.

So, probably the main reason for the interest in synchronicity is that many people feel that some of the things that happen to them have a kind of significance or numinosity which, while not amendable to orthodox causal explanation, is not really fortuitous either, and in fact seems to point to something profound about the workings of nature. Probably we can provide standard causal accounts for each individual event within a meaningful group of events. (In fact, for any event, it's relatively easy to offer a multitude of conventional causal explanations—see Braude 1997.) But the unusual significance of some meaningful events, taken together, seems to demand an account of its own.

Consider an example I've used elsewhere (Braude 2002). Suppose I'm walking down the street with a friend, feeling arrogant about the way I seem to have my life under control. I joke flippantly and callously about how easily and ruthlessly I've been able to manipulate people to get what I want. And at one point I remark to my friend rather smugly, "See, life isn't as big a deal as you always seem to think. You just take things too seriously." And suppose that at that very moment a large scaffold falls from the building

we're passing, missing me by only a few inches. Imagine, moreover (to give this fictitious episode its appropriate religious completeness), that the apparently cosmically perfect timing of the scaffold's fall so impresses me that I become at once a contrite and much more serious person, awed by the enormity and precariousness of life and imbued with a sense of preciousness in every moment. And suppose, finally, that this change in my attitude leads to improved relationships with others and to an enhancement in the general quality of my life.

Now ordinarily we'd assume that there's no connection, much less a causal connection, between my glib behavior and the falling scaffold. No doubt we could give separate causal accounts of why the scaffold and I happened (almost fatally) to cross paths on the sidewalk. We would mention such things as that my friend and I were taking the direct route from location X to our intended destination, location Y, and that the scaffold hadn't been properly secured, so that a strong gust of wind (say) caused it to fall when it did.

But to someone impressed by the apparent appropriateness of what happened, these sorts of independent causal accounts might not suffice. A further matter might seem to require explanation—namely, the appropriateness of the falling scaffold to my behavior. We might characterize it as a coincidence, a *meaningful* coincidence. But according to the "theory" of synchronicity, that wouldn't mean that it was a mere chance occurrence that happened to occasion great surprise or some other intense feeling or reaction. In fact, synchronicities aren't supposed to be chance occurrences at all. Nor on this view are they occurrences upon which we simply impose an interpretation or point of view which renders them meaningful for us. Instead, the meaning in a meaningful coincidence is supposed to transcend any limited human perspective. This meaning is supposed to exist objectively and independently of the human psyche. Jung claims, in typically obscure passages, that synchronicity is a "factor in nature which expresses itself in the arrangement of events and appears to us as meaning" (Jung 1973: paragraph 916), and "Synchronicity postulates a meaning which is a priori in relation to human consciousness and apparently exists outside man" (Jung 1973: para. 942). So meaningful coincidences are supposed to instantiate a kind of noncausal natural principle that explains the numinous appropriateness of particular events for particular lives.

A famous example of a synchronicity concerns an exchange between Jung and Freud. In 1909 Jung visited Freud in Vienna, and at one point he asked Freud his opinion on ESP. Although Freud later changed his mind on the subject, at the time he was unsympathetic to the idea of ESP. According to Jung,

> While Freud was going on in this way, I had a curious sensation. It was as if my diaphragm was made of iron and becoming red-hot—a glowing vault. And at that moment there was such a loud report in the bookcase, which stood next to us, that we both started up in alarm, fearing the thing was going to topple over on us. I said to Freud: "There, that is an example of a so-called catalytic exteriorization phenomena."
>
> "Oh come," he exclaimed. "That is sheer bosh."
>
> "It is not," I replied. "You are mistaken, Herr Professor. And to prove my point I now predict that in a moment there will be another loud report!" Sure enough, no sooner had I said the words than the same detonation went off in the bookcase. (Jung 1963:152)

Here's another example, also from Jung:

> A certain M. Deschamps, when a boy in Orléans, was once given a piece of plum-pudding by a M. de Fortgibu. Ten years later he discovered another plum-pudding in a Paris restaurant, and asked if he could have a piece. It turned out, however, that the plum-pudding was already ordered—by M. de Fortgibu. Many years afterward M. Deschamps was invited to partake of a plum-pudding as a special rarity. While he was eating it he remarked that the only thing lacking was M. de Fortgibu. At that moment the door opened and an old, old man in the last stages of disorientation walked in: M. de Fortgibu, who had got hold of the wrong address and burst in on the party by mistake. (Jung 1973:15, n.26)

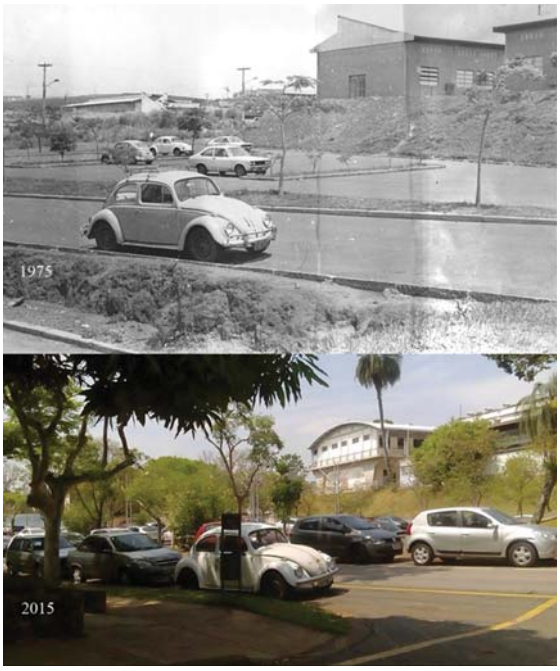
Unfortunately, Jung's attempted explanation of the concept of synchronicity has some needless and arguably harmful conceptual baggage. One is an apparently naïve and limited grasp of the concept of causality (Braude 2002, Price 1953). Jung claimed that synchronicities are *acausal*—that is, somehow outside the realm of causal explanation. But Jung seemed to believe that two events are causally connected only when they're contiguous or adjacent in space and time (like billiard ball collisions), and perhaps also only when there's some rationally evident connection between the events.[1] However, that view has been seriously questioned at least since David Hume's discussion of causality in the eighteenth century, and it's at odds with the way virtually every scientist and philosopher talks about causal connections. So it's not surprising that when Jung analyzed specific examples of synchronicities, he apparently couldn't help but rely on causal language. That is, Jung himself seemed unable to describe synchronicities except in causal terms. Nevertheless, Jung's followers on the topic of synchronicity continue to claim that those coincidences are acausal.[2]

Another problem is Jung's reliance on his notion of *archetypes*, components of the collective unconscious that he claimed are inextricably linked to synchronicities. But Jung's concept of an archetype is quite fuzzy,

arguably causal (though not in the needlessly limited sense of "causal" Jung apparently has in mind), and linked to deep confusions (or at least unclarity) about the nature of meaning. As I've argued elsewhere (Braude 2002, 2007), it's actually incoherent to claim, as Jung and many others do, that synchronicity is a principle *in nature* that organizes events into meaningful clusters. That's because meaning can exist only relative to the perspective of some *agent(s)* or other. Nature has no privileged description into any categories whatever—much less into meaningful categories. That's why I argue for a controversial—but I believe unavoidable—position: namely, that if genuinely nonrandom meaningful coincidences occur, this would be best explained, *causally*, in terms of a refined, extensive, and potentially very intimidating form of large-scale psychokinesis.

But I'm not interested here in lobbying further for my take on the issues, and I still recommend that we try to adjudicate those issues by looking at promising candidates for impressive synchronicities. And because an intriguing new example was recently brought to my attention by Peter Sturrock and Brazilian astronomer Pierre Kaufmann, I want to share it with *JSE* readers.

This ostensible synchronicity has to do with Rogêrio Marcon, an optics expert and gifted amateur astronomer working in the X-ray Diffraction Laboratory at Campinas State University (Unicamp) in São Paulo. And it concerns the following two images:



I quote from an email sent by Kaufmann on July 29, 2016 (with a few editorial adjustments to Kaufmann's English).

> Rogêrio was assisting a physics graduate student (Fernanda) at his laboratory at Unicamp, on a day in November 2015. For some reason Fernanda became intrigued about how photographic images were obtained using old-fashioned methods.
>
> To demonstrate, Rogêrio picked an old negative film stored in an old box at the lab where he works, dated 1975, to show how to develop and produce a print on photographic paper.
>
> They obtained the attached black-and-white picture. It shows a VW bug, very common in the 70s, parked in the same parking lot that still exists today.
>
> [Then] they left the laboratory, and went outside to locate the parking lot area and view it from about the same field of view [as in the old photo].
>
> There was a vacancy—very rare today at that place, at 10 a.m. Then suddenly an old WV bug approached and parked in the vacant spot. See the color picture they took as they went outside the building. It parked exactly at the same place the other VW was parked in the 1975 picture.

Kaufmann also translated for me Rogêrio's description:

> As I said to you, Fernanda and I got this old negative found in a paper box, forgotten there at our laboratory, and decided to make a copy on photographic paper in the old fashioned way. She has never seen this. As we went out to the street to confirm the scene, one (VW) Bug appears suddenly in the corner and parks exactly in the same position, and at the exact moment we were observing.
>
> A Bug is already very rare to be seen (these days). A parking free space at 10 a.m. is also rare. I never have seen a Bug parked at that street. The chances for a coincidence are very low.
>
> My interpretation of this is of a psychological "shock," showing that time is meaningless. It was a kind of message for me to stop being worried about the elapsing time.

Now is this just a nifty, but non-synchronistic, coincidence? If not, would my PK- or other psi-mediated approach have any merit in this case? Clearly, one would have to do some serious psychological digging to figure out whose interests would have been served (or best served) either by psychokinetically arranging for a VW to appear at that moment, or for making timely use of psychically gathered information about the existence and destination of the VW. Presumably, Rogêrio would be the prime suspect in such scenarios. He certainly found the event meaningful, but it remains to be determined how much he had been reflecting or worrying about the

passage of time. Moreover, one might wonder why Rogêrio felt the need to go outside to inspect the area shown in the old photo. That seems to have been peripheral to the prior task of demonstrating how to produce conventional photo prints. Had he been unconsciously psychically scanning the vicinity and noting that a VW was en route to the parking area? I don't mean to suggest that we should easily resort to paranormal scenarios here, but these are the sorts of questions that I believe must be asked if we're to properly evaluate a case like this.

In any event, I'm happy to leave those questions open for now, and simply present this case to those *JSE* readers who also collect ostensible synchronicities. More grist for the mill.

.....

I would like, once again, to conclude my end-of-year Editorial with sincere thanks to my hardworking team of Associate Editors and our still regrettably small but trusty stable of referees. Despite my repeated demands on their valuable time, I count on them to help maintain the high standards of the *JSE*, and they do a really splendid job. And of course, kudos (as usual) to Managing Editor Kathleen Erickson, who keeps the whole machine running smoothly and thereby somehow succeeds at the thankless and heroic task of preserving the illusion of my editorial competence.

Notes

[1] H. H. Price also noted this similarity between Jung's discussion of causality and the quaint perspective on causal relations adopted by seventeenth-century Rationalists (see Price 1953).

[2] For an alternative approach to the concept of causality, see, e.g., Braude (1997, Chapter 6), and Scriven (1975).

—Stephen E. Braude

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RESEARCH ARTICLE

Strange Handprints in Strange Places

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Abstract—Increasingly, items have appeared on the Internet reporting the appearance of handprints on home mirrors and windows, inside and outside. The odd shapes and sizes observed have led reporters to suggest that they have spirit or alien sources. Often they are photodocumented. We became interested in the topic when we were asked to evaluate a double-pane thermal window on which handprints had recently appeared. The window had been in place for more than 20 years. The prints all appeared on the same inside surface (same pane). The two panes were, surprisingly, separated by 0.25 inch.

Keywords: handprints—flash photography—aliens—spirits—glass—mirrors

Introduction

Recently, the number of reports, often on the Internet, that discuss the appearance of mysterious handprints has dramatically increased (see, for example, Intenzo 2014, Asarella 2013). These include handprints on a mirror or window that had not been there moments earlier, or handprints on a window on an upper floor of a building. Such handprints are often of unusual shapes and sizes, found in unusual locations, and may appear/disappear. From a forensic/law enforcement standpoint, obvious questions may arise. For a handprint on a window, was there an attempted break-in? From a handprint appearing on a mirror, was there already an actual break-in? Interpretations involving paranormal activity frequently follow. A handprint appearing on a bathroom mirror could be a message from a spirit. A newly appearing handprint on the outside of an apartment window above ground level would have to be that of an alien, because of both the location and the inexplicable shapes and sizes of the handprints. Our interest in this area began when we were asked to examine/investigate a thermal home window (double-paned) in which fingerprints had appeared on the *inside* surface of one pane.

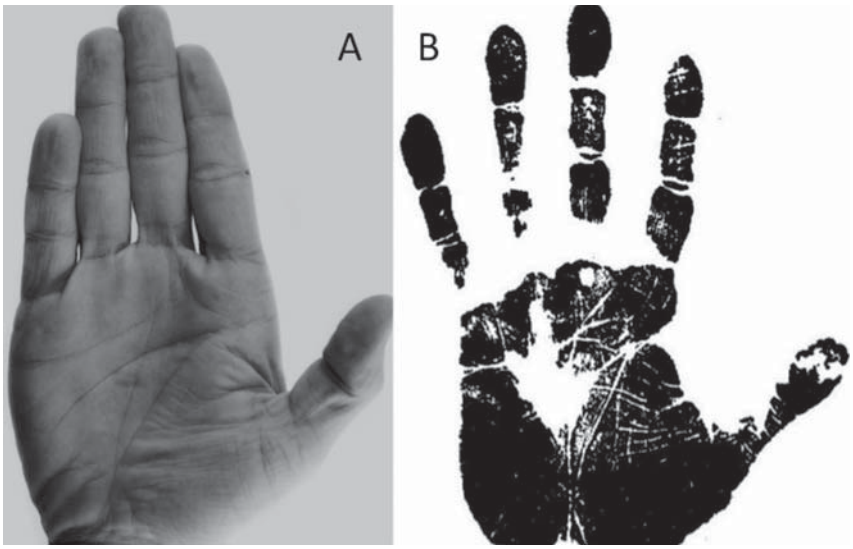

Figure 1. Hand and Palm Details. (A) Photograph of a hand (based on a public domain picture, hand on white free stock photo from PublicDomainPictures.net). (B) Typical hand/palm print such as might be left at a crime scene (shown in black to allow details to be seen).

We are not aware of any formal discussion of these appearing handprints, and would like to put the observations and unique characteristics into an appropriate perspective, so that anyone could reach a plausible initial conclusion.

Appearance and Composition of a True Human Handprint

If one places a hand on glass, and photographs it or scans it, Figure 1A results. This is a photo of a hand, not a handprint. Many unique characteristics from fingerprint minutiae to ridges on the palm can be seen. In contrast, if someone touches a surface and leaves behind an actual oily handprint, it will resemble not Figure 1A, but Figure 1B. Because of the muscles and the arched, three-dimensional structure of the hand, contact is often not made between the fingers and the palm, and the arched palm often leaves a mid-palm area where no physical contact occurs, leaving blank areas in the real handprint.

In terms of chemical composition, fingerprints and handprints are often thought of as being oily, or similar to an oil and water mix. It has been suggested that a hand/finger print itself closely resembles chicken broth, since it is made by boiling chicken skin. Human skin has three different

kinds of glands that secrete materials through pores on the skin. Surprisingly, the glands that generate oily materials are not present on the palmar and plantar surfaces (hands and feet). Eccrine glands generate aqueous solutions ("sweat"). This is one way that your body disposes of materials it does not need, which is why sweat in some ways has a similar composition to urine. Pores on the ridges of hands and feet, for example, are connected to eccrine glands, which generate aqueous solutions containing small organic and inorganic compounds. Ridgelines improve friction on, e.g., the fingers, and the sweat generated on fingers further enhances friction. There are glands that generate an oily material (containing fatty acids and hydrocarbons), the sebaceous glands, usually associated with hair follicles, over much of the rest of the body. These oily materials get onto our palms/fingers when we touch our face and hair, which most people frequently do. Also the oils formed on the back of the hands and fingers can flow/migrate to the ridge regions (Kent 2000).

While water is the most volatile component of a fingerprint or handprint, and will evaporate relatively quickly, other materials can remain where they are initially deposited for many years. Glass is an ideal surface for depositing finger or palm prints, because the components cannot be absorbed into the substrate, in contrast to, for example, a handprint deposited onto paper.

Mysterious Handprints—Characteristics and Observations

The ParaResearchers of Ontario would classify the handprints that will be discussed as **Level 2** environmental physical phenomena, a designation used where "human marks such as handprints with no apparent human agent" are found (ParaResearchers 1999). We will use this classification code, and expand on it.

Level 2(i) Handprint. These are often found on glass or mirrored surfaces. The (i) designation will refer here to an interior print, one found inside a structure. They have several things in common. First, the observers often report that there was nothing present on the glass surface, and a few minutes later a handprint appears. (Perhaps an alternative statement is that the handprint was not readily visible, but could be seen a few moments later.) It is rare that the observer actually sees the image as it is forming. The second characteristic is that they often look larger than normal handprints, and have unusual shapes. Third, reports are often accompanied by photographs, documenting what was seen. As is the case with "orbs," photographs are usually taken with digital cameras that have a flash. An example of a Level 2(i) handprint is shown in Figure 2. Reportedly, there was nothing on the mirror, but suddenly a handprint appeared, which was

Figure 2. A Level 2(i) handprint on a bathroom mirror. After it appeared, the observer captured the image with a digital flash camera. The image appeared to be composed of a white powdery substance.

photodocumented using a digital camera with the flash on.

Level 2(e) Handprint. The (e) indicates that it was external to a building, most often on the outside of a window. Figure 3 shows a good example of a Level 2(e) handprint (Prosser 2010). On an upper floor of an apartment building in Australia, the handprint shown was found one night on the outside of the windowpane. It was photographed. The photographer came back the next day and it was gone, or as the observers concluded, it "had been removed." There are many other examples on the Internet, where the shapes are often similar. Aspects that need to be understood include:

- The shape and size of the handprint. They often don't look like a human hand at all. The fingers are straight, long, and parallel but separated, while human fingers often naturally "fan out."
- The location. This one in Figure 3 was found in a place that is hard to access. The observers often reason that, obviously, such Level 2(e) handprints do not resemble the Figure 1 images, so that one must conclude that they are "likely from an intergalactic visitor." (Perhaps they can move more easily about, vertically.)
- There often seems to be some "It was there, then it was gone" (or the opposite) aspect to the accompanying story.

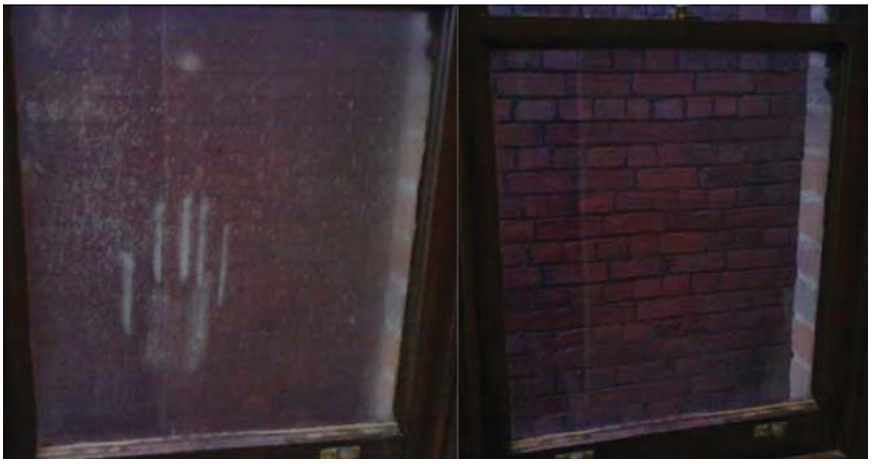

Figure 3. An example of a Level 2(e) handprint. The image (left) appears outside, on a windowpane. In this case, it was on an upper floor of an apartment building. The photographer returned the next day to take more photos of it, but it was gone (right). Based on this, the observers concluded that it was not from a human source.

Relevant Commonly Known Facts

Braude (2012) recently wrote, "all sides of the psi debate (believers, doubters, and deniers) are guided by some combination of intuition (or "passion") and reason." One would hope that reason would always prevail. Usually we learn new things by building on what we already know. However, that does not always seem to apply when spirits or aliens are being considered.

Consider again in Figure 3, the photo of the alien Level 2(e) type handprint on the outside of the window, taken in the evening. One can clearly see there is rain or perhaps a foggy condensation on the window, which is not mentioned in the report. The photo of the window the next day shows that the weather had cleared and the handprint could no longer be seen. Most people have certain life experiences that could help put mysteries such as this one into some context. Perhaps they are aware of the analysis of fingerprints in forensic science, in which oily deposits have already been made on a surface . . . deposits that essentially can't be seen (latent fingerprints), where they use dusting powders that will stick to the oily print, allowing it to be seen (visualized). At least some people should have had childhood experiences involving writing on glass surfaces, related to the oils on the surface of your fingers/hands, which do not mix well with

water. Children often write on the inside of a fogged-up car window on a cold day, and the next time the window fogs up, the writing "reappears." We know that the writing (oily finger on the glass) did not mysteriously disappear. It never left. One can equally well write on the outside of a car on a foggy night and have it reappear when conditions are similar.

Analogous observations could be found in the bathroom—such as writing on a mirror or shower door with soap or your finger that becomes visible when humidity in the room rises. Again, the oily print is not absorbed into the glass, and so remains on the surface. Knowing that oil and water do not mix is a simple enough concept to explain why water (a polar material) does not condense on those parts of a glass surface that contains an oily film (a nonpolar material), but does condense on the glass (a polar surface). Many people should have experiences with images appearing/disappearing on glass surfaces as humidity changes. Figure 3 should at least in some ways be explicable.

While such observations are interesting in the context of the mystery, they *do not*, in fact, explain Level 2(e) reports because those handprints appear "white," not clear on a "white" background. One often does not know, for an exterior handprint, enough about the history of the building or the window to know when windows were last touched, to consider the likelihood of a person, possibly on a ladder, using their hands to perhaps push the window closed, wash the window, or push a new window into place, which could leave handprint oils behind.

We performed several experiments to explore possibilities that seemed likely from the observations that usually accompany mysterious handprint reports.

Possible Chemical Aspects/Gloves as Part of the Model

We considered Level 2(i) cases, since we usually know more of the possibilities concerning the history of access to the surfaces on which the handprints appear. We first chose to investigate possible *chemistry* that could explain the handprints and their behavior. A handprint appears in a bathroom. Presumably the space is periodically cleaned by the owners, or by a housekeeper who visits periodically. It would not be unreasonable for someone to have cleaning solutions on their hands and to accidentally lean on the window or glass surface, leaving behind a latent chemical film. Perhaps even a small increase in relative humidity would be enough to interact with the film and form a white powdery product. We investigated this first.

If a thin film of some cleaning material is deposited from a hand/glove to the mirror, then perhaps some hot water running briefly in the sink below the mirror could be sufficient to create steam to react with the thin film and form a white solid product. A selection of personal products, cleaning materials, and other products that may be found in a bathroom were collected. We simultaneously considered the possibility that the unusual handprint shapes could arise from gloves worn while cleaning, so we investigated a number of ways to make handprints on glass using gloves.

The chemical products investigated included: hand lotions, Neutrogena Clear Pore Astringent, Green Works Dishwashing Liquid, 409 All Purpose Cleaner, a variety of toilet bowl cleaners including Clorox Toilet Bowl Cleaner (with bleach), ammonia-containing cleaning solutions, a lens cleaning solution (for eyeglasses), hydrogen peroxide, Niagara Spray Starch, Lysol Power Foam, and Pine Sol. For each, a thin film was deposited on a clean piece of glass by lightly wiping a small amount across the glass with a small sponge that had been dipped into the various solutions. Liquids were either used straight from the container, or at a diluted level as suggested for cleaning by the manufacturer. Then each solution was diluted 10:1 with water and again wiped across a glass surface. The films were allowed to dry. The diluted solutions resulted in much thinner films. Each sample was placed in a holder over a laboratory sink in which hot water was running, exposing the films to the rising steam. Our goal was to find a film that could not be seen but, when exposed to steam, turned into a white surface with a chalky appearance. None of the samples behaved as anticipated; the closest was Clorox Toilet Bowl Cleaner with Bleach—it did appear to interact with steam and become easier to see, although even a thin film can be seen easily *before* exposure to increased water vapor.

To investigate the question of whether unusual handprints could be made if gloves were used, we collected a variety of gloves—nitrile, latex, and latex-free. We found very thin gloves, thick-textured gloves, and included gloves in a variety of sizes. We collected glove prints by wearing them, packing them with paper, and even inflating them. We sprayed each glove with white spray paint and made a print on a glass surface to record the shape. The shapes were somewhat unusual, but not similar to any of the handprints we've seen reported. We did learn that, when selecting gloves of different sizes, selecting a "large" size does not necessarily mean the fingers are longer, but they are wider. Again, while it is quite possible that someone cleaning a bathroom would use gloves, they did not appear to be relevant to the reported handprint shapes.

Photodocumentation

Most of the reports, especially of Level 2(i) handprints, were photo-documented, usually by using a digital camera with a flash. In the Forensic Community, where low-magnification microscopy is a useful tool, it is common to vary illumination angle. In some cases, surface features show up if the light shines on the object at a particular angle. Also of note, a team member of the *GhostStudy.com* website wrote a short observation of a persistent handprint on her aunt's wall, stating that "when the light caught it just right you could see it perfectly" (Starleen 2003).

Such considerations led to the following experiment; we rubbed a hand on our head and face and used it to create an oily handprint deposit on a mirror. Once handprints were made on glass and mirrored surfaces, we realized that they could usually be seen, especially if a light source was nearby, or if one knew where to look. The lights were then turned out. In darkness, a flashlight was used to find the handprint, and to illuminate it from different angles. At some angles, the simple handprint could be easily seen. At those same angles, a photograph was then taken using a camera with a flash, and the handprint could be clearly seen. The thin film efficiently reflects light back to the viewer. The details of the handprint appear white, although they are not actually white; it is just the white light from the flash being reflected. Flash cameras also make it easier to visualize a Level 2(e) print. In one of the many blogs on mysterious handprints, Tina F. (2012) posted a discussion and photo of handprints appearing in her grandmother's house on a mirror. "When they form, they have a gooey substance on them. . . . In these photos, I put blush [on them] so they show up better." This is a useful report. The oil and water human finger/handprints can easily be smeared—which could seem to an observer as "gooey." Also, makeup such as blush is very similar to forensic dusting powders. They are both fine powders that contain color and have an affinity for an oily material on the surface (of a mirror or your skin).

Mysterious Handprint Shapes

At this point, we are at an ultimate model in simplicity—the handprints could be just simple human handprint deposits, although the shapes can be very unusual. How can one make a large "alien" handprint, with long, parallel, separated fingers, very different from human prints? Also, why do they rarely show fingerprints and other details? If one looks for the kind of details seen in Figure 1, many are not present in the reported prints.

We discovered a simple approach to making handprints such as that

seen in Figure 3. Again, begin by getting natural oils on your entire hand by rubbing your face and hair. Then put four fingertips on the surface, and pull them straight down. When these parallel "fingers" that you draw are sufficiently long, press the rest of your hand onto the surface to make the palm and thumb sections. With a digital camera using the flash, one can now create, illuminate, and capture the mysterious handprints that are reported on the Internet. Again, the quality of the photo depends in part on the illumination angle, with light impinging on the image nearly perpendicular to the surface being ideal. At larger angles from the normal, one may not see the handprint at all, or only a part of it may "light up." But with a little practice the unusual handprints so common to this field can be photographed. Again, while the handprint almost appears as a white powder, it is just an illusion due to the flash's light bouncing off the oily surface.

We have an organic teaching lab in the Chemistry Building of The College of New Jersey, and many of the (mostly glass) fume hoods are connected to each other, providing a substantial glass surface to experiment with. Tests were done right after spring semester was over and the rooms had been cleaned. Each hood sash is five feet wide, all glass, and a good place to experiment. Three different handprints were made, spaced across the five-foot span of one hood. When the lights were on, they could not be seen. If one stands off to the side and photographs them in the dark, they cannot be seen. In the dark, standing in front of the first handprint, the photo in Figure 4A was captured. This is a typical handprint. Figure 4B shows an expanded view of the fingerprints of that handprint—the minutiae and details can be easily seen in the photo. The center of the camera flash appears close to the upper palm. If the camera is moved off to one side (or up or down), the handprint cannot be photographed. It is also interesting to note in Figure 4 that there are marks that were on the sash that appear to be cleaning material deposits such as soap residue. The stroke of a sponge or cloth can be clearly seen. Figure 5 shows the third handprint that was made on the fume hood sash. It is of the "alien type" handprint, made with very long fingers as described earlier. The hand is so long that there is almost no ideal place to put the camera to ensure that the entire print is captured. Again, these are made with only a typical oily human hand. The thin film reflects the light from the flash efficiently. One can see that it might appear to be a white powder to some. It is also noteworthy that, when a single fingerprint is deposited on a surface, the amount of material is only about 50 micrograms (0.000050 grams), so there is very little material (perhaps 2.5 milligrams) present in each handprint.

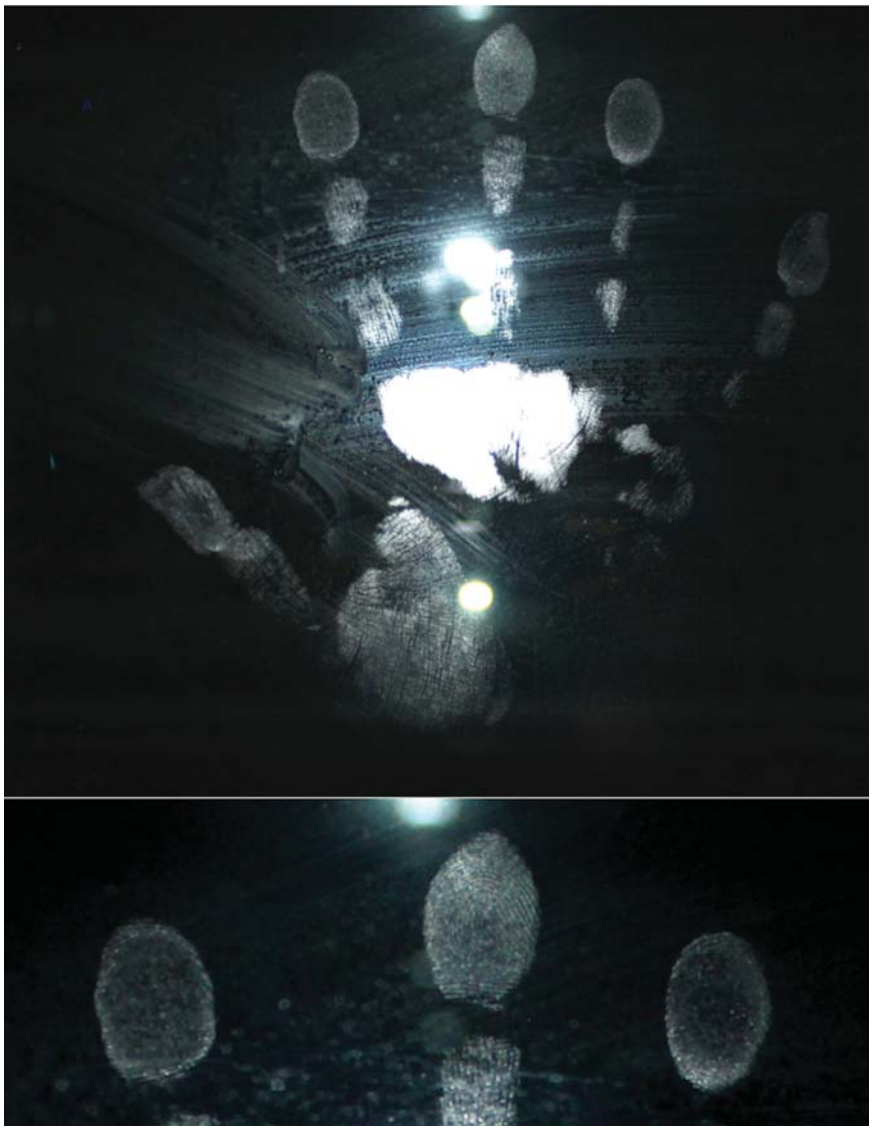

Figure 4. Photo (top) of a Level 2(i) handprint (top) made on a glass surface, and photographed in the dark with a flash. The image on the bottom shows the detail retained in some of the fingerprints, because they are from a human source.

Figure 5. Photo of an "alien handprint" made on a glass surface and photographed in the dark with a flash camera.

Figure 6. A portion of a thermal/double-pane window after a hole had been made in it. Images occurred because during the assembly of the mirror by a worker with no gloves left handprint and fingerprint deposits that interacted with a silver monolayer surface, making the handprints from the window assembly visible.

Level 2(d) Handprints

The observations and experiments reported above did not in any way prepare us for an opportunity to inspect a window from a house where, after more than 20 years of use, a double pane–insulating window served its purpose, and handprints appeared on it (see Figure 6). A closer inspection revealed that the handprints were on only one inside surface, between the panes, which were separated by 0.25 inches. Further, the handprints remained clearly visible, and were easy to see. All of the handprints were restricted to the inner surface of the outer pane (thus, we use the (d) label for double-pane window). Figure 6 shows the bottom portion of a window that had been compromised, and handprints appeared within.

These seemingly impossible handprints are easily understood after only a few minutes on the Internet. The observations are not unexpected for those who have worked for window companies, and have built windows before. On a web forum, there was a thread called "Strange Handprints on Windows," and several people discussed the appearance of handprints on exterior windows.

Condorcet (2004) posted the following, in response to a report:

> Your house has double-paned windows which were probably all assembled in a single day by a team of two people to fill an order for a homebuilder. On the day they were assembled one of the workers was a new employee who didn't understand the importance of wearing cotton gloves to prevent his skin oil from contaminating the glass. . . . if his hand print is between the glass panes, then it is possible that the seal on the panes has recently failed, allowing moisture to penetrate the space between. This happened to me re-

> cently. No weird prints, though, just windows that looked permanently dirty.

Following this posting, there was another from Skullsplitter (2004):

> Is that a double pane window? I am asking because during production, if the window is double paned, there is a type of glass that comes surfaced with this coating that is made to deflect the rays of the sun when it is at certain points in the sky. Often when the glass is sanded (the sharp edges are sanded down in a dual belt sander after it comes from the glazers), if someone touches this special coating without the proper gloves, it will leave a handprint. The print may look long, perhaps less like a hand, but it looks exactly like what would happen if someone had pushed the glass from the sanding table into the wash, accidentally placing the palm and fingers at two different points separately. When this glass is washed, it goes to the oven to be tempered and the handprint will be permanently burned into the surface of the glass. . . . I used to work at Summit Glass and Windows.

We received a window from a person on which permanent handprints appeared on an old thermal window. It was in fact a double-pane window, and the handprints were on an interior glass surface, and all of the prints were on the same interior surface, the interior of the outer pane, which is where the coatings are applied. At the time, a common material used was a monolayer of silver atoms. It was applied only to one surface, which would become the inner surface of the outer pane. A human handprint on the silver surface is somewhat unstable, but the panes are sealed into the frame, commonly using silicone, and the space between them filled with an inert gas such as argon. There may also be some kind of dessicant, which absorbs any water vapor that may find its way in (Milgard no date). These kinds of windows can be compromised over time, if part of the sealant becomes hard and brittle, from intense sunlight, or if a hole is somehow formed, which can let water vapor into the region between the panes. In this case, the gardener had accidentally launched a small stone projectile (using a weed whacker) at the window and a small hole resulted. Argon leaked out, humid air entered, and all fingerprints hidden in the coated surface appeared. (The surface is considered to be environmentally unstable.)

Without going into extensive detail, we have an instrument in The College of New Jersey Chemistry Department called a mass spectrometer, which analyzes positively or negatively charged gas phase ions that are derived from some analyte molecules. A nitrogen laser vaporizes a small amount of material from a surface. Some of the atoms and molecules that desorb off of the surface lose or gain an electron, and form ions with either a positive or negative charge on them. The ions are accelerated in an electric field, and travel a distance of approximately 1 meter. The time-

of-flight of each is measured, and related back to their masses, which can be related back to their identity. The experiment is called laser desorption mass spectrometry (Gross 2004). We focused on the positive ions that came off interior glass surfaces when irradiated with the pulsed laser. One glass pane had all of the handprints on it, so various points on the pane were analyzed. If the laser was focused on a non-interesting part of the glass surface, the mass spectrum obtained had a mass spectral peak at a mass-to-charge ratio (m/z) of 23 Daltons, which represents Na^+ ions, and peaks at m/z 39 and 41, representing the two major forms (isotopes) of potassium ions, K^+, and there were two peaks at m/z 107 and 109 of nearly equal relative intensity which represent the two naturally occurring isotopes of silver ions (Ag^+). Interestingly, if the laser is focused on a portion of that surface where a smudge/partial handprint can be seen (Figure 6), it appears that the handprint's oily deposit assists in helping the silver atoms migrate on the surface and form small clusters, resulting in peaks in the mass spectrum representing Ag^+, and Ag_2^+ (with mass-to-charge ratios of 214, 216 and 218). Ions representing Ag_3^+ and Ag_4^+ were observed as well. Atoms that were originally separated have now clustered together to make permanently visible handprint smudges. We note that, in black and white photography, it is atomic silver atom clusters that are responsible for the black portion of the image on the film and photographs. Apparently, as silver atoms cluster together, they become more visible, which is what happens on the surface of the inner piece of glass here. It is a common, and well-understood occurrence, catalyzed by water vapor in the air that moves into the inter-pane region once the seal is compromised. One can easily appreciate that what is seen in Figure 6 (a portion of the window) shows hands slipping on the glass as they push the pane.

Conclusions

There is a report from a woman who bought a house, and the first time she lay down in her bedroom and looked up at the high ceiling, she was dismayed that it was covered with handprints (the long-finger variety). The ceiling was washed, although the handprints returned quickly/new ones appeared (Missy 2006). It is not hard to imagine people trying to wash a high ceiling on ladders, touching the surface with their hands to stabilize themselves, their hand often slipping on the wet surface. It is consistent with what we report here.

There was a case where a 19-year-old student had disappeared, on the evening of February 12, 2007, from Edinboro University of Pennsylvania. A large handprint appeared on her dorm room window. Her dorm room door and windows were locked from the inside. Fortunately, NOAA has weather

information available for nearby Erie, Pennsylvania, and the temperature went down to 19° F that winter day, so the evening was foggy and cool, making condensation on the window surface more easily explained without having to invoke a psychic or alien source.

In terms of handprints on mirrors, certainly, someone could have been, for example, looking into the mirror above the bathroom sink because something was in their eye, or there was something they wanted to see on their face, and they left behind a handprint. While leaning, their hand could have slipped, forming an elongated shape. Someone such as a younger brother could have left a handprint or message written with their finger to scare a sister. There could be no intent or malicious intent, but if a thin film deposit exists, and initial illumination (such as sunlight coming through a window) is sufficient, its presence *may* be detected, and with a little experimenting, a very good image can be captured digitally. This does not negate the possibility of handprints from other sources. We only point out here that the mysterious handprints can easily be made, with characteristics that match those reported.

So, while the number of mysterious handprints that are being reported is increasing, we find that they *can* all be explained simply. The examples reported are most likely due to human beings.

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RESEARCH ARTICLE

A Same-Family Case of the Reincarnation Type in Japan

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Abstract—In prewar Japan the idea of reincarnation was prevalent, and it was widely believed that a deceased person would often come back to the same family. There appears to have been many same-family cases of the reincarnation type (CORT), which have been anecdotally reported by monks and folklorists (e.g., Takatsuka 2005, Yanagida 2013). Generally speaking, the possibility of reincarnation is not seriously considered in contemporary Japan,[1] but some family CORT do occur. In this article, a same-family CORT with two notable features is reported: (i) The cause of death of the past-life personality was suicide; (ii) The child claimed to have life-between-life memories ,[2] which might be regarded as one important source of information about what can happen after one commits suicide (Klimo & Heath 2006).

Summary of the Case and Its Investigation

This is a case in which a young man who had passed away by committing suicide appears to have come back to his mother by being born to his half-sister. I came to know the case through a Japanese documentary movie titled *A Promise with God*, featuring children claiming to have prenatal memories including life-between-life and past-life memories (Ogikubo 2013), in which 9-year-old Kazuya talked about his experiences after he died in his previous life. The producer/director of the film allowed me to watch the original interview video with Kazuya, which lasts about two hours. In the video, Kazuya did not talk about his past-life memories in detail, so it is mainly a source of his life-between-life memories. Before the interview, the main source of information about his past-life was a book written by Kazuya's grandmother, Minamiyama Midori (hereafter Midori), who is a counselor and therapist.[3] The book (Minamiyama 2014) contains stories of children claiming to have prenatal memories, one of which is Kazuya's. After Skyping twice with Midori and once with Kazuya, I interviewed with them on February 13, 2016, when Kazuya was 11 years and 10 months old. On that day I also interviewed with Kazuya's mother Izumi, and also three

other children and their mother Toko. These children, Masatoshi (male, born in 2002), Haruka (female, born in 2004), and Soshi (male, born in 2008) are of no direct relevance to Kazuya's past-life memories reported here, but they claim to have been with Kazuya in the life-between-life state. So, I will discuss their memories in the section that reports Kazuya's life-between-life memories. Two of the three children, Masatoshi and Haruka, also appeared in the movie and talked about their life-between-life memories with Kazuya.

After completing and submitting the first draft, I heard from Midori that Kazuya had met two women whom Jun had trained in basketball when they were sixth-graders. I had telephone interviews with the women and Kazuya about the incidents, so I will also report about them.

Previous Personality

Jun was born as the second son of Midori and her first husband on September 21, 1975. Their first child and Jun's elder brother Makoto had been born on March 11, 1973. Soon after Jun was born, Midori got a divorce and her parents (Jun's grandparents) helped Midori raise Jun and his elder brother. Because of this, Jun particularly loved his grandparents. Later, Midori married another person and a daughter Izumi was born on February 1, 1980. When Jun was 5 years old, he collapsed from an epileptic seizure and started taking medication. He was medicated until he was a little more than 20 years old. In 1997, when he was 21, he tried to help Izumi's classmates when they got into trouble with gangsters and were badly hurt in a fight.[4] After that he began to reluctantly associate with the gangsters. His family, especially his mother Midori, made every effort to put an end to their relationship. Jun promised Midori a couple of times to break off relations with them, but the promise was not fulfilled. On December 19, 1997, Jun made another promise to Midori to put an end to his relation with the gangsters and left home to meet them. At that time, Midori, who had quit the job she had had, went to a work-skill training institute. While she was at the institute, Midori received a telephone call from a man who had claimed that he would be able to help Jun leave the group. He was with Jun and told Midori that his attempt was unsuccessful. Midori was upset and told Jun via the man to come to the institute to discuss the issue with her. When Jun unwillingly came there, Midori severely criticized him. Overwhelmed by her fury and his own sense of guilt, Jun dashed away from the institute. On the night of the same day, Midori received a telephone call from the police, who told her that Jun had committed suicide by jumping from a bridge over a highway. The estimated time of his death was 11:45 p.m.

Some Incidents Suggesting the Survival of Jun's Consciousness

After Jun's death, Midori was suffering from a deep sense of remorse that her words had triggered her son's suicide. She even felt: "I would willingly sell my soul to the devil if I can see Jun again." On the seventh day after Jun's death, a little past 11:00 p.m., Midori heard a loud knocking at the front hall door. The dog they kept at that time dashed under Midori's bed and was shaking with fear. Midori felt instinctively that Jun had come back. Despite herself she said: "Jun, go back. This is not where you belong." Midori, who had been so longing to see Jun, did not understand why she had said that. As if responding to her words, the loud knocking ceased. After the incident, Midori came to be overwhelmed by an additional sense of guilt: She felt she had severed her tie with her son for the second time.

About half a year after Jun's death, Jun began to appear in Midori's dreams and admonish her. Night after night he said: "You should forgive them. You should not blame anyone." Her reply in her dream was always: "No, I can't forgive them," to which Jun said: "You should forgive them. It was my own fault that I committed suicide, not theirs. Seeing you lament like that makes me sad, and I can't go back to the Light. So, please don't blame anyone."

Midori did not remember when the conversations with Jun in her dreams ended, but she said that his words had gradually calmed her down.[5]

Kazuya's Statements and Behaviors

Kazuya was born to Izumi, Midori's daughter (Jun's half-sister), and her husband on April 8, 2004, 50 days before the estimated date of confinement, weighing 1,198 grams (2 lbs., 10.5 oz.), and he was immediately admitted to the neonatal intensive care unit (NICU). He was discharged after 50 days, but was asthmatic as well as atopic (developing allergic hypersensitivity reactions), and had to see a doctor regularly. He also had cryptorchidism and underwent surgery when he was one year old. Shortly after Kazuya was born, Izumi and Kazuya came to live with Midori, so Midori has had ample opportunity to observe Kazuya's development.

Kazuya's statements and behaviors suggestive of his previous personality, Jun, are summarized in Table 1.

The incident described in **Item 11 in Table 1** was a crucial one to Midori. Because of the statements and behaviors Kazuya had shown so far, Midori had become almost convinced that Kazuya had been Jun reborn. Kazuya's statements endorsed Midori's conviction, but at the same time reminded Midori of the fact that Kazuya is not Jun and that she should treat him as an independent person.

To Izumi, Kazuya's mother, the evidence of her half-brother Jun coming back as Kazuya has been abundant, but especially overwhelming was the incident described in **Item 9 in Table 1**. Both Midori and Izumi were present when Kazuya called Jun's best friend by the nickname Jun used to call her, which Kazuya had had no way to know. The three of them (Midori, Izumi, and Jun's friend) could not hold back tears.

At the time of the interview, Kazuya (11 years and 10 months old) said that his memories as Jun had faded and he did not remember specific details of his statements and behaviors (listed in Table 1), except the incident described in **Item 14 in Table 1**, which happened shortly before the interview. However, he said that he still had memories of the place where he had stayed after his death in his past life, which we will discuss in the next section.

Kazuya's Life-Between-Life Memories

Children with past-life memories sometimes claim to have life-between-life memories.[6]

Kazuya also had such memories, which he talked about in the 2013 documentary movie (Ogikubo 2013). At the time of the interview, he still had the memories, which are summarized as:

> After I died, I regretted committing suicide and entered the 'reflection room,' a dark room for the dead who regrets what s/he has done while s/he was alive. I was there for a while, reflecting on my past conduct, and when I felt I would be able to start over again, I decided to be born to my Mama. I have come here to give 'presents' to those who I had hurt before [= to make those I had hurt before happy].

Midori also recalled that when they went to Asahina Kiridoshi, one of the seven old passes in Kamakura for the first time, Kazuya said to Midori: "Here, here. I was looking at this place from the sky!" He also said: "I have been here before."[7] Kazuya was three years old at that time. When Kazuya was five years old, Midori again took him to the place, and he repeated that he had been looking at the place from the sky.

As for suicide cases he investigated, Stevenson (2001:219–220) states:

> Twenty-nine of the approximately 2,500 subjects remembered the lives of persons who had killed themselves. Four of these deceased persons had accidentally shot themselves (two when they grasped a loaded gun by the barrel and it discharged, and two while cleaning a loaded gun). Two others had killed themselves rather than be killed by police or soldiers

TABLE 1
Statements and Behaviors Related to Kazuya's Past Life

Item	Age	Kazuya's Statement/Behavior
1	8 months old	On December 19, 2004, at about 11:45 p.m. (the month and day and estimated time of Jun's death), he started to cry and with a gesture urged his mother to take him upstairs to the room where Jun had lived. When taken there, he stopped crying and smiled.
2	1 year old	Suddenly stopped crying when he saw a drawing of a scene from *Suho's White Horse* drawn by Jun when he was in second grade.
3	Around 9 months to 2 years old	Showed great affection to his great-grandfather, reminding Midori and Izumi of the affection Jun had shown him. From about 9 months old, he visited his hospitalized great-grandfather every day and wiped his face as shown in Figure 1 until his death.
4	1 year to 2 years old	Called his great-grandfather *otosan* meaning "father," as Jun had done.
5	1 year to 11 years old	Showed great affection to his great-grandmother, reminding Midori and Izumi of the affection Jun had shown her. Figure 2 shows Kazuya celebrating his great-grandmother's birthday at the nursing home. See **Item 14**.
6	1 year to 11 years old	Called his great-grandmother *okasan* meaning "mother," as Jun had done.
7	1 year to present	Called/calls Midori (Jun's mother/Kazuya's grandmother) "mama," not "grandmother" as expected. When told by her mother that Midori was his grandmother, he insisted that she was his mother.
8	1 year to present	Called/calls Izumi (Jun's half-sister, Kazuya's mother) "Iichan" as Jun called her, not "mama" as expected.
9	2 years old	When Kazuya met Jun's best friend, who kept coming to his home on the anniversary of his death, he called her by the same nickname as Jun had.
10	2 years old	During an asthma attack, he said to Midori: "I can't breathe, but I won't die. I will live this time."
11	3 years old	In response to Midori's question: "Were you Jun?", he said "When I was born from Mama [= Midori], I was Jun. But now I am Kaju [attempting but unable to say "Kazu"]. I am Kaju, now."
12	5 years old	Kept his medications organized, which reminded Midori of Jun's way of organizing his medications.
13	9 years old	Said: "I could have died of a disease, but I wanted to die early. I didn't face my disease at that time, so I'm now facing it."
14	11 years old	After the funeral and cremation of his great-grandmother (in February 2016), he insisted on carrying the urn in which the ashes were placed until he and his family were back home. He said: "I have finally fulfilled the promise with my mother [Kazuya's great-grandmother, Jun's grandmother] I couldn't fulfill before," which means: When he was Jun, he promised his grandmother that when she became too old to walk, he would carry her on his back, but because of his early death he couldn't fulfill his promise. Now as Kazuya he is carrying her [= her ashes in the urn] and has fulfilled the promise.

> who were about to capture them. The remaining twenty-three persons took their own lives when a social situation, such as a bankruptcy or a thwarted love affair, seemed to them worse than death.
>
> If we regard reincarnation as the best interpretation for these cases, they disprove the belief expounded in some religions that persons who commit suicide live in Hell for centuries or even for eternity. They also offer for a person considering suicide the thought that it would not end their troubles but only change their location.
>
> Several of the subjects of this group of cases had phobias about the instrument of the suicide, such as guns or poison. The memory of the suicide did not necessarily extinguish the inclination to suicide. For example, three of the subjects, when frustrated as children, made threats of committing suicide to their parents; a fourth actually killed himself in middle life; and a fifth told me that he would probably commit suicide if he found himself in a situation he judged intolerable. On the other hand, another subject (of an unverified case) told me that the memories of a suicide in a previous life had deterred her from killing herself.

Kazuya's case seems to be more in line with "unfinished business" cases than the suicide cases.

Dr. Ian Stevenson pointed out that past-life personalities in CORT often have "unfinished business," which refers to "someone like a mother who dies and leaves an infant or small children needing her care" (Stevenson 1980:355–358), or "some persons who had debts to pay (or to collect) when they died" (Stevenson 2001:212). It seems that Kazuya's emotions can also be classified as an instance of "unfinished business": He [= Jun] had not shown enough affection toward those who were close to him while he was alive; also, he had hurt them badly through his misconduct culminating in his suicide, but had not compensated them. His sense of "unfinished business" seems to be especially apparently in **Item 14 in Table 1**.

Haraldsson and Matlock (in press, chapter 29), who analyzed in some detail 10 suicide cases reported by Ian Stevenson, Dieter Hassler (2013), and a case they came to know through Facebook, pointed out that the intermission period (from the death of the past-life personality to the birth of the subject) in suicide cases is unusually short: 2 days; 4 weeks; 5 weeks; 4–8 weeks; 8 weeks; 4 months; 10 months; 17 months; 18 months; and 5 years and 9 months. It is longer in Kazuya's case: 7 years and 8 months. However, this longer intermission period may simply be because Jun, Kazuya's past-life personality, who intended to come back to Midori, had to wait for his half-sister's pregnancy.

Another interesting feature of Kazuya's life-between-life memories is that the three children I interviewed all claimed that they had been with Kazuya in the life-between-life state and had promised one another to be

together when they were born. Although neither Midori nor Toko (the mother of the three children) remembered exactly when, by July 2008, when Kazuya was four years old, Kazuya had met them. Midori and Toko remembered that when the three children first met Kazuya (possibly at a seminar for counselors which Midori held), Masatoshi (the eldest of the three children) said: "When we were up there, we promised to be together (on earth)," and the other three seemed to agree with him. According to Midori, Izumi, and Toko, they are so close to each other, and the three children regularly come to Midori's house to be with Kazuya. Also to the author, who spent more than 6 hours with them, they looked happy about being together.[8]

Although Kazuya and the three children's life-between-life memories concerning their promise to be together on earth did not have any verifiable elements, two of the three children also had memories comparable to Kazuya's. Just like Kazuya, Masatoshi (13 years and 9 months old at the time of the interview) and Haruka (12 years and 1 month old at that time) claimed that before they came to the place where the four of them met and promised to be together after they were born, they had spent some time in the 'reflection room.' They talked in detail about those memories in the 2013 documentary film, but at the time of the interview they appeared to have faded away and they only remembered the fragmentary impression of the dark place and the sense of guilt due to their misconduct in their past lives. In the movie, Haruka (female) talked about her past-life memories as an egoistic woman living in an Asian country, possibly Mongolia, who was busy spending her family's money to dress herself up and did not care for her family members at all. After her death, she saw that no one in her family was mourning her death, and she regretted the way of life she had led. So, she entered the 'reflection room' and reflected on her past conduct. When she felt she should start over again, she decided to be born again. She also talked about coming to her mother with a 'present' to please her. According to her mother, when Haruka was a small child, she was always trying to please her by giving her 'presents' such as beautiful leaves, flowers, and stones. In the movie, Masatoshi did not talk about his past-life memories but about the 'reflection room' in detail. He emphasized that nobody is forced to enter the room, but those who feel that they did something wrong deliberately enter it to reflect on their conduct. At the time of the interview, he said he vaguely remembered he had participated in war combat in his past life, and what he had done then would probably have been the cause of his entering the 'reflection room.' Neither Haruka nor Masatoshi remembered whether their present mother has any connection with anybody in their past-lives.

Kazuya's Birthmark

Children with past-life memories often have birthmarks and birth defects corresponding to wounds, often fatal ones, or other marks on the past-life body (Stevenson 1997). Kazuya had a clear birthmark on his left arm, which was still visible at the time of the interview, as shown in Figure 3. According to Midori, the place of the birthmark corresponds to the burn Jun suffered when he accidentally touched the exhaust pipe of a motorbike at the age of 18 or 19. Kazuya himself did not have any memory of the event, but it is not known whether he had had the relevant memory before since Midori had never asked him about the birthmark.

"Reunion" with Former Students

Jun was a good basketball player, and when he was a high-school student he went to the elementary school he graduated from once or twice a week to train school children in basketball. Among the students trained by Jun in 1994 were twin girls named Mikoto and Tomomi, who were sixth-graders at that time. They both greatly admired Jun, who did not treat them as small kids, like most adults around them did, but as independent persons. Tomomi was especially fond of him and was carrying a picture of him as a kind of charm. After graduating from elementary school, they did not have a chance to meet Jun. Naturally, they were greatly shocked when they heard from their mother in 1997 that Jun had committed suicide. Tomomi kept the picture until she was 19 years old (in 2001). At that time, they did not know Midori. Midori only indirectly knew them. Her first son was a classmate of their older brother, and Midori's mother worked at the same hospital as their mother, but Midori had never met them.

On July 17, 2016, Mikoto, one of the twins, who was now 34 years old, had a "welcome baby" session held at a clinic, where her son had been born two days before. Midori, a counselor and a therapist, was in charge of the session. In a chat with Midori after the session, Mikoto realized that Midori was Jun's mother and talked about her memories of Jun when she was a sixth-grader. Midori talked about the story of Jun and Kazuya.

Mikoto owns a farm, and on September 17, 2016, Midori and Kazuya visited the farm. In a telephone interview on October 17, 2016, Mikoto talked to the author about the meeting:

> I was told by Midori that Kazuya was Jun reborn, but it was unbelievable. Jun was tall, and Kazuya is a sixth-grade kid. They were just so different. But during a chat, when I looked at Kazuya's eyes at a close distance, I felt I knew these eyes. Then, I got overwhelmed and I was unable to look at them. I was convinced that Kazuya was Jun.

Figure 1. Kazuya (9 months old) wiping his great-grandfather's face (January 1, 2006).

Figure 2. Kazuya (4 years, 2 months old) celebrating his great-grandmother's birthday (March 8, 2009).

Figure 3. Kazuya's birthmark on his left arm.

About this meeting, Kazuya told the author over the phone on October 18, 2016:

> When I first met Mikoto, she told me : "It's nice meeting you." I didn't say that to her because I thought I had met her before. I didn't recall details, but I felt I knew her very well.

On September 22, 2016, Mikoto's farm held a harvest festival and her twin sister Tomomi as well as Kazuya and Midori visited her. In a telephone interview on October 17, 2016, Tomomi told the author about the meeting:

> I met Kazuya for the first time, but I felt I knew him very well. It might have been because I was told that Kazuya was Jun reborn. But it was such a strange feeling. After the meeting, I did something very strange. It was October 14th. I had a chance to visit the city where Kazuya's elementary school is located. I went to the school to meet Kazuya and gave him my contact information. I'm an artist. I like being alone, and I don't usually give my address to anybody, but this time I felt I had to be kept connected with him.

TABLE 2
Criteria for Registering CORT

1.	Prediction of rebirth—not just "I will be reborn" but with some specifying details; for example, selection of next parents
2.	An announcing dream
3.	Birthmarks or birth defects related to previous life—not just any nevus or other blemish; also the birthmark/birth defect should be noticed immediately after birth or within a few weeks
4.	Statements by the subject, as a child, about a previous life—the record of these should not depend on the subject alone: At least one other older person (for example, a parent or older sibling) should corroborate that the subject spoke about a previous life as a child
5.	Recognitions by subject of persons or objects with which the previous personality was familiar
6.	Unusual behavior on the part of the subject—that is, behavior that is unusual in subject's family and that apparently corresponds to similar behavior shown by the presumed previous personality or that could be conjectured for him/her (for example, a phobia of firearms if the previous personality was fatally shot)

In the telephone interview with Kazuya mentioned above, he said:

> When I first met Tomomi in Mikoto's farm, I felt I knew her, just like I felt when I first met Mikoto. But I deeply felt so when Tomomi told me to come to her to take a picture.

As for Tomomi's visit to his school, Kazuya said:

> Teachers were making a fuss. An unknown woman, who is not a relative of mine, came to meet me. They appeared to have been asking many questions, but when I entered the room where Tomomi was questioned, the teachers became silent, and it was funny. The meeting with Tomomi was natural to me.

Although Kazuya did not give specific pieces of information that he could not have come to know in the present life, Mikoto and Tomomi's reactions are noteworthy. It is especially so because neither Mikoto nor Tomomi had ever been acquainted with real cases suggestive of reincarnation.

In this connection, it is worth pointing out that Kazuya, who had never been trained in basketball, is an unusually good basketball player, and according to him he was often asked by his friends why he was so good at playing basketball.

Conclusions

Tucker (2005:27–28) presents six notable features of CORT as shown in Table 2.[9]

The case of Kazuya has **features 2, 3, 4, and 5 from Table 2**, and can be regarded as a good instance of same-family CORT. In addition, the present case involves life-between-life memories of a person who committed suicide in his past-life. As shown above, Dr. Ian Stevenson and his colleagues have collected 29 suicide cases, but none of them report memories in the life-between-life state. This also holds true of the other suicide cases analyzed by Haraldsson and Matlock (in press, Chapter 29). Thus, the present case presents a precious piece of information about what might happen after one commits suicide.

Notes

***** Following the convention in Japanese, the name of the author is written in the order of the family name followed by the given name.

[1] To the author's knowledge, there had been no academic papers or books published until 2009 in Japan, when the author presented a case of xenoglossy occuring under hypnotic past-life regression, at a conference.

[2] The term "life-between-life memory" also used in Ohkado and Ikegawa (2014) is slightly different from the term "intermission memory" used by Dr. Ian Stevenson (e.g., Stevenson 1980:50) and others. The former refers to memories of the period between the death of a past-life personality to conception, whereas the latter refers to memories of the period between the death of a past-life personality and birth. I think the term "womb memory" is more appropriate to refer to memories of the period between conception and birth.

[3] Again, following the convention in Japanese, the name is written in the order of the family name followed by the given name.

[4] The children were also students in a private school Midori managed at that time.

[5] Midori wrote about her dream in her 2013 book. Kazuya's statements and behaviors **2**, **7**, **10**, **11**, **and 13 in Table 1** were also reported in the book.

[6] Sharma and Tucker (2004) discuss cases of children with past-life memories who also have intermission memories. Ohkado and Ikegawa (2014) argue that children with these memories are to be viewed as subgroups of children with prenatal and perinatal memories in a broader sense. Ohkado (2015) presents results of an Internet-based survey from that perspective. Matlock and Giesler-Petersen (in press) compare intermission memories of Asian and Western children, revealing universal features and cultural variations.

[7] Midori had come to the place a number of times with Jun. So his remark here might have meant that he had been here in his past life as Jun.

[8] I know of two other cases in which girls from different families talked

about their life-between-life memories, saying they had promised to be together on earth. There are many cases in which siblings say they promised to be together on earth while they were in the life-between-life state.

[9] These are used as criteria for registering a given case in the files at the University of Virginia. For registration, a case should meet two or more of the six criteria.

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RESEARCH ARTICLE

Apport Phenomena of Medium Herbert Baumann (1911–1998): Report on Personal Experiences

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Abstract—Among the many phenomena reported from physical mediumship, apport phenomena—i.e. the inexplicable appearance of solid objects—rank among the most curious occurrences. In the present paper, we describe a selection of seeming apport phenomena that were observed around a German medium, Herbert Baumann (1911–1998). Baumann was a close friend of the first author, who thus had the opportunity to receive more than one hundred examples of what he considers to be genuine apports, both during séances and in everyday private life. A peculiarity of numerous seemingly apported precious and semi-precious gems was their being pervaded with a net of tiny cracks that would often render these stones so unstable that they fell apart after being apported. We present considerations regarding these cracks, describe attempts to replicate them, and conclude with a short section about explanatory approaches for apport phenomena.

Introduction

Since the heyday of spiritualism in the 19th century, macrophysical anomalies belonged to the phenomena typically reported from the practice of physical mediumship. However, the history of physical mediumship is loaded with fraud and trickery (for a recent example, see Braude 2016, Nahm 2014, 2016), and often it remains difficult to establish whether certain phenomena were genuine or not.

This is especially valid for so-called apports, i.e. physical objects or even living organisms, which appear in an inexplicable manner, often inside a room or in a closed space. It is very difficult to definitively rule out the possibility that these objects were not smuggled into, for example, a darkened and closed séance room. Nevertheless, several studies concluded that apport phenomena do indeed occur sometimes. Among the most

extensive studies into apport phenomena are the "apport observations" and the "apport studies" by Karl Blacher, a professor for Technical Chemistry at the University of Riga, Latvia (Blacher 1926, 1931–1932, 1933), and those of Elemér Pap of Chengery, a retired chief Chemist of the Hungarian government, who summarized his 10-year-long studies into apport and other macro-PK phenomena in a monumental treatise (Pap 1938). Other noteworthy sources on apport phenomena in the context of mediumship include Bozzano (1930), Button (1932), Haraldsson & Gissurarson (2015:75, 184), Kindborg (1930), McKenzie (1929), Schwab (1923), Simsa (1931, 1934), Wassilko-Serecki (1927), Weaver, (2015:46, 76), X (1904), and Zöllner (1922); more examples can be found in Fodor (1934). Apport phenomena, however, are reported not only in physical mediumship, but also in related contexts such as poltergeists and purported demonic possession, as well as around spiritual leaders and "ordinary" psychics (Blumhardt 1970, Gauld & Cornell 1979, Haraldsson 2013, Hasted (1981:165–187), Koch 1981, Krippner et al. 1996, Lin et al. 1981, Naegeli-Osjord 1988, Ringger 1953, Sutter 1975).[1]

The present report focuses on apport phenomena of a largely unknown German physical medium, Herbert Baumann (1911–1998). As a medium, he worked under the pseudonym "Jons Dave." One of us, Illobrand von Ludwiger (IvL), was a close friend of Baumann for many years, and spent considerable amounts of time with him. Baumann was a frequent guest at IvL's private home, and both spent much time together with their wives between 1965 and 1985. During this span of time, IvL witnessed numerous sudden appearances of objects he considers to be genuine apports. Most of them appeared spontaneously, and stringent controls during these occurrences were not employed. On many occasions, nevertheless, IvL had the opportunity to witness the arrival of supposed apports under circumstances that seem to exclude fraud.[2]

The aim of the present report is to review the most impressive apport occurrences witnessed by IvL to make the phenomena that happened around Baumann known to a wider audience, and thus to contribute to enriching the literature on physical mediumship by highlighting aspects of it that have rarely been reported in the more recent literature. After the following section, which contains background information on Herbert Baumann, we describe peculiar characteristics of apported objects, such as physical anomalies of cut gems for which we were unable to find a normal explanation, and apports that were received after a respective wish to receive them was advanced. Finally, we will sketch possible explanatory approaches for the generation of apports.

Background Information on Herbert Baumann

Because the subsequent text focuses on experiences and observations of the first author of the present article, IvL, we will shift to using the first person singular in the following.

I first learned of Herbert Baumann when I read an article about him in early 1965 that was written by Eberhard Körner (1965; see also W. 1965). Körner described numerous apport phenomena of Baumann and declared on oath that everything he wrote was nothing but the truth. He claimed that he witnessed in person how semi-precious gems "grew" out of Baumann's hair, ears, and mouth. Often, apports that appeared from outside of his body were hot (as has already earlier been reported in cases of apports; e.g., Schwab 1923, Simsa 1934, Gauld & Cornell 1979, Hasted 1981, Zöllner 1922). Flowers would typically show signs of singeing, and on rare occasions even stones looked singed. In addition, the semi-precious gems would often be pervaded with numerous tiny cracks, and gems of a hardness of up to 7–8 would break into pieces when they appeared. Being impressed by what I read, I contacted Körner, who in turn put me in contact with Baumann.

Figure 1. Herbert Baumann (left) and first author Illobrand von Ludwiger in Baumann's living room in Hamburg in 1980. There are several of Baumann's paintings on the wall.

I visited him for the first time in November 1965 in his rented apartment in Hamburg where he lived with his wife, Else Baumann. When we talked together, he imperceptively slipped into trance, which I noticed only because he versified his questions and answered my questions in rhymes—although we discussed complex astrophysical and cosmological problems. While we talked in his living room in normal daylight, I noted—just as Körner (1965) had reported—raps on the walls and furniture inside the room. This visit was the beginning of a long friendship with the Baumanns that lasted until his death in 1998.

Baumann's father was Jewish and owned three drugstores in Berlin. During World War II, he was deported to a concentration camp where he died. His son Herbert had begun to study medicine, but he was forced to terminate his studies after two and a half years and had to join a 'bataillon for probation.' In Italy, Herbert Baumann suffered a severe head injury

during an attack of Italian partisans. Not long thereafter, he was deported to the concentration camps in Auschwitz-Birkenau, Bergen-Belsen, and Sangerhausen—he survived torture, but not without severe chronic injuries that resulted from frequent physical abuse. After the war, he first lived in Leipzig, in Esslingen, and from 1962 in Hamburg. He worked as a sales representative, but also received financial compensation for his time in the concentration camps, and for the three dispossessed drugstores of his father.

Baumann told me that he received his first apport on the evening of November 6, 1963, when he spontaneously retched a number of violets that were knitted together into a chain. Earlier that year, he had visited Danish physical medium Ejnar Nielsen in Copenhagen several times. Baumann was very impressed because he was convinced that he had met his deceased father through the mediumship of Nielsen (for information about Nielsen, see, e.g., Gerloff 1955, 1958, Grunewald 1922).

According to Körner (1965) and Baumann himself, he produced several thousand apports between 1963 and 1965. Predominantly they appeared during the weekly séances that were held at his home with about 10 sitters. Participation in the sittings was free, but Mrs. Baumann put a plate in the corridor for donations. Before the sittings, Baumann always asked somebody to search the pockets in his trousers for hidden objects, and I have once patted down his entire body. But a thorough search of all his clothes, body, and living room that would satisfy skeptics was not performed. Given the tiny nature of most of his apports, this would also not have been easy in the informal atmosphere of his home. During the sittings, Mr. Baumann would lie on a couch in his living room, which was 4 × 6 m. Then, he would fall into a semi-trance or a full trance. During states of full trance, supposed spirit communicators would communicate with the sitters, speaking in rhymes. But also in light trance, Baumann often spoke in rhymes when he was "overshadowed" by his spirit guides. This manner of speech seemed to surpass Baumann's ordinary poetic and lyrical abilities considerably. In the history of mediumship, there are several examples of such behavior, thus suggesting the genuineness of the trance. A noted example is represented by the trance performances of Pearl Curran, when "Patience Worth" communicated through her (for a discussion of this case, see, e.g., Braude 2003). But even in waking consciousness, Baumann claimed to hear his guides regularly via an 'inner voice' when they conveyed information to him, e.g., about when and how an apport was to be expected. Typically, his séances were held in the dark to enable the sitters to see luminous phenomena. Often, the apports were simply heard falling down on the floor—but on numerous occasions their appearance was preceded by a loud bang somewhere in midair, after which the apports seemed to

drop on the floor. This is particularly audible on audio recordings played at slowed speed (the recordings still exist on audiotape). Most of the apports consisted of semi-precious gems that were either uncut or cut, or of stone fragments. But in rare incidents, valuable jewels such as ruby, tourmaline, topaz, and even diamonds were found. For example, on August 28, 1969, I received a topaz apport for my friend, the theoretical physicist Burkhard Heim (Ludwiger 2010, 2016), the value of which was at that time estimated to be about $1,000 by two jewelers in Göttingen and Bremen.

On occasion, apported stones and splinters were agglutinated with a strange organic mass that was said to be ectoplasm (we will describe an example later in the text). Sometimes, flowers were found in the séance room. Apart from the apport phenomena to be described in the next section of this paper, Baumann also exhibited telepathic or clairvoyant abilities on occasion. An impressive example occurred at Rabeneck Castle, where I lived on weekends at that time. Baumann and his wife frequently visited me there. On one occasion when they visited me, a neighbor who looked after my apartment near Munich when I was absent called me at the Castle. She informed me that I had received a registered letter there, but she forgot who the sender was. Baumann, however, spontaneously and speaking in verses, related the sender's probable identity and the content of this letter to me—correctly, as it turned out later.

Toward the end of the 1960s, Baumann began to paint while he was in trance, and sometimes he painted with closed eyes. After some time, he developed a specific style of painting that was playful, surreal, and rich in colors, geometric patterns, and ornaments. From then on, he called himself 'Jons Dave.' In 1971, at the age of 60, he finished training as an acupuncturist and worked in medical practices. In 1972, he stopped giving séances at home. He divorced his wife, moved from his home in Hamburg to live with a new partner, and increased his painting activities. Eventually, his paintings were exhibited in Stockholm, London, Paris, Boston, New York, Edinburgh, and Milan. Throughout these years, I remained in contact with Baumann, and we continued to visit one another. In his private life, apports still appeared frequently. I received the last apports when he visited my home near Munich in December 1985; among them was a beautifully and unusually cut brown quartz. During his last years, Baumann had to spend a lot of time in hospitals. In the early 1990s, failed eye operations led to increasing blindness, and he needed to be cared for by his wife. Baumann died on October 23, 1998. His widow bequeathed me several of his most precious apports. Since July 2015, the remaining paintings of Baumann have been exhibited in the Art Gallery in Murnau, Germany.

Overview on Personally Witnessed Apport Phenomena

Preliminary Note

At the end of my first visit in Hamburg, Baumann agreed that I would be allowed to control him during one of the next sittings in any way I deemed appropriate to exclude the possibility of fraud. Yet, our working relationship developed differently—although he always allowed me to record the séances on tape, or to film luminous phenomena (one time, I succeeded in catching two colored lights that appeared to possess features of human faces during a séance in Hamburg). One method of controls aims at stringently excluding the possibility of fraud—and if possible, appropriate measures should be undertaken in a laboratory under lighted conditions or infra-red. Ideally, the support of professional magicians should also be obtained. Pursuing this method should always be included in these types of scientific investigations. Yet, since it was not my aim to perform a scientific investigation, but to better understand Baumann's mediumistic phenomena on a personal level, I chose a different approach. I intended to permit him complete freedom of action to let the phenomena develop as freely and intensely as possible, and to observe everything that happened as closely as possible. Admittedly, the latter method will hardly convince skeptics—at least not if the results obtained can be explained away easily in normal terms. Yet, I knew that Baumann's phenomena were said to be special, and I hoped to observe phenomena or to receive objects that bore the sign of genuineness in themselves.

Before I describe some of these remarkable apport features in more detail, let me first affirm that I have witnessed numerous spontaneous phenomena that I can only regard as genuine apports. The following four examples occurred on September 28, 1969, when Baumann and his wife visited me and my wife for several days at the aforementioned Castle in which I occasionally lived at that time.

1) During breakfast, we discovered a fraction of a stone inside a full water bottle that was still sealed with a strip of paper.[3] It turned out to be a sapphire 5 mm long.

2) After we took a long walk in the surroundings of the Castle, we went into my room. It was illuminated with several strong electric lamps. Baumann stood behind me, when surprisingly I saw in close vicinity of my desk at a height of about 40 cm, pieces of green glass appearing in the air. They gently floated down to the floor like large snowflakes. For 20 to 30 seconds, more and more splinters appeared until about 30 of them lay on the floor. All of them were smaller than 1 cm. Baumann

observed this process together with me, and both of us became very excited. Later, he explained that his spirit guides told him that these belonged to a broken beer bottle that we saw during our previous walk in the afternoon. When we passed it, Baumann didn't touch or pick up any of the splinters. This was the only time with Baumann that I visually observed what seemed to be a direct materialization of physical objects.

3) Thereafter, the Baumann couple and I went to visit a small town in the surrounding area, and we had some ice cream. To my surprise, while eating my ice cream, I suddenly spotted a piece of quartz 5 mm long sticking in it.

4) When we went on another walk in bright daylight, Baumann's wife and my wife walked ahead of Baumann and me. Within a timespan of about 45 minutes, I discovered three or four little pieces of blue sapphire that were stuck in my wife's long hair. We were unable to figure out how these stones appeared in my wife's hair.

These are typical examples of spontaneous apports that anybody who spent private time with Baumann was able to experience. In general, a good and jolly atmosphere seemed to stimulate the appearance of apports. During my wedding feast, for example, Baumann gave my stepmother so many gems while he frolicsomely danced with her that Baumann's wife, who observed him, became annoyed and told him to stop producing apports. Sometimes, small crystals even seemed to originate from the inside of his body, penetrating the skin, leaving a small mark that immediately closed. No scars were left (see also Körner 1965). In total, I received more than 100 apports from Baumann. Now, I will turn to describing some of the peculiar features of these objects.

Unusual Cracks within Stones Apported by Baumann

In the cases involving Baumann, most of the apports looked like ordinary objects, and it is impossible to detect anything unusual in them. However, a large number of objects also display characteristics that seem inexplicable by normal means. This is especially valid for many of the cut (semi-precious) gems that appeared around him as ostensible apports. First of all, the apported stones were hot to touch when they appeared in our surroundings—much hotter than body or air temperature. I have personally felt this heat on several occasions, especially when I picked up larger stones right after they appeared. According to Baumann, his wife, and a friend, one particularly large, irregular crystal, 5 × 4 × 3 cm, appeared spontaneously under his shirt on his back when they were shopping in a large mall. Baumann was struck with pain and screamed, and, not knowing what was going on,

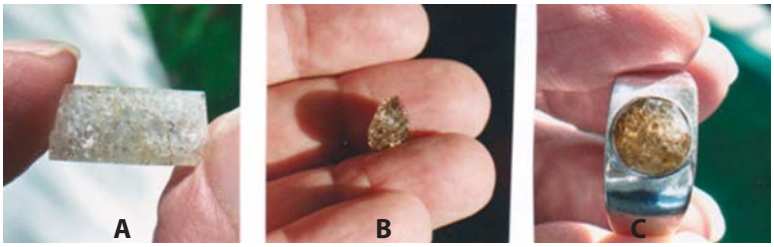

Figure 2. Stones that were apported during a séance in Hamburg on May 15, 1970. They display numerous cracks that rendered them so unstable that they might break; the mountain crystal (A) broke twice and was glued together again. (B) shows a topaz as I received it, and later enclosed into a ring (C).

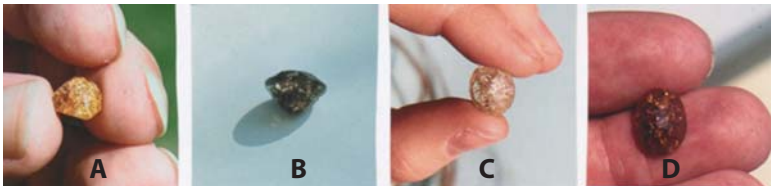

Figure 3. Further examples of cut gems with numerous cracks.

supposing that perhaps a bird had flown into his clothes, they immediately tore his clothes off. Shop assistants and bystanders came running, and all were perplexed when suddenly this crystal was found. It was thought that it might have fallen from the ceiling, although this was obviously impossible. The crystal was so hot that nobody could touch it, so Baumann wrapped it in a handkerchief and put it into a bag. A peculiar warmth of apported objects, especially of stones and metallic objects, has been reported before in the contexts of mediumship and poltergeist cases (e.g., Schwab 1923, Simsa 1934, Gauld & Cornell 1979, Hasted 1981, Zöllner 1922).

Second, many of the stones apported by Baumann display peculiar networks of cracks and fissures that can reach such a density that formerly clear and transparent gems become completely opaque (Figures 2, 3, 4). Sometimes, these cracks are concentrated in the center of the stones and don't reach the gem surface.

When I showed gems with these "Baumann-cracks" to jewelers, they were not able to explain how these cracks might have developed. They said that if a gem were to crack only once during the cutting process, they would normally stop cutting it because the stone would have become practically worthless, and would also be likely to break entirely.

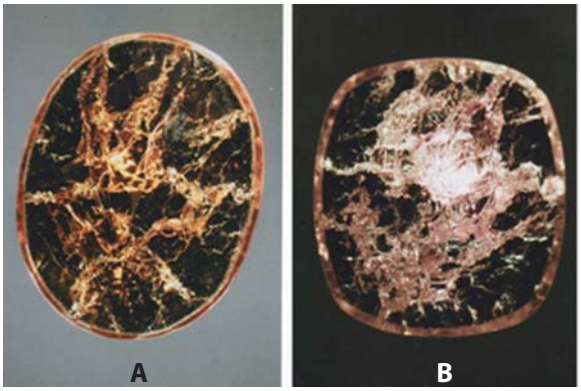

Figure 4. Inner structures of a topaz (A) with a maximum diameter of 13 mm, and of an amethyst (B) with a diameter of 11 mm.

By now we have shown cut gems with the typical Baumann-cracks to four jewelers, and none of them was able to give a possible explanation of their formation. The perplexity of these jewelers is mirrored by the appraisals of relevant scientists of the field. In 1980, some of the stones with Baumann-cracks were handed via the former president of the *Schweizer Vereinigung für Parapsychologie* [Swiss Association for Parapsychology] Dr. Theo Locher to scientists of the university in Bern, Switzerland, for analyses.

An honorary professor at this university, and the then director of the Geological Department of the Natural Historical Museum in Bern, Dr. Hans Anton Stalder, came to the conclusion that these cracks and fissures would not occur in nature. Similarly, gemologist Jean-Bernard Ryser held the opinion that the defects in the stones would be quite unusual, and would not occur naturally. Also, he confirmed that the cracked stones were completely valueless.

Indeed, some of these cut gems are very fragile. I saw one apported gem break shortly *after* it had appeared in the room as a whole piece. Some also broke during analyses of jewelers, and some simply fell apart months or years after the séance in which they were received. On one occasion, for example, a quartz received by the wife of my friend Burkhard Heim (Ludwiger 2010, 2016) seemed to disintegrate into numerous small splinters at home by itself—curiously, this happened after she had expressed her disappointment that she didn't receive an equally valuable stone like the topaz that her husband had received earlier.

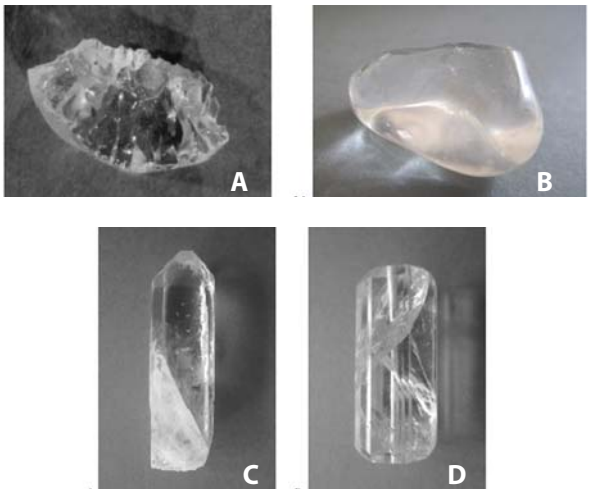

Figure 5. (A) A part of a cut quartz of diameter 1 cm with Baumann-cracks that broke into two pieces when it fell once after it had appeared whole some years before. Note the rugged breaking edge. (B) A piece of round-cut quartz with a maximum diameter of 2.5 cm; the upper part spalled after repeated immersion in boiling water. (C) A natural quartz crystal 4 cm long that showed a singular diagonal planar crack after removed from a freezer and put into boiling water. (D) A cut quartz crystal with a length of 2.7 cm (with a drilled hole in the middle) that showed two planar diagonal cracks after being immersed into boiling water twice.

I told Baumann that I was fascinated by these cracks, and he replied that I might receive an apport that was entirely permeated by them one day. This seemed to occur on May 15, 1970, during a séance in Hamburg. On the audio recording, played in slow speed, one can clearly hear a loud bang (which occurred at about 1.5 m high in the middle of the room), that is followed by two sounds of objects falling on the floor. When we turned the light on, we found two pieces of an oblong crystal that was so full of cracks that it had become entirely opaque (Figure 2A). Later, I also received the topaz shown in Figure 2B. At home, I glued the two pieces of the crystal together, but when a jeweler handled it later during an analysis, it broke again at a different location. Given the utter fragility of stones with Baumann-cracks, it is obvious that these cracks must have formed *after* the stones had been cut (see also Figures 3, 4, 5).

Moreover, my wife and I received several pieces of gems that fit together perfectly after being collected when Baumann and his wife visited

Figure 6. Two pieces of a cut gem that appeared on two subsequent days on the floor of the first author's Castle. Both pieces fit together perfectly, but had different colors.

us at Rabeneck Castle on July 4, 1969. In the evening, he went into trance, lying on a couch in a darkened room. We three sat in a row of chairs about 2 m in front of him. Suddenly, after Baumann had talked in trance for a while, we heard a sound like the crack of a whip about 1.5 to 2 m *behind* us and at about 1 m high, and then several pieces of something rolled toward us on the floor *from behind*. These pieces turned out to belong to a single Madeira-topaz, of which we had received another piece several hours earlier on the same day. The position of the four of us, and the distance of the room wall behind us being about 4 m, appeared to exclude the possibility that somebody had thrown these pieces from behind.

During another visit on July 10, 1971, Baumann gave me a piece of a cut amethyst that he claimed he found on the floor. It showed typical Baumann-cracks. The next day, I found another piece of cut gem at the same spot on the floor. We noticed that it perfectly fit into the piece that was found the day before. Curiously, however, it had a different color. Hence, one of the pieces must have changed its color, presumably after breaking apart. How this might have happened, we cannot tell. It is known that the color of amethysts can be changed by exposing them to temperatures of 300 to 560 °C, but this will usually result in a yellowish color, not in the white color as is the case with this piece. Later, I glued the two pieces together (Figure 6).

Among known causes that may cause cracks in gems are sonication (exposure to ultra-sound) and rapid heating, and thus we tried to artificially create cracks in quartz pieces to compare them with Baumann-cracks. One of us (MN) has subjected 11 quartz pieces of different treatment (natural, cut, and uncut) and size (four pieces with a maximum diameter of more than 2 cm and seven pieces of about 1 cm maximum diameter) to sudden temperature changes by repeatedly transferring them from a freezer into boiling water. Most of these crystals developed cracks sooner or later, especially the larger ones. In two of them, the cracks didn't pervade the

entire stone at the beginning, but the cracks appeared close to the surface at first. In one case, the crack increased in size by itself over the following days, in the other case it reached the stone center after repeated temperature treatment. Moreover, the cracks are typically quite straight, planar, and they show little branching and no net-like structures (Figure 5B,C,D). All this is in contrast with typical Baumann-cracks.

MN has also immersed these 11 pieces of quartz into an ultrasonic bath after performing the temperature experiments (Type: EMAG Technologies, Emmi-16). In addition to these pieces, MN added 3 further crystals that had not been temperature-treated before (natural, cut, round cut; minimum diameter/length: 2.5 cm). All 14 crystals were jointly sonicated for two, then three, and then nine minutes in immediate succession—in total for 14 minutes. None of the 14 quartz pieces showed noteworthy changes thereafter—apart, perhaps, from a slight elongation of one crack in one of the temperature-treated crystals.

Finally, MN simply heated 5 small crystals and the 3 larger crystals that showed no cracks after sonication in a metal pot on the stove, turning the cooking plate on to maximum heat. This treatment caused the development of typically straight and planar cracks—one of the larger quartz pieces even sprang apart forcefully with a snapping noise (perhaps, resembling some of the noises Baumann's apports seemed to appear with?)—but it also caused a few locally confined net-like cracks close to the crystals' surface at areas that were in direct contact with the bottom of the pot. There were no netlike cracks in the interior of the crystals, or net-like cracks that pervaded the entire crystals.

In sum, we were not able to generate cracks in mountain crystals that resemble the Baumann-cracks in mountain crystals, using means that somebody might have used in privacy in the 1960s to prepare the crystals in this way. Nevertheless, the origin of the Baumann-cracks might well be related to the unusual heat that the stones bore shortly after appearing—perhaps, the heat being strongest in their center. However, in the literature known to us, comparable cracks have not been reported from apports, although the heat of apports was often ascertained. Yet, a fragmentation of apports has been reported on occasion, and this was then attributed to failures on the energetic level by the responsible trance controls. A well-known example was described by Bozzano (1930). On that occasion, Bozzano asked the trance control of a medium he sat with to bring a piece of pyrite from his home into the séance room. This attempt failed, however, but everything in the séance room was covered with a golden dust that seemed to be pyrite. When Bozzano returned home, he found that a notable piece of his pyrite chunk was missing. A similar incident was reported by

Figure 7. An apported cut gem with distinct traces of physical abrasion.

Civitelli (1928). In this case, the sitters expected a silver thimble to be apported by Eusapia Palladino from a closed cupboard in another house, but the experiment failed. Still, when the owner of the thimble looked for it at home, all that she found on the spot where it had rested was a metallic powder that appeared to be silver. Hasted (1981:173ff) reported an example of what he considered a genuine partial deport of a target object, and Playfair (1980) described how three parts of a single stone were seemingly apported within a timespan of several hours.

Finally, I should mention that I once even received a citrine out of which a strange organic-looking substance protruded from inside a Baumann-crack, presumably the 'ectoplasm' to be described later. Unfortunately, this stone was not returned to me after I showed my apport collection to the audience of a talk I gave in Berlin in 1984.

According to Baumann's trance personalities, the gems were apported from places where they were not missed or needed. They would be leftovers and fragments from jewelers, or lost and forgotten gems. Indeed, some of them show distinct signs of abrasion on their cut surfaces and corners, as if they had been exposed to physical attrition, e.g., by lying in a riverbed for some time (Figure 7).

Wish-Apports

Another peculiar feature of Baumann's apports was that he sometimes apported objects that a guest had wished for just before. If performed in an appropriate context, apports that correspond to spontaneous wishes ("apports-on-demand") rank among the incidents that render the genuineness of apports most likely. Consequently, researchers have often asked for apports on demand—the cases of the failed pyrite and thimble apports already mentioned belong to this category. Other researchers have apparently been more successful and received the demanded objects intact (see, e.g., Bozzano 1930, Haraldsson & Gissurarson 2015, Simsa 1931).

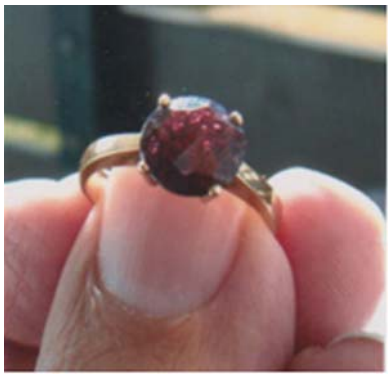

Figure 8. The garnet apported as a wish-apport on March 27, 1970, in the gold ring I later had it enclosed in.

Figure 9. A little posy that appeared with small pearls on their stalks on August 28, 1969, after the first author wished for it.

Here I will describe examples of wish-apports that I received in person. During a séance on March 27, 1970, the entranced Baumann asked me what I would like to receive. I voted for a red gemstone that I could embed into a gold ring for my partner. After about 30 to 40 minutes, I felt something fall on my left thigh and then on the floor. After the light was switched on, this object turned out to be a red garnet with numerous Baumann-cracks (Figure 8).

The following incidents were even more intriguing. At a séance in Hamburg on August 28, 1969, four men and four women were present apart from me. The room was darkened, and Baumann spoke in verses to several of the sitters. Occasionally, we would hear objects fall to the floor, and eventually I was asked if I had a wish. Being prepared for such an opportunity, I wished for a posy that contained flowers with pearls around their stalks between their blossoms and some leaves. Baumann complained that I should not wish for such a stupid thing, and he suggested that I'd better wish that my diseased mother would become healthy again. I agreed. After about one hour, the séance was terminated, the light was turned on, and all sitters found the apports they had wished for on the floor. To my surprise, we also found a posy of little flowers that had little coral pearls around their stalks. The stalks and some blossoms were black from singeing. Later, I embedded them in synthetic resin (Figure 9).

During another visit by Herbert and Else Baumann to my Castle, on September 29, 1969, I asked him to try to apport a very special object such as a stone from the moon. Yet, he stated that this would not be possible because his trance communicators would not know how such a stone should

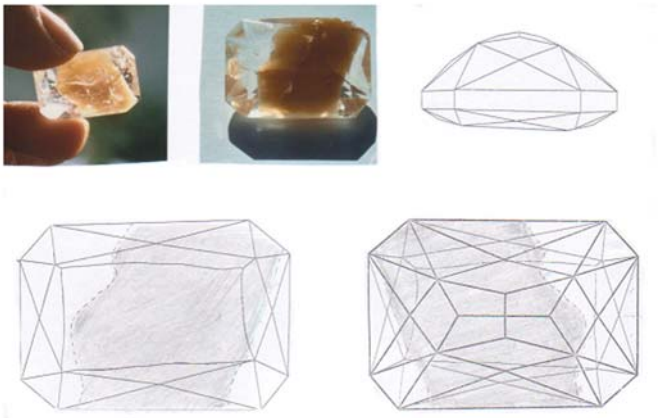

Figure 10. A cut gem apported in the first author's Castle on September 29, 1969. It appears to show a "stone inside a stone." Curiously, some of the cut surfaces seem deformed and cambered (see pencil sketch).

look. Then, I asked him to put a contemporary object such as a coin into a piece of amber. He agreed to that.

Later on the evening of the same day, Baumann lay on the couch where he fell into trance. Else and I sat about 2 m in front of him in the dark. He spoke about the events of that day. Suddenly an object fell in front of my feet. It turned out to be an oblong cut mountain crystal 3 cm long that contained, curiously, a layer of another material embedded in it (Figure 10). This layer of about 1 mm thickness consists of chert, as a jeweler later determined. Apart from a quite unusual combination of different siliceous rock, the gem itself displays peculiar features. Some of the cut surfaces are not flat but cambered to the outside, as if the stone had been soft when the layer of chert was inserted into it. The quartz also shows several fissures and cracks in its inside, but which don't reach to the stone surface. It appears very unlikely that a jeweler cut this quartz and its intrusion in such a strange manner. Hence, although I didn't receive a coin in amber, I received something else that might well have been an attempt to fulfill my wish.

One year later, Baumann and his wife were my guests at the Castle again. During supper on September 29, 1970, he said he heard a voice and he fell into semi-trance. I fetched my audio-recording device and recorded the verses he related to us. In very ornate rhymes, the meaning of which was difficult to understand, he seemed to say that something was inside a wall, that spirit existed before matter, and that it rules over matter. Frankly, I didn't pay much attention to this strange poem and didn't expect anything to happen that related to it. The next day was sunny and we went on a beautiful trip into the surrounding area. Again and again, we found stone

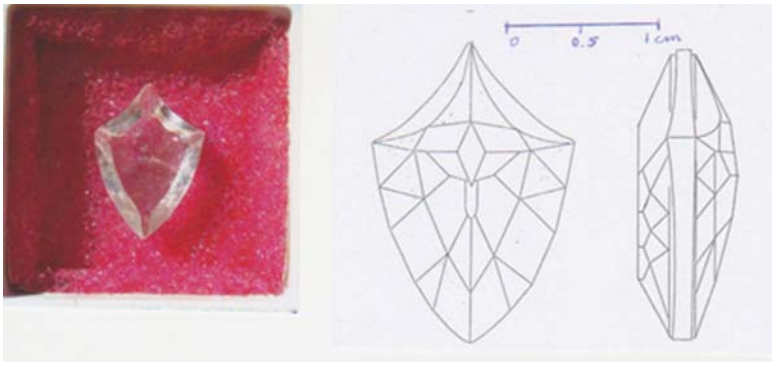

Figure 11. A cut gem that was retrieved with a pick from a small hole inside the cornerstone of a wall of the first author's castle.

fragments that appeared to be apports. At 6 p.m., we returned to the Castle, and Else went for a nap. Baumann claimed he heard his inner voice telling him that we could expect an apport in a large cornerstone of the main Castle wall. Of course, we immediately went to this cornerstone. The wall was built from Jurassic stones, and it contained numerous holes. We carefully examined the cornerstone and its surroundings, looking into these holes, but we couldn't find anything. Baumann suggested we fetch a pick from the cellar to remove parts of the cornerstone, and off he went. Standing alone in front of the wall, I suddenly saw something twinkle inside one of the holes of the cornerstone in the evening sun. The hole had a diameter of 6 mm and was right in front of my eyes. I hoped that this would be the promised apport, and I strongly wished that it would have an extraordinary form such as a coat of arms and not one of the usual gem shapes. Then, I called for Baumann, who came running with the pick. Indeed, it was impossible to retrieve this cut object from this cavity. So we took the pick and carefully widened the aperture in the wall. To my utter astonishment, when we held the gem in our hands, it proved to have the shape of a coat of arms (Figure 11). It was not possible to adumbrate its shape from the outside. The quartz was 18 mm long and 13 mm wide, and therefore it could not have been put into the hole from the outside. The stone material around the hole was natural and undisturbed, there were no signs of fraction and gluing. Moreover, I strongly assume that the gem appeared in the hole only after Baumann went to fetch the pick, because, as mentioned, this hole was right in front of my eyes and I am convinced that I would have spotted the twinkling earlier when I carefully searched this area before he went away. Yet, I cannot explain why the apport had the shape I wished it to have—but I have the impression that this was part of an experiment that, as I realized

Figure 12. A part of the 'plasm ball' with a cut quartz.

later, had apparently been announced in the verses of the previous evening. Unfortunately, however, I didn't possess a camcorder at that time, so we were not able to document this episode on video. But, for what it is worth, I confirm on oath that everything happened just as I have described it.

Other Remarkable Apports

On occasion, and as mentioned already, apports appeared inside of other objects such as closed bottles, but also in ice cream and fruits. In addition, on the evening of September 19, 1970, Baumann told me there was a stone inside the locked box of my audio recorder, which I always carried around with me. Indeed, I found an uncut amethyst of about 2 cm length in it.

On the evening of September 20, 1970, Baumann slipped and fell just outside my Castle, injuring his head slightly. He lay down on the sofa in the living room with his head bandaged. After a while, he said that we should look under a bench that was also in this room, where we were supposed to find a 'plasm ball.' Indeed, we found a strange mass with a diameter of about 4 cm. It appeared as if it were formed out of moist sand. On closer inspection, we found that this mass consisted of small fragments of quartz, sapphire, and topaz, but it also contained a larger cut quartz with a diameter of 1 cm. We cut the plasm ball in two to share the pieces between Else and me (Figure 12). Although it seemed moist, it was not sticky and we couldn't detect a specific odor. After three days, it had dried and was hard as stone.

We found a similar mass of plasm on the evening of September 23, 1970, inside a water bottle that was still closed. It had a diameter of about 9 mm and contained numerous blue splinters of sapphire. In addition, there were three small quartz crystals inside the bottle.

In late 1981, Swiss chemist Dr. E. Wälti analyzed these conglomerates. The mineral fraction of the 'plasm ball' consisted of different kinds of crystalline fragments that ranked from mere microscopic powder to pieces of a few millimeters. The binding agent was of organic origin consisting of

polysaccharides that seemed to resemble those used in glue. When water was added, it assumed a gel-like consistency. It contained no amino groups and thus no proteins. Yet, it contained fibers of seeming vegetable origin, and also microscopic fibers of unexplained, but most likely animal origin. The latter had a diameter of about 0.4 µm, and some of them were agglomerated into small bundles. They consisted of proteins. The binding material of the second mass seemed to consist of the same polysaccharides as the plasm ball, but it didn't contain protein fibers (Locher 1982, Wälti 1982).

Discussion and Explanatory Models

In the preceding section, I described numerous instances of apports I witnessed in the presence of physical medium Herbert Baumann. Some readers of this report might not be convinced of the paranormal nature of many of the described occurrences—especially because they didn't take place under strict control conditions. Personally, I have no doubt regarding their genuineness. Some of the circumstances of the apport incidents were quite remarkable and practically impossible to fake—after all, and as noted earlier, I once saw splinters of green glass materialize in the air right in front of me. Similarly, numerous other sources have described apport phenomena that they deemed genuine for a variety of reasons (e.g., Blacher 1933, Bozzano 1930, Kindborg 1930, Lin et al. 1981, Pap 1938). Consequently, there must be a physical underpinning that can allow for the occurrence of apport phenomena. Moreover, and similar to other macro-PK phenomena, apport phenomena show a distinct relation to mental processes or states of especially mediums, psychics, supposedly possessed individuals, or 'poltergeist agents.' Hence, it must be possible to relate the physical underpinnings of apport phenomena to these mental or psychic factors.

At present, it remains difficult to imagine how this could be achieved. In earlier times, many of those who studied apport phenomena followed two different lines of thought to explain them. First, there were authors who, in the footsteps of Friedrich Zöllner and the spirit guides of medium Henry Slade (Zöllner 1922), argued that objects are transported from one place to another using properties of a higher dimension in which the mentally driven processes would operate. Second, there were authors who argued that apports are disintegrated into minute particles at their place of origin and reassembled where they appear again, following respective descriptions of trance communicators of mediums (e.g., Bozzano 1930). Apart from these explanatory models that originate from a spiritualistic context, other authors interpreted the apparent ability of gifted human beings in their cultural context. For example, there is a little-known but intriguing Chinese report in which apport phenomena of two young girls are described in a

Chinese mainstream journal (Lin et al. 1981), which we will summarize in more detail.[4] In a series of different experiments, two girls "moved" objects out of closed (and sometimes sealed) boxes and bags with only mental activity and without touch, into previously assigned target containers (compare Button 1932). The girls were able to tell when the object had left the original container, which was verified each time by the experimenters. Often the girls would state that the test objects would be "in their brain" when the objects had vanished, or were—as the researchers termed it—in "the other state." When the objects left "their brains" again, they would soon reappear. Sometimes, the objects were missing for about one hour or longer. The Chinese authors concluded that there must be a certain form of energy and information that maintain the test objects when they "disappear" from the world as we perceive it, and it was obvious that this state was related to the girl's mental activities.[5] The investigating scientists related the girls' faculties to the traditional Chinese concept of Chi (energy), and spoke of "extraordinary functions of the human body." Sometimes, the two girls were also able to perceive a form of "white air" that other persons present were unable to see, and they correctly announced when and where the objects would reappear due to their previous perception of these patches of brightness. Luminous patches or shapes at the location where apported objects were about to appear are also reported in the traditional mediumistic context (e.g., Simsa 1934, Schwab 1923, Bozzano 1930, Zöllner 1922). Still, especially on a physical level, apport phenomena are difficult to understand. To our knowledge, there is only one sufficiently developed physical theory that allows for integrating deport and apport phenomena into our four-dimensional space–time continuum in a plausible manner, while also taking into account the accompanying mental processes. This is the quantum field theory of Burkhard Heim (Heim 1989/1980, 1984, 2008, Lietz 2006, Ludwiger 2012, 2016; see also the full paper published in this journal by Auerbach & Ludwiger 1992). Heim's theory bears resemblance to other physical theories that can account for the occurrence of psi phenomena due to their comprising more than the "usual" four dimensions of time and space (e.g., for a review of these theories, see Lier 2010, Volume 1:61–264). But in fact, all current physical models including the String theory comprise more than four dimensions of reality. Yet, they are typically thought to be curled up into extremely small magnitudes that are not relevant for structuring the microcosm and the macrocosm. Heim's basic theory, however, contains two non-compacted time-like imaginary dimensions in addition to the four dimensions of time and space, and they also represent domains that extend into the world as we perceive it (compare also Chen 2005). Nevertheless, it must be admitted that Heim's quantum field theory is little-

known and controversially discussed. Regarding apport phenomena, it is still of primary importance to find the means to document them properly, and thus contribute to establishing the reality of their existence. They rank among the most peculiar reported parapsychological phenomena, and we thoroughly hope that parapsychologists and other researchers will look for opportunities to seriously study them.

Notes

[1] In the context of so-called demonic possession, we consider the numerous kinds of objects that were reported to be expelled from the bodies of the possessed through their skin, body orifices, or via retching and vomiting, as apports. Such occurrences were also observed with Herbert Baumann, as described later in the text.

[2] In 1982 and in 1985, IvL presented his experiences with Baumann at conferences of the *Schweizer Vereinigung für Parapsychologie* in Bern (Switzerland) and the *Wissenschaftliche Gesellschaft zur Förderung der Parapsychologie* in Offenbach (Germany), respectively. After the conference in Switzerland in 1982, a brief overview on IvL's experiences with Baumann was published in a Swiss leaflet of very limited circulation (Ludwiger 1982). A short overview on the life of Herbert Baumann is also contained in an obituary published in 1999 (Ludwiger 1999).

[3] Critical readers may object that Baumann could have secretly removed the paper around the bottle cap during the night, put a stone into the bottle, and carefully glued the paper around the cap again so that it looked exactly like the original bottles. While I cannot exclude this possibility, I consider it very unlikely from a personal perspective.

[4] This article was published in one of the major monthly scientific journals in China, the *Journal of Nature* (*Ziran Zazhi*). One of us (IvL) commissioned a German translation of it many years ago. It seems to be little-known in the West that from March 1979 onward, a massive wave of research into psi-phenomena swept across China. This field of research was designed to address the 'Extraordinary Functions of the Human Body,' and it attracted the interest of dozens of researchers at top universities and other research institutes. By the end of 1982, the Chinese *Journal of Nature* alone had published 53 articles that dealt with a considerable variety of what many Westerners would typically call psi-phenomena (Li & Fu 2015). Predominantly, the scientists worked with children of about 10 years of age, and they worked only with seemingly gifted subjects. In 1980 and 1981, two scientific symposia on Extraordinary Functions of the Human Body were held in Shanghai and Chongqing, respectively (Chen & Mei 1982, Li & Fu 2015). The paper produced herein (Lin et

al. 1981) was authored by 13 persons associated with 1) Beijing College of Education, 2) Beijing Qinghe High School, 3) Research Institute for Chinese Medicine of Xiyuan Hospital, and 4) Commission for Science, Technology and Industry of the National Defense Institution. A lengthy summary of this article was also published in English in *Psi Research* (Lin et al. 1983), and a very short summary in the *European Journal of Parapsychology* (Haft 1982).

[5] Among other items, the authors tested mini-senders, the signal of which faded completely during the times when the senders disappeared; they used photographic plates that were unaffected by light after they were "transported" from one light-proof container into another; they used mechanical and quartz watches, of which the latter showed a time delay after reappearing; and they tested six living flies, all of which seemed healthy after they reappeared.

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ESSAY REVIEW

Psychic Phenomena and the Brain Hemispheres: Some Nineteenth-Century Publications

The Night-Side of Nature: Or, Ghosts and Ghost Seers (Volume 1) by C. Crowe, London: T. C. Newby [1848].

Modern Necromancy in *North American Review*, *80*:512–527 [1855].

Automatic Writing—II by F. W. H. Myers, *Proceedings of the Society for Psychical Research, 3*:1–63 [1885].

Duality of the Brain: A Theory of Mind-Reading and Slate-Writing by R. C. Word, *Southern Medical Record, 18*:81–89 [1888].

The Double Personality, and the Relation of the Submerged Personality to the Phenomena of Modern Spiritualism by A. N. Somers, *Psychical Review, 1*:314–323 [1893].

Psychology and Spiritism by C. Lombroso. *Annals of Psychical Science, 7*:376–380 [1908].

Writing in 1839, physician Henry Holland stated: "I am not sure that this subject of the relation of the two hemispheres of the brain, has yet been followed into all the consequences which more or less directly result from it" (Holland 1839:151). One of these "consequences" is the work about ESP and brain hemispheric functioning which started mainly in the 1970s (e.g., Braud & Braud 1975, Broughton 1976, Maher & Schmeidler 1977; on these and other studies see Williams 2012). The authors of reviews on the subject (Broughton 1975, Williams 2012) mentioned the speculations of Frederic W. H. Myers (1885a) about automatic writing, telepathy, and the hemispheres, but they presented few details, and did little with other early contributions, which is the point of this Essay Review (see also Harrington 1987). I will summarize here ideas about the relationship between psychic phenomena and the brain's hemispheres published between the mid-Nineteenth Century and the first decade of the 1900s. These early ideas present examples of how neurological concepts filtered into beliefs and theoretical work about various psychic phenomena.

The Background for Ideas about Psychic Phenomena and the Brain's Hemispheres

Physiological ideas regarding the mind, and various psychological experiences, flourished during the Nineteenth Century as a consequence of the growth of the biological and medical sciences.[1] The field of neurology was particularly important, as it passed through a revolutionary stage during this period, in which various methodological, clinical, and theoretical developments changed the field (Brazier 1961, Spillane 1981, Young 1970). These developments, including electrophysiology and localization of brain functions, led to the discussion of the immediate historical and theoretical context of the ideas about psychic phenomena and the hemispheres comprising them.

The rapid development of neurology in the Nineteenth Century led to an interest in physiological explanations for psychic phenomena and related psychological anomalies such as mediumistic and hypnotic trance, and hysterical dissociation (e.g., Beard 1877, Haddock 1851, Prince 1898). For example, Azam (1887) argued that the well-known double personality case of Félida X. could be explained through peculiarities of the circulation of blood in her brain. Among the hypotheses presented to explain reports of alleged psychic phenomena, particularly those reported to occur in the presence of mediums, one group of physicians offered a variety of neurologically and psychophysiologically based notions. Some of them were hallucinations, suggestion, unconscious reflexes or movements, and perceptual and memory errors (e.g., Beard 1879, Carpenter 1874, Hammond 1870).

Another group, who felt that the reports provided evidence for the occurrence of genuine psychic phenomena, proposed that such phenomena manifested themselves by the action of some "force" acting through the brain, and through other parts of the nervous system, to produce external effects.[2] Although such concepts of force come from antiquity (Amadou 1953), they were particularly influential in the Western world through the movement of mesmerism and its concept of animal magnetism. This force was considered by many during the Eighteenth and Nineteenth Centuries to be intimately related to the vitality of the body and to be the agent behind the mesmeric trance, healings, and many other phenomena reported by the mesmerists (Gauld 1992). One such explanation of physical phenomena was the speculation of John B. Dods (1795–1872), lecturer on Spiritualism and defender of the system of "electrical psychology," that "electro-nervous" or "electro-magnetic" forces existed that were related to the "*involuntary powers* in the back of the brain. . . ." (Dods 1854:33). Dods emphasized that the brain was double, having a "front brain"—the cerebrum—in charge

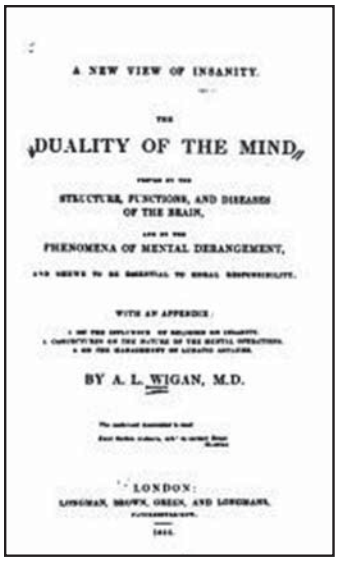
of "voluntary" powers (e.g., volition, reason, understanding), and a "back brain"—the cerebellum—related to "involuntary" powers (e.g., control of body functions, instincts) (Dods 1854:56–57). The authors of other books published around the same time also argued that these biological forces coming out of the human body could explain phenomena such as movements of objects, raps, and many of the phenomena of Spiritualism (Rogers 1853, Samson 1860). In addition, other writers speculated on the role of the brain in the emission and reception of energies responsible for thought-transference (e.g., Houston 1892).

Interest in the brain and in the functions of the hemispheres also flourished during these times. Although some researchers defended a unitary or an equipotential view of the functions of the cerebral cortex (Flourens 1824:236–241), the emphasis on localization began to be more widely accepted with the development of clinical and experimental neurology (Young 1970).

Particularly important for the support of the localization model were later clinical observations of cases of aphasia induced by brain lesion or disease (Broca 1861/1960, Dax 1865, Jackson 1878–1879)[3] and experimental studies with animals (Fritsch & Hitzig 1870/1960) regarding the importance of the cortex in motor activity and electrical excitability of the hemispheres. Paul Broca's (1824–1880) work with aphasic patients in the 1860s led him to suggest that speech was regulated by the left hemisphere (Broca 1861/1960).[4]

In general, a variety of ideas and controversies flourished during the period and reflected both the difficulties clinicians experienced in making sense of some of their observations, as well as the paucity of research. Nonetheless, these and further developments during the Nineteenth Century and the first two decades of the Twentieth Century led to the acceptance of the concept of left hemispheric dominance and the right hemisphere as the minor one (Benton 1972, 1976, Harrington 1987:Chapter 3).[5]

However, and regardless of dominance, the concept of duality of the brain was a popular subject for discussion during the Nineteenth Century (e.g., Brown-Sequard 1874, Holland 1839:151–167, Maudsley 1889, Wigan 1844). Some physicians argued against the trend that the right hemisphere had no important function and suggested that this hemisphere was involved in a "geographical" vision center (Dunn 1895), mirror writing (Ireland 1881, Mills 1894), "automatic speech" (Jackson 1868/1915), and control of writing movements (Lichtheim 1885). Others speculated on the possibility of discordant action of both hemispheres to explain some psychopathological syndromes (Ireland 1891, Luys 1888), particularly so-called cases of double personality (Holland 1839:162–163, Wigan 1844:391–398). Arthur


A NEW VIEW OF INSANITY.

THE

DUALITY OF THE MIND,

STRUCTURE, FUNCTIONS, AND DISEASES OF THE BRAIN,

PHENOMENA OF MENTAL DERANGEMENT,

WITH AN APPENDIX

BY A. L. WIGAN, M.D.

LONDON:

Wigan's 1884 *Duality of the Mind*

Ladbroke Wigan (d. 1847), an influential writer in this line of thought, also tried to explain déjà vu, autoscopy, somnambulism, and sleep and dreaming using the concept of discordant or alternate function of the two hemispheres (Wigan 1844:84–87, 126–127, 370, 372–375). In addition, there was a hemi-hypnosis movement that assumed that each brain hemisphere could be hypnotized separately and cause different phenomena in opposite sides of the body (for a review, see Harrington 1987:185–205).

A New View of Insanity

Regardless of all this interest in the double brain, the idea of different hemispheric functions does not seem to have been generally accepted at the time. This may be appreciated in criticisms of Wigan's book (Anonymous 1845), and in the comments of supporters of the idea (Lyon 1895:107–108, Wilks 1872:162).

Regardless of the acceptance of such ideas, the application of many of them reflected more than the progress obtained in the discipline of neurology. They represented attempts to naturalize the unusual and the paranormal, a trend discussed in other contexts (e.g., Alvarado & Zingrone 2012, Gonçalves & Ortega 2013). Harrington has argued that some of the Nineteenth Century interest in the double brain was a strategy to naturalize the occult:

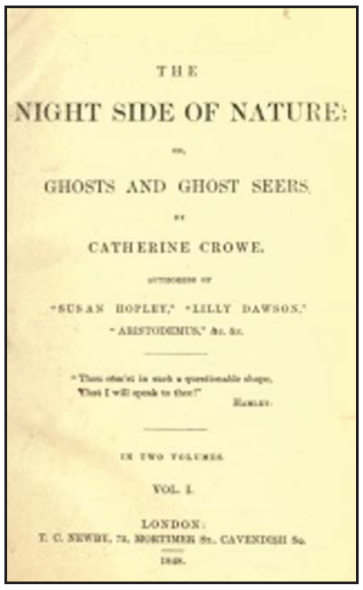
> There was no denying that both the medium and the madman gave evidence of possessing "two minds". . . . Nevertheless, said the medical men, these phenomena all had their source in the lawful workings of the nervous system and were fully explicable in naturalistic terms. (Harrington 1987:110)

However, and as Harrington (1987:153) has also discussed, these attempts to naturalize the phenomena of dissociation and of Spiritualism did not consist only of a single reduction to brain activity. In addition to these arguments, a variety of neurological speculations, and the double brain in particular, was implied in what was considered true paranormal functioning (e.g., Beard 1877). In the rest of this review, I will discuss the latter through examples of speculations of the functioning of the brain's hemispheres.

Speculations on Psychic Phenomena and the Brain's Hemispheres

Catherine Crowe's Ideas in The Night Side of Nature

Catherine Crowe (1790–1876), a well-known British novelist in Victorian times (Stephen & Lee 1950:257), published a two-volume work called *The Night Side of Nature* in 1848 (Crowe 1848). Described as "one of the best collections of supernatural stories in our language," the book was also criticized for "being exceedingly credulous and uncritical" (Stephen & Lee 1950:257). Its chapters dealt with spontaneous experiences such as psychic dreams, apparitions of the living and of the dead, hauntings, and poltergeists. The book was influenced by the publications of German writers on occult and psychic topics, although the opinions of persons from other countries, particularly England, were also included.


THE

NIGHT SIDE OF NATURE;

OR,

GHOSTS AND GHOST SEERS.

BY

CATHERINE CROWE.

AUTHORESS OF

"SUSAN HOPLEY," "LILLY DAWSON,"

"ARISTODEMUS," &c. &c.

"Then saw'st in such a questionable shape,
That I will speak to thee!" HAMLET.

IN TWO VOLUMES.

VOL. I.

LONDON:

T. C. NEWBY, 72, MORTIMER St., CAVENDISH Sq.

1848.

Crowe's 1848 *The Night Side of Nature*

In her book, Crowe showed that she was aware of Wigan's ideas on the duality of the brain and mentioned them to explain "double or alternate consciousness" and déjà vu involving the cerebral hemispheres. Crowe was not convinced by Wigan's speculations about déjà vu and pointed out that presentiments of future things were particularly difficult to explain in this way (Crowe 1848:Vol. 1:98–99).[6]

Although ideas on the polarity of animal magnetism can be found in the writings of Franz Anton Mesmer (1734–1815) (Mesmer 1779:76) and others in the middle 1800s (Dods 1854:54–55, 62–63, 148–14, Reichenbach 1849/1851:179–219), Crowe seemed to have been influenced mainly by the ideas of German writers regarding changes in the polarity of the organism during altered states of consciousness and illnesses (Crowe 1848:Vol. 1:45–49).[7] Sleep and sickness, for example, were conceptualized as a change from a positive to a negative polarity in the human organism. As Crowe (1848:Vol. 1:97) wrote to relate these ideas to the hemispheres as explanations for clairvoyance,

> the senses, being placed in a negative and passive state, the universal change of the immortal spirit within . . . becomes more or less free to work

> unclogged. That the soul is a mirror in which the spirit sees all things reflected, is a modification of this theory. . . . Another view . . . , as maintained by Dr. Wigan and some other physiologists that our brains are double, it is possible that a polarity may exist between the two sides, by means of which the negative side may, under certain circumstances, become a mirror to the positive. (Crowe 1848:Vol. 1:98)

Crowe pointed out that this idea involving the brain seemed difficult to reconcile with the observation that the psychic impressions "occur most frequently when the brain is asleep" (Crowe 1848:Vol. 1:98), though she was aware of the uncertainty of knowing "how far the sleep is perfect" (Crowe 1848:Vol. 1:98).

Crowe further wrote: "The theory of one-half of the brain in a negative state, serving as a mirror to the other half, if admitted at all, may answer as well, or better, for those waking presentiments, than for clear-seeing in dreams" (Crowe 1848:Vol. 1:108–109). However, Crowe preferred a more spiritual theory in which, under certain conditions, "the spirit may perceive, by its own inherent quality, without the aid of its material vehicle. . . ." (Crowe 1848: Vol. 1:109).

Anonymous Writer in the North American Review

Writing in the *North American Review* in 1855, an anonymous author tried to relate mediumistic phenomena to the cerebral hemispheres (Anonymous 1855).[8] From the beginning of the paper it is made clear that the author believes that "the least tenable hypothesis of all is that which attributes the phenomena under discussion to the agency of departed spirits" (Anonymous 1855:513). It is said later in the paper that there is evidence

> which favors the belief that [mediumistic communications] have their origin in some peculiar mode of the medium's own consciousness, enlarged and modified indeed, in some instances, by the consciousness of members of the surrounding circle. (Anonymous 1855:515)

Such an idea was consistent with other Nineteenth Century attempts to counter spiritualistic explanations of psychic phenomena using the concept of psychic abilities of the living, in this case the projection of a biological or nervous force from the body of the medium (Dods 1854, Rogers 1853, Samson 1860).

The brain was mentioned when the author suggested ideas to explain mediumistic phenomena. The concept of "duplication" of the organs of the body was stressed. "The right and the left half of the body are in more respects counterparts than complements of each other. . . . The brain, too,

is double throughout. . . ." (Anonymous 1855:517). Each hemisphere was seen as capable of acting independently of the other in situations of cerebral disease. The concept was used to explain cases of "double consciousness," particularly that of Mary Reynolds (1785–1854), a well-known early case of multiple personality (Plumer 1860).

The author considered electro-magnetism as the vital element in the human organism. This led him to explain double consciousness as "the consequence of some peculiar condition of animal electricity or sensitiveness to electro-magnetic influences. . . ." (Anonymous 1855:521), a topic consistent with ideas about electricity in the mesmeric and spiritualistic literatures (Alvarado 2008). It was further said that:

> The vertebrae are, as it were, the successive plates of a galvanic battery, of which the skull is the apex, while the spine, culminating in the brain, constitutes, like the acid in the artificial battery, a continuous and cumulative creator and channel of the electromagnetic force. Of this force the nerves of sensation and of voluntary motion are the conductors. . . . The living battery, as ordinarily charged, may suffice to keep but one hemisphere of the brain in action, while an excessive charge may keep both hemispheres in simultaneous action.
>
> This theory may account for the rappings, phosphoric lights, table tippings, and other physical phenomena, reported in connection with the pretended spiritual intercourse. (Anonymous 1855:521)

While the author implies that the accumulation of an overcharge of the nervous system inducing simultaneous action of both hemispheres is an important aspect of the explanation, no clarifying details are offered. Another postulate considered the possibility that the medium used environmental energy to produce the effects, and that veridical mediumistic communications in the presence of persons present who knew the correct answer could be explained by "electro-magnetic communication . . . between the intensely stimulated brain of the medium and the brains of those composing the circle" (Anonymous 1855:522).

Frederic W. H. Myers on Automatic Writing, Thought-Transference, and Other Phenomena

Frederic W. H. Myers (1843–1901), a pioneer in psychology and psychical research, and a founding member of the London-based Society for Psychical Research (SPR), published in the 1880s interesting discussions on the nature of automatic writing and its possible ESP components (Myers 1884, 1885a, 1885b, 1887a, 1889).[9] The idea of unconscious muscular movements to explain phenomena such as table turning and automatic writing was

SOCIETY FOR PSYCHICAL RESEARCH.

PROCEEDINGS OF THE GENERAL MEETING ON

The twelfth General Meeting of the Society was held at the Rooms of the Society of British Artists, Suffolk-street, Pall Mall, on Friday, January 30.

PROFESSOR HENRY SIDGWICK, PRESIDENT, IN THE CHAIR.

The first half of a paper by Mrs. Sidgwick, on "The Evidence, collected by the Society, for Phantasms of the Dead," was read. The paper, in its complete form, is printed further on.

I.

AUTOMATIC WRITING.—II.*

BY F. W. H. MYERS.

PART II.

In a previous paper I discussed certain forms of automatic writing which seem referable to the operation of unconscious cerebral action. I endeavoured to show that in cases where the message written fails to convey any facts which demonstrably are not known to the writer, and never have been known to him, there is no need to assume that any intelligence but his own has been concerned in the message. I maintained that this was the case even where the message took the form of an anagram, which the writer had some trouble in deciphering.†

* This paper is a continuation of my paper "On a Telepathic Explanation of certain so-called Spiritualistic Phenomena," in *Proceedings* VII. But as that title was cumbrous, I have now called these papers by the name of the phenomenon with which they mainly deal.

† To the anagrams cited in the "Clelia" case in my previous paper, two others should be added, which Mr. A. obtained at about the same time. These were [illegible]. This last was an answer to the question, "How shall I believe?" and seems quite to negative the hypothesis that the anagrams were mere chance combinations of letters, which happened to be susceptible of arrangement in sentences. It should be mentioned, however, that there was an [illegible] in one of the anagrams previously cited.

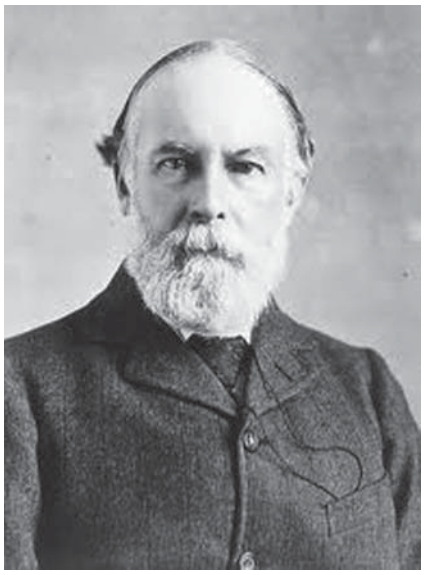
Myers' main article about the brain hemispheres

developed before Myers presented his ideas on the topic (e.g., Carpenter 1874:279–315, Chevreul 1833, Faraday 1853), but Myers further developed these ideas and incorporated various other concepts such as ESP information as well as psychological and physiological factors. "Unconscious cerebration" and telepathy were proposed by Myers to account for most of the cases he discussed in his papers;[10] he also argued that a secondary consciousness handled the telepathically acquired information in automatisms, and that automatic writing was only one example of several motor and sensory automatisms (e.g., vocal, visual, or auditory). For purposes of this review, I am primarily interested in Myers' speculations on the cerebral hemispheres and the above-mentioned phenomena.

Myers was influenced in his speculations on the brain's hemispheres by two main factors. First, by Nineteenth Century publications on aphasia and related problems (e.g., Bernard 1885, Charcot 1884, Ogle 1867, Pitres 1884). Second, by speculations by the Reverend P. H. Newnham regarding the role of the right hemisphere in explaining mediumistic communications of low moral character obtained through Newnham's wife's mediumship in 1871. Newnham, Vicar of Maker (Devenport, England), and an early SPR member, recorded in a diary in 1871 his observations of planchette-writing with his wife as medium. Myers (1885a:8–23) published extracts of Newnham's diary (but he seems to have been unaware of the previous ideas discussed here and of E. W. Cox's [1809–1879] brief reference to "unconscious activity of one of the brains" in relation to planchette writing [The Psychological Society of Great Britain 1876:196–197]). Newnham's reference to low moral aspects of the communications referred to lies in the automatic script. In his opinion, such communications perhaps could be explained by postulating the action of the right hemisphere. Because of lack of education, the right hemisphere was considered by Newnham to show the same tendency for lying that children show in an early stage of their education process (Myers 1885a:22). This idea that the right hemisphere was the untrained and uneducated one was common in the Nineteenth Century and by no means unique to Newnham nor to Myers (e.g., Brown-Sequard 1874:333, Ogle 1867:89, 121–122, Wilks 1872:157).

Myers created his own terminology to refer to the operation of the two

hemispheres. His terms indicated the use of both hemispheres (ambi-cerebral), the right (dextro-cerebral) and left hemispheres (sinistro-cerebral), as well as one hemisphere (hemi-cerebral) (Myers 1885a:42).



Frederic W. H. Myers

He considered the similarities between "supernormal" automatic writing and the "writing performed by patients who have . . . only the partially untrained half of the brain to rely on,—those centres which habitually initiate the graphic energy having been destroyed or rendered temporarily useless by accident or disease" (Myers 1885a:34). This is what many clinicians called *agraphia*, but which Myers preferred to call *agraphy*. In making this comparison, Myers pointed out that in both conditions the subject was occasionally unable to write and that sometimes repetition of letters or senseless words appeared. Transposition of letters and mirror writing were also considered as pointers to right-hemispheric action in writing problems (Myers 1885a:33–34).[11] A comparison was made between left-handed children's writing mistakes and mistakes in automatic writing scripts, finding similar problems in both. An attempt was also made to relate swearing and low moral communications in automatic writing and planchette scripts to the "swearing of the aphasic patient" (Myers 1885a:45). All this led Myers to conclude that:

> The inco-ordination of agraphy and the inco-ordination of rudimentary graphic automatism . . . arise from the same cause; from the employment in the act of writing of untrained centres in the right hemisphere of the brain. . . . (Myers 1885a:38–39)

In later publications, Myers (1885c, 1886a, 1886b) returned to the topic and suggested that the right hemisphere had in its "inferior evolution, traces of that savage ancestry which forms the sombre background of the refinements and felicities of civilised man" (Myers 1886a:228). Myers (1885a:31–33) discussed evolutionary concepts as related to telepathy and

automatic writing, and was clearly influenced by John Hughlings Jackson's (1835–1911) ideas on the evolution and dissolution of the nervous system (Myers 1885a:24, 45).[12] In some of his publications, Jackson (1878–1879, 1884) discussed swearing and interjectional expressions in aphasics as emotional and rudimentary processes related to Thomas Laycock's (1812–1876) concept of reflex action, and affirmed that the right hemisphere was related to the automatic and involuntary use of words.

Myers wrote further to clarify these ideas and to relate them to thought-transference:

> I hold that in graphic automatism the action of the right hemisphere is predominant, because the secondary self can appropriate its energies more readily than those of the left hemisphere, which is more immediately at the service of the waking mind. . . . Nevertheless, I hold that it uses the *right* hand habitually, being unable to overcome the incompetence of the *left*. But in its right-handed writing I should expect traces of dextro-cerebral influence occasionally to occur; and this I maintain that I have shown to be the case, first in the *reversed words* and secondly in the *mirror*-writing, which graphic automatism so frequently shows . . .
>
> And here I must remind the reader that *occasional* indications are all that we can expect to find in tracing the "seat of election" of supernormal cerebral automatism. The lines will not be as sharply drawn as they sometimes are in cases of traumatic injury, or of congenital defect. For beside the alternated action of specialised centres, which I am here suggesting, other and profounder departures from normality are likely to be involved, and *their* results may be such as to leave no more than a mere hint discernible of such comparatively minor change as the replacement of some sinistro-cerebral by some dextro-cerebral centre of sight or speech.
>
> Such a hint . . . I believe that we have got in experimental thought-transference, as well as in graphic automatism. The reader may remember that in [previous publications] we detailed some experiments in which the image of an arrow and other figures, were telepathically seen by Mr. Smith sometimes in an *inverted*, but more often in a laterally-inverted or *perverted* position. . . . . (Myers 1885a:43–44)[13]

Myers also presented an example of reversal of thought-transference impressions observed in 1884. The subject saw

> letters appear in her field of mental vision in *reverse order* . . . . I placed the word NET behind her, and looked fixedly at the letters. She said that she saw successively the letters T, E, N. I next chose SEA, and she saw A, E, S. . . . (Myers 1885a:44)

Later in the paper, Myers (1885a:50–60) related automatic writing to

the ideas of Jean-Martin Charcot (1825–1893) on "word seeing" and "word writing" centers in his scheme of speech and writing (discussed by Bateman 1890:39–41, see also Charcot 1884 and Gasser 1995) proposing that the "seat of election" of the secondary self that controlled automatic writing was in the right hemisphere and used the sensory and motor centers of that hemisphere in expressing itself. Myers basically extended this idea to include telepathically acquired information.

In later writings, Myers (1886a:651–652, 1886b:227, 1887b:499–500) related the right hemisphere to multiple personality, and to genius (Myers 1892:355–356). Particularly interesting were Myers' later speculations on spirit communication and the right hemisphere:

> I think it is possible that our left hemisphere, having been more constantly used than our right hemispheres, may be more crowded and blocked (so to say) with our own already fixed ideas. An external intelligence wishing to use my brain, might find it convenient to leave alone those more educated but also more preoccupied tracts, and to use the less elaborated, but less engrossed, mechanisms of my right hemisphere. (Myers 1899:386)[14]

R. C. Word on Mind-Reading and Slate-Writing

R. C. Word (died 1890), professor of physiology at Southern Medical College (Atlanta, Georgia) and Managing Editor of the monthly journal *Southern Medical Record*, published in that journal his ideas on the relationship of the brain's hemispheres to mind-reading and slate-writing (Word 1888). Word accepted both mind-reading and slate-writing as real phenomena. Although he stated that he was aware of the problem of fraud in slate-writing, he went on to defend the reality of the phenomena on the basis of his personal experiences with mediums (Word 1888:88). However, Word was ambiguous about what he meant by slate-writing. In some parts of the paper it seems that he referred to automatic writing rather than to the concept of "direct writing" (Word 1888:87, 88), in which letters or traces are supposed to appear on a surface without the use of the medium's or any person's limbs.

Like previously mentioned writers, Word related the concept of the double brain to double personality cases. He also related what we now call panoramic memory to the "doubly-aroused and excited brain" (Word 1888:86).

Word wrote that although "the two brains ordinarily act as a unit, they may, and sometimes do, act separately, and this possibly in cases wherein no disease exists in either hemisphere as a cause for non-action" (Word 1888:85). He then suggested "that under certain peculiar circumstances one

side of the brain may converse with the other side" (Word 1888:85). This was offered as a hypothesis to explain the above-mentioned phenomena, as will be seen in the discussion that follows.

Word stated that the mesmerized person "is in a passive or receptive condition, which I will term electro-negative" (Word 1888:86). In this condition the person is under the influence of the mesmerizer. "He is wholly passive, and his brain and entire nervous system receives its impressions from the mesmerizer" (Word 1888:86). Word considered the mind-reader a highly developed "electro-negative subject" who became so sensitive as to be able to obtain information from other person's minds. These, and other phenomena, were ultimately explained through the action of a nervous electrical force presumably generated by the medium's nervous system. The ideas were extended to the concept of different electrical charges on each half of the brain in special circumstances. A "reversal or shutting off of the usual or normal electric or nerve currents passing between the two hemispheres" (Word 1888:87) deprived the brain of its normal work. As Word further wrote:

> In this condition the electro-positive side may ask questions which may be automatically answered by the electro-negative side. Herein we find an explanation of what is called slate-writing. . . .
>
> Under these circumstances any incident or memory which is latent in the brain is liable to be revived and to be automatically and unconsciously reproduced by the medium, and when thus presented comes with all the force of conviction of a communication from a third or an outside party.
>
> Thus the slate-writer gets messages from his or her own brain, or if brought into *rapport* with another party may get mental impressions from him also. (Word 1888:87)

Word later said in the same paper that an electro-negative subject could get mental impressions by rapport with persons in a circle. As he wrote to relate this concept to the brain's hemispheres:

> For this, it would seem to be sufficient that only one side of the brain be in the passive or electro-negative state, in which case the thoughts of the medium, as well as the thoughts of any member of the circle, are liable to be automatically written.
>
> It is possible with some mediums that both sides of the brain may become electro-negative, in which case they pass into a hypnotic or trance condition, which is no other than the mesmeric state. (Word 1888:88)

A. N. Somers, Mediumship, and the "Submerged Personality"


BY A. N. SOMERS.

An extensive study of the phenomena of spiritualism, some years ago, led me to certain conclusions then new, and not hitherto published, as to the causes to which they should be credited. In the space of a single article it will not be possible to discuss, in even the briefest manner, all that is important to the theory I shall set forth. This, then, must be my excuse for a manner of statement that may seem quite dogmatic. I would that I could avoid it, but with limited space I cannot see how to do so.

As all knowledge is relative, and a perfect definition for all time is an impossibility, we must dismiss the metaphysical "*absolute*" at the outset in psychical investigations. In the "New Psychology" I accept as well settled the following propositions as the basis of all true psychological investigation: —

1. Sensation is the basis of consciousness; and as sensation occurs in two forms, general and special, it follows that consciousness is both general and special.

2. Consciousness belongs to all material bodies possessing sensibility.[1]

3. All sensations have an objective significance and originate from contact with the objective world. Thought, or reflection, proceeds on a basis of sensible experiences with the extrinsic world. Man is unable to think unless he have a stimulus (in sensations) from the objective world. He may separate or combine the elements of those experiences *ad infinitum*. The so-called "spiritual" (subjective) world is derived from a combination of

Title page of Somers' 1893 article

Another discussion of the topic comes from an article written by A. N. Somers (1893) in the American journal *Psychical Review*. Somers recognized from the beginning that human beings' neural systems were binary, or double, regarding its structure and their functions. Under abnormal physiological or psychological causes, the doubling of personality could take place.

Both brain hemispheres, Somers maintained, are connected by crossing fibers that kept them functioning together. This pattern of joint function was influenced by hereditary factors and by early training. But "if deranged the activity may be double or alternating in acts of double personality (or mediumship)" (Somers 1893:316). These factors capable of changing the system thus included "disease, fatigue, or psychical inactivity of the dominant cerebral hemisphere" (Somers 1893:317); that is, the left hemisphere.

The author saw trance as one of the conditions helping human beings gain access to their submerged personality. This, and other states, also helped a person to contact aspects of the opposite sex that were hidden in every person, thus explaining sexual perversions. This was because the cerebral centers involved in these processes could become more active than the usual dominant ones. In Somers' view:

> Previous to these changes the only outlet for the cerebral contents of the submerged personality was in dreams, visions, or illusions, and occasional instances of equal activity with its double under intense excitement. . . . The various processes used in the 'development of mediumship' are sure to transfer this privilege from the ascendant to the submerged personality. (Somers 1893:319)

Following the prevalent tradition during the Nineteenth Century (Harrington 1987), Somers considered the left hemisphere to be the dominant one. This was because he believed this hemisphere was formed early on around the same time as sex differentiation was taking place. If it were not for some influences from the maternal system (from the mother's side), everyone would be male and the right hemisphere would

be atrophied. In Somers opinion: "Femaleness is a conservative check on that tendency. . . . Left-handedness, double personality, and mediumship could never exist but for this check" (Somers 1893:321).

Somers also made some interesting observations about temperature changes and pulse rates:

> I have found the right cerebral hemisphere of a right-handed medium rise in temperature one and a half degrees while in trance, and *vice versa* with a left-handed medium. In both instances the temperature of the quiescent hemisphere fell a degree during the trance, due to increased circulation in the hemisphere that took on greater activity when its opposite became hypnotic. I have gained the same results by hypnotism repeatedly. (Somers 1893:322)[15]

Somers also observed a diminution of pulse and respiration rate presumably related to a switch from the ordinary active hemisphere to the opposite one. Under these circumstances the submerged personality comes forward and can be shaped through suggestion. The medium, then, can impart information that is not in his or her consciousness nor in recollections.

Cesare Lombroso on Observations of Handedness with Mediums

Cesare Lombroso (1836–1909), a well-known Italian psychiatrist and criminologist, was interested in the topic of handedness.[16] His ideas should be considered in the context of his concepts on criminology, in which criminals were seen as examples of physical degeneration and atavism (Lombroso 1884b). According to Lombroso, "motor and sensory lefthandedness" was one of the aspects in which criminals were similar to creatures "beyond our own race" (Lombroso 1911:368). As he further wrote,

> criminals are more left-handed than honest men, and lunatics are more sensitively left-sided than either of the two. That fact indicates that in criminals and lunatics the right lobe predominates very much more than in normal persons. While the healthy man thinks and feels with the left lobe, the abnormal thinks, wills, and feels more with the right. . . . (Lombroso 1903:443)[17]

In the same paper, Lombroso speculated on the discordant action of "the two lobes of the brain" to explain double personality, and discussed mirror writing along similar lines (Lombroso 1903:442, 443). In an earlier paper, Lombroso (1892) argued that writing mediums are in

> a state of half somnambulism where, thanks to the preponderant action of the right hemisphere due to the inactivity of the left hemisphere, [the

> medium] does not have consciousness of the fact and believes he writes under the dictation of someone else. (Lombroso 1892:148)

Cesare Lombroso

Lombroso was also interested in right–left hand differences regarding mediumistic phenomena. As he wrote,

> almost all of the spiritistic phenomena of the medium have their origin on the left side . . .[18] or are perceived on the left side even when they come from the right, and that sinistrality is temporarily transmitted also to the controllers of the medium. . . . Hence it follows that in the trance the work of the right hemisphere of the brain prevails, the one least adapted to psychical work and which participates least in the activity of consciousness. (Lombroso 1909:182)

Of particular interest here is the mention of the transfer of left-handedness, which is a reference to observations by psychiatrist Enrico Morselli (1852–1929) published about medium Eusapia Palladino (1854–1918) using hand dynamometers (Morselli 1908).[19] A discussion of this requires a brief digression.

In the past, hand dynamometers have been used for neuropsychiatric examinations (e.g., Charcot 1883–1884:285, Morselli 1884) and as a test of hand preference (Parsons 1924:72). A number of studies using this instrument to measure the level of hand-grip strength were done with Palladino and her sitters on the assumption that the measurements reflected expenditure of "psychic forces" in the production of physical phenomena (Lodge 1894:326–327, Morselli 1908: Vol. 1:315–319, 351–352). "Dynamometer readings," wrote physicist and psychical researcher Oliver J. Lodge (1851–1940), "were taken before and after each seance, in order to ascertain, if possible, the source of the energy. . . ." (Lodge 1894:331). Morselli reported losses in group grip strength measures after seances, measured in kilograms, but emphasized differences in energy losses between the right and the left hands. On one occasion (N = 11, including the medium), the right hand had a loss of 46 Kg, while the left hand had a loss of 66 Kg (Morselli 1908:Vol. 1:317). In a later experiment, the right hand had a loss of 40.5 Kg and the left 99 Kg (N = 12, including the medium) (Morselli 1908:Vol. 1:352).

A particularly interesting observation was recorded in a séance held in

THE ANNALS OF PSYCHICAL SCIENCE

PSYCHOLOGY AND SPIRITISM

By Prof. Cesar Lombroso.

As the author himself sincerely declares, this vigorous new book by Morselli is not a systematic treatise, still less a scientific monograph: it is a sort of excursion, at once literary and philosophic, a sort of "Yorick's Sentimental Journey" among the séances with Eusapia, with a few snatches from the most modern research into spiritism.

But even the most serious reader will not lose anything by this: he will gain instruction all the more pleasantly through the sometimes sharp and even cruel scepticism which accompanies the observations of the more singular phenomena; and will recognise the author's impartiality, which sometimes causes him to go further than is necessary in order to assure his reader that he is not infected with spiritistic heresy, but never goes so far as to deny the phenomena which he has witnessed, though tempted to twist them according to his own ideas.

Yet, Morselli commits the same fault as Flammarion with Miss Smith, of torturing his own strong ingenuity to find not true and not credible the things which he himself declares that he saw, and which really occurred. For instance, during the first few days after the apparition of his own mother he admitted to me that he had seen her and had quite a conversation in gestures with her, in which she pointed almost with bitterness to his spectacles and his partially bald head, and made him remember how long ago she had left him a fine, bold young man; also that when he asked her for a proof of identity she touched his forehead with her hand, indicating a wart, but did so first on the right side and then on the left, where it really was. Now, Morselli says that this is a proof that it was not his mother, because she must have known at once where to find the excrescence, and would not have made a mistake in his name, of which she gave only the initials; he does not seem to know, he who is so learned in the matter, that the spirits "talk nigger-talk," as Hodgson said, and that these are such mistakes as are noticed with all returning spirits, who are awkward in using the instrumentality of the medium, and in the uncertainty of communicating for the first time always make errors like these. He also attaches some importance to the fact that she appeared very full-breasted; he forgets that the phantoms take their words and gestures and body from the medium, a fact which would also have explained to him the vulgar gesture of biting persons dear to them, which is common to the other phantoms

Title page of Lombroso's 1908 article Psychology and Spiritism

1901. According to Morselli, Palladino, usually left-handed, became right-handed after the séance. However, this does not refer to the medium's use of her right hand, but to the fact that she gained 6 Kg in the right hand and lost 2.5 Kg in the left hand after the séance (Morselli 1908:Vol. 1:351–352).[20] Morselli found especially interesting the fact that his own "dynamometric type" was changed from right (his normal) to left. His readings showed a loss of 16 Kg in the right hand, while the left hand had a gain of 7 Kg after the séance. He noticed that before a materialization was observed in the séance, he had his left hand on the medium's head. Morselli speculated that a force emanating from the medium during the production of the materialization "came into my nervous centers . . . , passed partially into my arm, and rendered me left-handed" (Morselli 1908:Vol. 1:352, my translation).

Morselli did not speculate on the hemispheres, but Lombroso (1908:378) related the incident to the action of the right hemisphere. Lombroso considered Morselli's observations a confirmation of "Audenino's hypothesis of transitory left-handedness in the abnormal state" (Lombroso 1908:378). This was a reference to Audenino's (1908) concepts postulating that temporary left-handedness could occur in abnormal states (e.g., epilepsy, intoxication, madness, somnambulism, trance) because they provided access to primitive and atavistic tendencies normally diminished by education.

Lombroso also had something to say regarding automatic writing mediums. In his opinion, the idea

> that only one hemisphere of the brain acts, preferably the right, while the left remains inert, thus explaining the unconsciousness of the right lobe,—an explication based on the extemporized left-handedness of many of the mediums. . . . , (Lombroso 1909:158)[21]

although considered of help to explain automatisms, may have some difficulties in explaining cases in which more than one spirit communicator manifested at the same time.

Discussion

The ideas discussed here may be considered an interesting but forgotten chapter of the history of hemispheric functions and attempts to explain or find physiological correlates of psychic phenomena. They were certainly influenced by the Nineteenth Century interest in finding specific cerebral localizations of diverse functions, and particularly by concepts and discussions on the duality of the brain (Harrington 1987). In fact, the concepts of duality were discussed in the medical literature before and during the period covered in the present paper. While these ideas may be interpreted as part of the trend of Nineteenth Century science to conceptualize the phenomena of consciousness in natural terms, it was also an example of how spiritualists and psychical researchers appropriated neurological concepts as part of the workings of the supernormal.

There are some interesting differences in the concepts presented and the approaches taken by the writers discussed above. The concepts of unorthodox forces were emphasized or implied by Crowe, the writer in the *North American Review,* and by Word, but not by Myers, Somers, and Lombroso. The latter writer discussed concepts of psychic forces in relation to the Palladino mediumship, but not in terms of the brain and its hemispheres (Lombroso 1892, 1909). Also, only three writers emphasized the importance or function of the right hemisphere (Myers, Somers, and Lombroso), although they considered it to be the primitive one. Likewise, only three presented their ideas with some attention to neurological aspects (Myers, the writer in the *North American Review*, and Somers), and two with ideas about polarity of energy in the nervous system (Crowe and Word).

Of the examples discussed here, Myers is of special interest in that he attempted to put his speculations into the context of knowledge of aphasia and agraphia in the 1880s.[22] As far as I know, he was the first person to point out that some of the mistakes in ESP reception may be indicative of right hemispheric function, a view considered by some modern writers (e.g., Ehrenwald 1975:394–396).[23]

While some of Myers contemporaries were aware of his ideas regarding automatic writing and the brain hemispheres (e.g., James 1889:555, 1890:Vol. 1:400, Janet 1889:415–419), later commentators have not mentioned such ideas, as seen in texts about automatic writing (e.g., Honegger 1980, Muhl 1930, Stevenson 1978). This suggests that his articles discussing the subject had little impact or influence after publication.

In fact, the five authors discussed in this Essay Review seem to have had little or no impact on psychical research at the time they proposed their ideas. (In addition, the authors themselves do not quote the publications

of their predecessors.) We may speculate on some reasons for this: (1) the publications were scattered over a long period of time with occasional long intervals between them; (2) there was a general emphasis on the importance of the left hemisphere over the right during the period in question; and (3) the reports usually had a low circulation or were published in obscure sources (this may particularly apply to the *Annals of Psychical Science*, the *Southern Medical Record*, and the *Psychical Review*).

The first modern writers on the relationship between psychic phenomena and the hemispheres—William G. Braud, Richard S. Broughton, and Jan Ehrenwald—were not aware of the old speculations when they started to think about the topic, and claim they were influenced mainly by other factors,[24] particularly by developments in modern hemispheric research (for reviews of hemispheric research in those crucial years see Bryden 1982 and Dimond 1972). Ideas from Eastern traditions, research on altered states of consciousness, and studies of "split brain" patients, as seen in Robert Ornstein's (1972) influential book *The Psychology of Consciousness*, also may be considered an important factor that influenced modern parapsychologists to pay attention to right and left hemispheric differences. Other developments in parapsychology during the 1970s, such as EEG and other physiological correlate studies (Morris 1977:705–710), also may have provided some theoretical background for the interest in the relationship between parapsychological phenomena and the hemispheres.

Regardless of these considerations, the material discussed herein is interesting in its own right. It illustrates an attempt to relate psychic phenomena to neurological processes, and thus normalize such controversial manifestations by association with the biological. In addition, these writings also show the wide range and impact of ideas about the brain on society since even psychic phenomena were seen through the neurological glass. Consequently, these ideas should be of importance to the history of views concerning the brain, as well as to the history of conceptual developments in parapsychology.

Notes

[1] The progress of neurological thought during the Nineteenth Century has been discussed by Clarke and Jacyna (1987) and Finger (1994). On general ideas about physiology and the mind during the period, see Jacyna (1982), Smith (1973), and Young (1970). The idea of localizations of sensory and motor functions in the brain was an important aspect of neurological thought (Finger 2010, Kaitaro 2001, Young 1970), as was the related study of aphasia (Benton 1981, Tesak & Tod 2008). A discussion of physiological ideas related to the mind in the context of

developments in mesmerism, phrenology, Spiritualism, and psychical research in England is presented by Oppenheim (1985:205–266).

2 Ideas of psychic forces, fluids, and human radiations were developed during the Nineteenth and Twentieth Centuries to explain psychic phenomena of all sorts, among them mediumship (Alvarado 2006, Ungaro 1992).

3 For reviews of Nineteenth-Century thoughts on the effects of hemisphere lesions and disease on aphasia and related disorders, see Bateman (1890), Benton (1981), and Harrington (1987). Among the many studies of Nineteenth Century aphasia, see the work of Henderson (2008), Jacyna (2000), Lorch (2016), and Roth (2002).

4 LaPointe (2012) discusses Broca's influential work (see also Harrington 1987:Chapter 2). It has long been argued that Marc Dax (1770–1837) had precedence over Broca in his discovery of the role of the left hemisphere in relation to aphasia (e.g., Roe & Finger 1996).

5 For an example of the lack of importance given to the right hemisphere in the non-medical literature, see Flammarion (1886:786).

6 Discussing the "sentiment of pre-existence" in relation to reincarnation, spiritualist Hudson Tuttle wrote:

> To Plato . . . such might be satisfactory evidence; but to us, with the knowledge we possess of physiology and of the brain, *they* are of no value. The double structure and double action of the brain, by which impressions are simultaneously produced on the mind, fully explain the sentiment of pre-existence. For if these impressions . . . are not simultaneously produced, the mind becomes confused, and the weakest impressions are referred to the past. (Tuttle 1871:204–205)

7 A later discussant of the topic was Hector Durville (1900:40–45, 49). He questioned the idea that the "magnetic force" and the "nervous fluid" were the same agent in light of observations of contralateral hemispheric functions. Durville argued that "if the magnetic force were the nervous force it would follow, as does the nervous force, the length of the nerves and the hemispheres of the brain would be of opposite polarity to their corresponding sides" (Durville 1900:49). It is asserted that this is the case because the right side of the body is positive and the left side is negative. The concept of polarity was also present in the Eighteenth and Nineteenth Century electrophysiological literature (Brazier 1961, 1984).

8 According to Reeves (1979:188, 199), the author was A. P. Peabody (1811–1893), editor of the *Review*.

9 On Myers, see Hamilton (2009). Myers is particularly known for his ideas about the subliminal mind and its relationship to psychological

and parapsychological phenomena (for an overview, see Myers 1903; see also Gauld 1968 and Kelly 2007).

[10] "Unconscious cerebration" was Carpenter's term for unconscious creative automatic action (see Carpenter 1874:515–543 and Cobbe 1870).

[11] In this instance, Myers follows the ideas of Ireland (1881:367), who related mirror-writing to the right hemisphere. A paper by Lichtheim (1885:450), also seen by Myers, mentions the right hemisphere in relation to writing (not mirror-writing).

[12] Jackson, an important figure in Nineteenth Century neurology, has been discussed by Engelhardt (1975) and by Greenblatt (1977). Harrington (1987:Chapter 7) has reviewed Jackson's ideas on duality.

[13] These experiments are a reference to the thought-transference studies of the early SPR researchers using Blackburn and Smith as agent and percipient (Gurney, Myers, & Barrett 1882:80, Gurney, Myers, Podmore, & Barrett 1883:166). Controversy was generated when Blackburn confessed (though Smith denied) that they were using trickery (Anonymous 1911, Gauld 1965, Hall 1964:104–109).

[14] For later speculations on the role of the hemispheres in the production of automatic writing, see Honegger (1980) and Muhl (1930:36).

[15] In a second-hand remark, it was stated that different temperatures were recorded on the two sides of the head of writing and trance mediums in France by Chavée (The National Association of Spiritists, 1876:202).

[16] On various aspects of Lombroso, see Knepper and Ystehede (2013). Bulferetti (1975:352, 439–458) discusses his psychical research. Harris (1980:53–54) presents a brief overview of Lombroso's ideas on left-handedness.

[17] See also Lombroso (1884a). Other Italian physicians who shared Lombroso's ideas on handedness were Audenino (1907) and Lattes (1907). For a review of alleged connections between left-handedness and different forms of pathology or socially rejected or unacceptable behaviors, see Harris (1980:51–65).

[18] In mentioning spirit communications on the left side of Mrs. Piper, a well-known medium, Lombroso (1909) referred to the "usual spiritualistic left-handedness . . ." (p. 117). A more recent study on the relationship of the spatial position of perceptions of spirit guides and hemispheric pathology has been published by Fenwick, Galliano, Coate, Rippere, and Brown (1985).

[19] On Morselli's interest in psychical research, see Brancaccio (2014). Eusapia Palladino was one of the most influential mediums in the history of psychical research (Alvarado 1993). In an earlier publication, Lombroso (1892) discussed Palladino, as well as hysterical and

hypnotizable individuals, as pathological examples of the functioning of cerebral centers. With Palladino he proposed that the paralysis of some of those centers augmented the activity of the motor centers to the point of transmitting a force outside of the body that caused the physical phenomena of mediumship. This position was criticized in the Spiritualist press (Anonymous 1893).

[20] The significance of these findings may be questioned, among other things, by noticing that at least on one occasion the medium's right hand obtained a higher reading than her left *before* the séance (Lodge 1894:327, with readings of 47 vs. 38, respectively). This may be an indication of the unreliability of the use of dynamometers to determine hand preference, as discussed by Audenino (1907:27). Other problems may be pointed out with this approach (e.g., lack of double-blind conditions), but my purpose in this review is not to discuss issues of validity nor to evaluate the material discussed here from the point of view of modern developments.

[21] Théodore Flournoy's (1900:64) observations of allochiria with medium Hélène Smith are of interest in this context.

[22] This trend was followed years later by Jan Ehrenwald (1937, 1948) in a series of publications attempting to relate ESP with neuropsychiatric problems. However, and even though Ehrenwald (1931:684) had discussed anosognosia in relation to the right hemisphere in a previous paper, his speculations on the role of the right hemisphere in ESP phenomena developed much later (Jan Ehrenwald, personal communication, August 10, 1985, and September 6, 1985; Ehrenwald 1975, 1976).

[23] Reversals and other distortions of ESP messages have been discussed by other writers from the point of view of psychological processes (e.g., Irwin 1978:118, Warcollier 1931:334–335).

[24] William G. Braud, personal communication, September 18, 1985; Richard S. Broughton, personal communication, September 9, 1985; and Jan Ehrenwald, personal communication, September 6, 1985. See also some discussions on the hemispheres in the parapsychological literature in relation to ESP and states of physical and mental relaxation and out-of-body experiences, as well as "transpersonal consciousness" (Braud & Braud 1974:242, Roll 1974/1975:159).

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BOOK REVIEW

A Philosophical Critique of Empirical Arguments for Postmortem Survival by Michael Sudduth. Palgrave Macmillan, 2016. xv + 336 pp. £49.00 (hardcover). ISBN 978-1-137-44093-8.

Psychical researchers have long recognized the difficulties posed for interpretation of ostensible evidence of postmortem survival by paranormal interactions and other psychological processes involving only living persons. Myers (1903, Vol. 1:8–9), for example, says

> It became gradually plain to me that before we could safely mark off any group of manifestations as definitely implying an influence from beyond the grave, there was need of a more searching review of the capacities of man's incarnate personality than psychologists . . . had thought it worth their while to undertake.

Myers himself of course became convinced that he had obtained compelling evidence of survival, but others in his own circle, familiar with most if not quite all of the same evidence, remained unpersuaded. That early episode pretty much set the pattern for the subsequent history of the subject: Despite the advent of more and better evidence of types Myers and his colleagues already knew about, and additional kinds of evidence not as well-known or even unknown to them such as drop-in mediumistic communicators and cases of the reincarnation type (CORT), serious and open-minded students of the survival literature have remained deeply divided right to the present day as to whether the available evidence justifies rational belief in the possibility of survival, and if so to what degree.

The issues are at least in part philosophical, revolving around deep subjects such as the metaphysics of personal identity, and professional philosophers have made important contributions to the debate throughout its long history, from persons such as Myers's colleagues William James and F. C. S. Schiller through mid-20th-Century figures such as Curt Ducasse, H. H. Price, and C. D. Broad. The present era is no exception. Philosophers Almeder (1992), Carter (2012), Griffin (1997), Lund (2009), and Paterson (1995), for example, have published books strongly supportive of survival, while Stephen Braude (1997, 2003) has taken a more conservative approach which although also pro-survival in the end (just barely), emphasizes that survivalists have not yet taken as seriously as they should the potential

for living-agent psi (henceforth, LAP) to explain the existing evidence, particularly in conjunction with what we have learned both about psi itself and about the unusual potentialities revealed by associated psychological phenomena such as the savant syndrome and various dissociative and altered states of consciousness.

Now into the fray comes philosopher Michael Sudduth, who makes much use of Braude's work while driving toward a significantly more negative assessment of the overall state of play. In this important new book, Sudduth applies his skills as an analytical philosopher to a thoroughgoing examination of the *logic* of existing empirical arguments for personal postmortem survival, using concepts and tools provided by an emerging specialty in philosophy of science known as "confirmation theory," which attempts to formalize the process of inductive reasoning within a probabilistic framework. His primary focus throughout is conceptual, not factual, and his primary conclusion is that the two leading explanatory contenders, survival and LAP, are essentially stalemated, with *both* ultimately unsuccessful, and for the same reasons.

So how does he arrive at this negative view, and what shall we make of it? Let me begin by briefly outlining the book's contents. Chapter 1 sketches some history and introduces the basic structure of the classical explanatory arguments for survival. The core idea, which Sudduth can and will formalize later on and elaborate in various directions, is that there is some body of empirical data which appears to be satisfactorily explainable by the hypothesis of survival, but which is not explainable as well, if at all, by any competing hypothesis, whether naturalistic (outright fraud, for example, or faulty observation, recall, and/or reporting, etc.) or paranormal (especially, of course, LAP). Again identifying themes which he will develop in greater detail as the argument proceeds, he characterizes deficiencies in evidence assessment and deficiencies in the formulation of the survival hypothesis as two major generic problems in the existing survival literature, along with widespread failure to recognize the vital role played by auxiliary assumptions in constructing and evaluating scientific explanations. The chapter ends with a chapter-by-chapter sketch of the plan and argument of the book.

Chapter 2 provides a sampling of the very wide range of possible forms that postmortem survival might conceivably take, arguing for psychological continuity versus bodily continuity as the primary criterion of personal identity and emphasizing the degree to which such continuity would vary across the various survival scenarios he entertains.

Chapters 3 through 5 survey the main kinds of empirical observations produced by investigations of OBE/NDE cases, mediumship, and cases

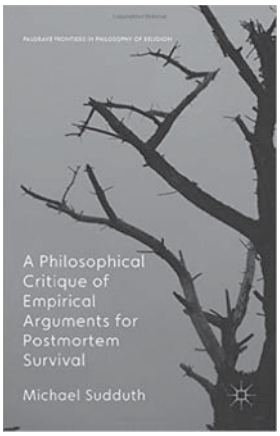
of the reincarnation type, respectively, based on a sampling of classic cases which overlaps strongly with those of previous authors. Following a procedure widely used in analytical philosophy, Sudduth also generates, for each of 31 main types of data he identifies, a formal logical description to be used in his later analyses. I hasten to add here that Michael Sudduth, like the other philosophers mentioned above, and unlike the authors of recent anti-survival polemics such as Martin and Augustine (2015), clearly has studied a large amount of relevant literature with an open mind.

Chapters 6 through 10 comprise the heart of the book and its principal novelty—the systematic analysis of existing empirical arguments for survival using terms and methods derived from confirmation theory. Particularly from this point forward the book is hard reading, packed with formal logic, but Sudduth generally writes very clearly and does a good job of helping readers find their way by means of judicious repetition of crucial points and frequent translations of key logical expressions into ordinary-language equivalents.

Chapter 6 first reviews the pro-survival arguments of Richard Hodgson, James Hyslop, and Ian Stevenson, based on individual classes of evidence, and the extension to cumulative-case form by Almeder. Sudduth then begins the process of formalizing these arguments, focusing initially on the probabilistic concept of the *likelihood* of observational evidence given a hypothesis, and the use of likelihoods to assess the relative ability of competing hypotheses to predict or explain the same data. He ends the chapter by pointing out that *evidential favoring* does not by itself guarantee *net plausibility*.

In Chapter 7 Sudduth addresses the issue of net plausibility by extending his approach to the more ambitious Bayesian model, which takes into account the prior probability of a hypothesis and provides for estimation of its posterior probability in light of additional evidence. Here he focuses mainly on the work of C. D. Broad and E. R. Dodds as early and mostly informal examples of Bayesian-type considerations at work. Both regarded full-fledged personal survival as a priori very unlikely in light of the apparent dependence of mind on brain, but their responses to this took very different forms, with Broad advancing his insentient "psychic factor" theory of survival, and Dodds becoming a major early proponent of LAP. Dodds is credited in particular with recognizing the need to flesh out the bare or "simple" survival hypothesis with auxiliary assumptions in order for it to generate any expectations or predictions whatsoever (p. 183).

Chapter 8 moves on to Bayesian-style *defenses* of the survival hypothesis, focusing primarily on the work of C. J. Ducasse and R. W. K. Paterson. Sudduth takes special pains to examine Ducasse's famous analogy



between the case of antemortem survival from a plane crash and that of postmortem survival following actual bodily death, arguing that Ducasse had implicitly and unjustifiably relied on a large number of auxiliary assumptions regarding the latter situation. What emerges here, from a Bayesian point of view, is that the bare survival hypothesis has to be "bulked up" to a "robust" form in order to enhance its explanatory power, but doing so using inadequately justified auxiliary assumptions can drastically reduce its prior probability. The situation is analogous to that of fitting mathematical functions to observed data, where additional parameters yield better fit, but at the expense of decreased plausibility of the fitted models. Sudduth goes on to argue that the same sorts of issues infect Paterson's cumulative case extension of Ducasse's original argument.

Chapter 9 develops what Sudduth calls the auxiliary assumption requirement (AAR) and the problem of auxiliaries (PoA) more systematically, attempting to specify the auxiliary assumptions needed in order for the survival hypothesis to predict or explain the various categories of evidence systematized in Chapters 3 through 5, and arguing that all or most of these are not independently justifiable.

Chapters 10 and 11 then introduce and defend the LAP hypothesis in greater detail as a legitimate and serious explanatory challenger to the survival hypothesis, particularly in robust forms of the sort advanced in Braude's earlier work. Here Sudduth also pays particular attention to survivalist *critiques* of LAP, arguing that they make numerous unwarranted assumptions about how psi processes operate and what sort of limits they might have, and more importantly that the traditional "super-psi" argument against LAP is ultimately self-defeating because the survival hypothesis itself entails psi functioning of essentially the same scope, magnitude, and refinement. We know that psi exists, but beyond that we are largely ignorant of its properties, and this at present poses a fundamental problem for *both* survival and LAP models.

Chapter 11 ends with a brief summary of the book's central arguments and claims. Sudduth is very clear about what he thinks he has accomplished, which is mainly to demonstrate on logical grounds that the classical empirical arguments for personal survival, in all their existing forms, fail to make the case. He has not *disproved* survival, however, or *proved* LAP, and did not set out to attempt these things. Indeed, lest anti-survivalists take too

much encouragement from his book he ends by explicitly suggesting that belief in survival might be rationally justifiable on various other grounds, possibly in tandem with empirical arguments of the sorts he has examined.

Before proceeding further I must add that the foregoing brief summary hardly begins to do justice to the richness of this remarkable book, barely capturing some of its main themes and highlights. In any case, having now described its contents as best I can in the space available, I must next go on to say what I think about it.

On the positive side, there is certainly a great deal to be admired. Sudduth has definitely carried the historical contest between LAP and survivalist interpretations of currently available evidence to a new level of analytical sophistication, with numerous useful results. Echoing Steve Braude, I wholeheartedly endorse his call for abandonment of the pejorative "super-psi" terminology in relation to LAP, which really is a red herring, and I agree with both of them that there is much more evidence of high-grade psi in non-survival contexts than survivalists have generally been willing to acknowledge, especially in the non-experimental literature regarding phenomena such as psychometry (Barrington, Stevenson, & Weaver 2005) and macro-PK (Grosso 2016). It also is certainly the case that our understanding of altered states of consciousness and their associated potentialities is currently rudimentary at best, and further developments in that area seem likely to catalyze and perhaps constrain the refinement of LAP models generally. It also seems to me indisputable that Sudduth's formal analysis of the existing arguments for survival has enabled him to expose the crucial importance of playing fair by comparing robust LAP models against robust survival models, and the likelihood that the choice between these may well come down to evaluation of the rival auxiliary assumptions they require. He has certainly militated effectively against further "lazy testing" of the survival hypothesis and against premature triumphalism about the strength of the positive case for survival.

At the same time, I must also point out some aspects of Sudduth's presentation that I find potentially problematic or otherwise unsatisfactory in some way. First and foremost among these is his reliance upon confirmation theory, which he simply adopts without discussion or justification as though it's the known and universally agreed-upon "gold standard" for investigations of the sort he is undertaking. This is surely not the case *descriptively*, inasmuch as neither I nor any other of the working scientists I've consulted had ever heard of it before. Perhaps this is just another example of the evils of academic specialization, but it also is not at all clear or obvious to me that his use of this theory should be seen as appropriate *prescriptively* or *normatively*, either. His characterization of what it means

to "expect" or "predict" or "accommodate" or "explain" observational data in a manner approved by confirmation theory seems to me much more appropriate to hard-science contexts than to those dominating psychology and the behavioral sciences generally, and his descriptions sometimes come across as unrealistically precise, a bit like including an unwarranted number of digits in the estimate of some statistical quantity such as a mean or probability value. There is a strong emphasis throughout the book on movement by means of logical inference *from* adequately detailed survival or LAP models *to* the analytical descriptions he has created of the data needing explanation, and on decisively *ruling in* or *ruling out* such models on logical grounds versus patiently accumulating data that appear to support them differentially. Surely LAP and survival hypotheses need not be mutually exclusive, and either or both models might ultimately enter into a full understanding of any individual case. Similarly, he verges at several places on suggesting that there must be some single best survival model which incorporates an optimum amount of detail that will enable it to cover explanatory successes and failures of the survival hypothesis *in general*, but it seems to me much more likely that survival, if it occurs at all, might take pretty much any of the forms canvassed in Chapter 2, depending on circumstances we know essentially nothing about.

The book's central arguments are extremely abstract and proceed at a great distance from the raw empirical observations, sometimes leaving me with the odd sense of looking through the wrong end of a telescope. By contrast, most survival investigators, historically speaking, have begun with the detailed data of intensively studied individual cases, and attempted to guess, "abductively," what sort of model might in a relatively rough common-sense or folk-psychological manner account best for their observed properties, i.e. without presuming such a narrow and formal concept of scientific explanation. What I take Ducasse to have done, for example, is to posit the postmortem persistence of more or less intact *minds* as the source of the most challenging observed data—a single and in some sense "simple" survival hypothesis which already incorporates most if not all of what Sudduth treats under the heading of auxiliary assumptions. See incidentally the remarkable early essay by F. C. S. Schiller (1927), for similar reservations about attempts by contemporary Oxford logicians to dictate scientific practice.

Secondly, although I agree with the contention that pro-survivalists should attempt to flesh out their models in more detail than they have in the past, I also have the distinct impression that both Sudduth and Braude are inclined to go rather easier on robust LAP models in this regard, perhaps with a view to redressing the rhetorical imbalance in the existing

literature. One example concerns the appeal to sudden emergence of *skills* in dissociative states of the sorts we find in trance mediumship. That this can happen has been demonstrated, yes, but why in the mediumistic context should the skill that appears happen to be one that had been possessed by the relevant deceased person? Are we prepared to suppose that there are no limits on the variety and quality of skills that can be summoned in this way, by a single person?

Another example concerns the repeated claims by both authors that the survival hypothesis entails exercise by discarnate persons of psi capacities essentially *identical* in scope and power to those attributed to the medium by the LAP hypothesis. I don't think we have any realistic basis for quantitatively precise parity assertions of this sort, which again flow from a very abstract argument remote from real data. Mrs. Piper's GP control, for example, recognized all and only the 30 anonymous sitters that GP had actually known in life, and for many of these delivered copious amounts of intimate personal detail with great verisimilitude, while showing only relatively modest amounts of knowledge about ongoing world events above and beyond what might plausibly have been gleaned directly from the medium. I continue to feel that the survival hypothesis has an edge in cases like this: First, it seems "simpler," in the sense that nearly all the information needed to support the performance of the GP persona can plausibly be imagined as resident in the discarnate mind of GP himself, should it exist; second, it obviates what still seem like excessive demands of the LAP hypothesis on the psychic capacities of Mrs. Piper, and their ability to overcome the problems of "crippling complexity" identified by Braude (2003). More generally, the admission that high-grade psi exists outside the context of ostensible evidence for survival narrows but does not automatically close the gap between the LAP and survival hypotheses; what needs to be shown by defenders of LAP is that psi of the requisite scope and power exists not just generically, somewhere, but in the specific persons who are required to exercise it under LAP interpretations of particular cases.

I must also say that I feel more hopeful than Sudduth apparently does that we are not really stalemated, and that there exist significant possibilities of various kinds for further advance. One example especially important to me arises in the context of his treatment of OBE/NDE cases. There he focuses almost exclusively on the ostensible "separation" aspect of such cases, concluding—correctly, in my opinion—that we do not yet have compelling evidence to support this as an element of the empirical case for survival. I happen to think that much more can potentially be done experimentally in this area, but more importantly the information we already have bears on the issue of survival in a quite different and very powerful *theoretical* way. I'm

thinking specifically here of NDEs occurring under extreme physiological conditions such as deep general anesthesia and/or cardiac arrest. There are many such cases, and as argued for example in Chapter 6 of *Irreducible Mind* (Kelly, Kelly, Crabtree, Gauld, Grosso, & Greyson 2007), they conflict sharply with the current neuroscientific consensus as to physiological conditions necessary for conscious experience, *and* with the impoverished physicalist metaphysics which undergirds that consensus. In fact, together with other "rogue" empirical phenomena such as psi phenomena generally, extreme psychophysiological influence, unexplained properties of memory, secondary and overlapping centers of consciousness occupying the same physical organism, creative genius in its highest forms, and mystical-type experiences—and supported by more modern developments in physics itself as well as by recent philosophical literature on consciousness and the mind/brain relation—such experiences contribute to demonstrating clearly, I believe, that the classical physicalism of the late 19th Century sort which dominates contemporary psychology and neuroscience is not simply incomplete but *false*.

This has immediate and profound ramifications for the survival debate, because if that sort of physicalism were true, survival would be impossible, period. Survival-deniers Martin and Augustine (2015) make that negligible prior probability a cornerstone of their own quasi-Bayesian approach to the survival question, devoting a large part of their book simply to repetition of the familiar standard arguments supporting the prevailing physicalist account of brain/mind relations. (Schiller [1927] clearly anticipates this strategy, by the way, and more generally the deliberate use of low priors as a means of preventing accumulation of evidence favoring any opinion one happens not to like.)

That physicalist account is of course grounded in the strong correlations, which nobody denies, that are normally observed between mental events and physical events in the brain. Physicalists interpret these as demonstrating that physical events in some mysterious way *produce* or *constitute* all of our conscious mental life, but in Chapter 9 of *Irreducible Mind* we showed—convincingly, I believe—that the alternative "filter" or "transmission" or "permission" interpretation of mind/brain correlation advanced by William James and many others, in which mind is functionally distinct from brain even though normally operating in close conjunction with it, is at least equally compatible with leading-edge developments in both neuroscience and physics. This clearly creates a new opening for survival: Earlier scholars such as E. R. Dodds, C. D. Broad, and Gardner Murphy had viewed the apparent success of classical physicalism as *the* major obstacle to acceptance of positive evidence for survival—an "immovable object," as

Murphy put it—and reducing that obstacle correspondingly weakens the a priori case against it. This is just one example of how new developments on the *theoretical* side could significantly alter the logical and probabilistic landscape of the survival debate (see also Gauld 1982:264).

There should also be possibilities for further advance on the *empirical* side, for example in the form of intensively studied cases in which competing explanations can be more sharply contrasted in terms of their relative ability to account for case details. Sudduth (p. 307) seems to think that such empirical advances may be possible, and like Braude (2003:283–288, 2013:31–34) he provides examples of "ideal" mediumship (pp. 74–77) and rebirth (pp. 110–113) cases which he apparently thinks *would* alter the landscape if they or close approximations to them could actually be found. It would perhaps have been especially instructive and illuminating had he revisited one or both of these to explain more completely, in light of the fully developed probabilistic framework, why he would view them as moving the needle toward survival and by how much, and more work along these lines by theoreticians would certainly be helpful in guiding further empirical research. At Division of Perceptual Studies we have high hope of finding ever-better NDE and rebirth cases, and new angles of approach might also emerge from statistical modeling and analysis studies, just now becoming feasible, of the large collections of computer-coded cases we have already constructed. I must also add here that I was disappointed by Sudduth's decision not to include crisis apparitions among the categories of evidence he considers (see footnotes 4 and 8 in his Introduction), because contrary to what he says some of these cases seem to me evidentially quite strong and unequivocally suggestive of *purpose* originating on the side of the deceased (Gurney, Myers, & Podmore 1886).

Finally, a few "oddball" cases that formerly seemed to provide evidence powerfully supportive of LAP, such as the Gordon Davis case (in which a medium produced compelling simulations of a person who had been thought deceased but turned out to be alive), have been exploded by more recent detective work (Carter 2012), and further impactful discoveries of that sort might also conceivably occur on either side.

In sum, there seem to be many possible avenues toward further progress. Parapsychologically knowledgeable readers will recall that in 1960 J. B. Rhine called for abandonment of survival research, his main argument being that since survival could not be experimentally discriminated from ESP among the living we should get on with study of ESP among the living. Fortunately, Rhine was not able to capture the undivided allegiance of our tiny field, and much important survival-related work has accumulated since that time, the present volume included. To my mind, the main impact of this

book should be to catalyze and shape further research on *both* survival and LAP models in light of the clearer understanding it provides of the logic of both kinds of arguments.

I do not wish the critical remarks above to obscure my fundamental admiration for this fine and very unusual book, to which I have not been able to do adequate justice in this brief review. It is dense with hard, clear, sustained, and provocative critical thinking, and rich in penetrating observations about the state of play in contemporary discussions of postmortem survival. Bottom line: a difficult but worthwhile read!

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BOOK REVIEW

A Philosophical Critique of Empirical Arguments for Postmortem Survival by Michael Sudduth. Palgrave Macmillan, 2016. xv + 336 pp. £49.00 (hardcover). ISBN 978-1-137-44093-8.

A Philosophical Critique of Empirical Arguments for Postmortem Survival doesn't have the snappy title of Stephen E. Braude's *Immortal Remains*, but it does do exactly what it says on the cover with a similar level of sophisticated analysis and thorough understanding of both the evidence and the arguments for survival after death.

The book commences with a summary of the types of evidence and stances taken regarding the evidence and the possibility that humans somehow survive after death. Michael Sudduth hones the evidence down to three kinds of phenomena: out-of-body and near-death experiences, mediumistic communications, and cases of the reincarnation type (p. 3). He displays a thorough command of the historical and contemporary literature with his summary of the major contributors to the survivalist debate from both the empirical and philosophical examinations, before staking out the territory he will focus on in the book: the classical empirical arguments for survival.

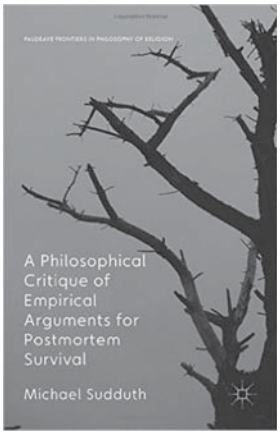
Sudduth presents the bones of the explanatory survival argument as follows:

1) There is some body of empirical facts F.
2) The hypothesis of personal survival S explains F.
3) No other hypothesis C explains F as well as S does.

Therefore:

4) S is the best explanation of F (p. 9).

He points out that the argument is explanatory and probabilistic. This is an important starting point as what follows shows that the argument is flawed internally (essentially the arguments needed to maintain 3) compromise 2), and he ultimately concludes that: "*the classical arguments are unsuccessful at showing that there is good evidence for personal survival*" (p. 281). It takes us a while to get there and along the way we will be introduced to strong, moderate, and Bayesian versions of the argument which will lead



to the use of confirmation theory to determine likelihoods and, an important introduction to the analysis, an investigation of the problem of auxiliary assumptions.

Chapter 2 involves a discussion regarding the nature of survival and more particularly what is meant by the notion of survival after death, which he also divides into weak, moderate, and strong versions. It is important for the subsequent argument that there is acknowledgment about what is expected when one is supposed to have survived death in some way. The elements that make the differences among strong, moderate, and weak involve how long and how much of the living personality survives as well as how that entity interacts (p. 45).

Chapters 3 through 5 contain a presentation of the best case studies for the three kinds of evidence (OBEs and near-death experiences, mediumistic communications, and reincarnation cases). Anyone familiar with the survivalist literature and/or parapsychology will recognize the content, but it is worth spelling out as the book is intended for a more general audience, and it is good to see the studies from parapsychology used as part and parcel of the discussion in a forum intended for a wider readership. We end up with a list (e1–e31) of evidence and realize later that in these early chapters Sudduth is creating an arsenal from which he will draw as the book turns to the theoretical discussion between those he dubs the 'survivalists' and the 'skeptics.'

From Chapter 6 on we return to a discussion of the classical empirical arguments. He formalizes the arguments from the literature (Richard Hodgson, James Hyslop, Ian Stevenson, Robert Almeder) and presents them as either moderate or strong. The moderate version maintains that the evidence for survival favors survival over competing hypotheses (e.g., fraud or coincidence). The strong version is strengthened by contending that it adds additional explanatory virtues (e.g., independent support and simplicity) in comparison with rival hypotheses. This leads into a discussion of 'likelihood.' For instance, how can we judge how more likely it is that the survival hypothesis can explain how mediums obtain information about deceased people than, for instance, telepathy (or more formally LAP—Living Agent Psi)? This is really the core of the survival debate and it is no surprise that we end up here fairly quickly. And so, the introduction of confirmation theory's notion of likelihood leads effortlessly into a Bayesian examination of the arguments, which is undertaken in Chapter 7.

Here, and in the subsequent chapter, Sudduth excels both in making the key concepts of Bayesian argument easy to understand and in showing how a version of the empirical arguments can be couched in Bayesian terms. This makes sense and this chapter should be required reading for anyone undertaking a similar analysis.

Though I've never been a fan of Bayesian analysis because of the problem with determining prior probabilities in a meaningful way, Sudduth introduces the idea of auxiliary assumptions to ameliorate this aspect of undertaking the analysis. Before going into this in more detail, he uses Bayesian analysis to show clearly how the prior probabilities and the examination of probability of rival hypotheses must be in sync. He shows how in contemporary formalized renditions of the survivalist argument there is a tendency to maintain both a high prior probability for survival, which requires a simple survival hypothesis, at the same time as needing to maintain a defense of the extended explanatory power of the survival hypothesis which requires a robust one. He calls it a conceptual magic trick, but I would call it wanting to have your cake and eat it too (p. 200).

In Chapter 10 Sudduth more formally develops the notion of the problem of auxiliary assumptions. He points out that explanation of the survival evidence tends to explain or predict the evidence based on what are usually unstated auxiliary assumptions. These assumptions are related to what the afterlife is expected to be like and this can vary depending on the stance that is taken regarding the evidence. This is an important point, as when comparing competing hypotheses it is important to compare apples with apples especially for unstated expectations of what it is the hypothesis explains.

Sudduth contends that a simple concept of survival (required to obtain a higher prior probability) does not adequately anticipate the types of evidence that are put forward for survival (p. 215). He goes on to analyze each kind of evidence with this in mind, concluding that the problem of auxiliary assumptions shows that we don't know enough to establish what the world would be like if survival is true, which is problematic when attempting to compare rival hypotheses. He also argues that the problem considerably lowers the prior probability for survival as once auxiliary assumptions are factored in there is a need for a robust concept of survival (pp. 244–245).

Finally in Chapter 11 we get the full bout of sparring between the survivalist and the living agent psi (LAP) proponents with all that has gone before informing the debate. It is a sophisticated analysis which draws on the established arguments from both camps as well as getting into the nitty gritty of the evidence that variously supports or not the two opposing sides. Sudduth shows how important it is to tease out the assumptions that

inform the discussion regarding likelihood and priors. He shows how the survivalist proponents again maintain a robust survival hypothesis when likelihoods are in question, but revert to a simple survivalist hypothesis when considering priors, which he terms a Bayesian sleight of hand (p. 290). He concludes that for a fair fight to be fought both contenders (survivalist and LAP) require comparison based on a robust conception of survival.

I think this is the take home point of the book and will be, I have no doubt, the topic of much debate in the community of researchers involved in this area. What he has done here is to provide a means of comparing the main two opposing arguments with everything possible laid out on the table so we are able to see what assumptions and assessments inform the debate.

The book is extremely clearly written and organized. The content is dense but Sudduth helps that with a logical structure and plenty of summaries along the way.

My only two beefs with the book are the use of the term 'skeptic' for those who argue against the survivalist hypothesis, as the word is too loaded from its use by skeptics of parapsychology. I would suggest perhaps pro- and anti-survivalists instead. It would also be handy to have a 'cheat sheet' for all the many abbreviations that are used throughout the book. MEA, SEA, BEA, AAR, PoAA, etc.

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BOOK REVIEW

Ojos Invisibles: La Cruzada por la Conquista del Espíritu: Una Neurociencia de las Experiencias Paranormales [Invisible Eyes: The Crusade for the Conquest of the Spirit: A Neuroscience of Paranormal Experiences] edited by Alejandro Parra. Buenos Aires, Argentina: Antigua, 2015. 316 pp. ISBN 978-987-3707-19-3.

Alejandro Parra has compiled in this book, published in Spanish, several good-quality essays about various aspects of parapsychology. Most of the essays are new, although some are expanded from previous publications. To explain the title, *Ojos Invisibles* (Invisible Eyes), Parra mentions a statement from Antoine de Saint-Exupéry's *Le Petit Prince*, saying that one must use the heart to see things invisible to the eyes. Parra speculates that

> it is possible that our eyes are incapable of capturing the richness, subtlety, and perhaps beauty, of an anomalous experience simply because such 'capture' and observation probably represents its own destruction. (p. 7; this and other translations are mine)

The book is divided in four parts. The first one, "Beyond the Limits of the Flesh," opens with a chapter by José Miguel Pérez Navarro about ESP in the ganzfeld, in which the author focuses on methodological considerations necessary in these studies. The author states that some may consider many of the controls used somewhat exaggerated, but he reminds the reader of the necessity of being more than thorough due to the critiques addressed to ESP research over the years.

This is followed by discussions of synesthesia and auras by Oscar Iborra. He wrote about a study he and others conducted on the topic:

> Our research with persons who say they see auras . . . leads us to suggest some psi experiences could be explained, or least could be mediated, by some types of synesthesia . . . It is not my intention to explain psi experiences completely, and seeing the aura in particular, as synesthesia, but to present a possible proposal or recommendation both to be able to discard what psi is not and to see whether it is only synesthesia, as well as to point out the differences. This takes on special importance in the case of synesthetes who are not aware that they are so. (p. 50)

The first part has chapters also about the presentiment effect by Fabio E. da Silva. Da Silva presents in his article a summary of his own research, which, among other results, found that skin conductance activity was significantly higher when emotional photographs were used as targets, as compared with non-emotional photographs.

The last chapter in this section is my own, about veridical aspects of out-of-body experiences. As argued in the conclusion, "the study of these veridical aspects . . . presents the possibility of expanding our understanding of human experience and the OBE in particular" (p. 88).

Part Two, "The Mind/Body Frontier and Belief Systems," opens with Daniel E. Gómez Montanelli's summary of spontaneous previous lives' studies by Ian Stevenson, Jim Tucker, Erlendur Haraldsson, and others. In Gómez Montanelli's view,

> the hypothesis that past life memories are based on ESP . . . does not imply that memory continues after death, because the information reported could have been obtained from family or persons close to the deceased. But this explanation does not account for the question of why a child would receive information from people related to a particular deceased individual but does not show other telepathic abilities. (p. 109)

This is followed by an essay about methodological and epistemological considerations about the issue of survival of death, authored by Everton de Oliveira Maraldi, Wellington Zangari, and Fátima Regina Machado. The authors are skeptical about the evidence to support survival. Commenting on laboratory studies of mediums, they state that they believe that even the results of the best of those studies are far from presenting "scientific confirmation of the hypothesis of survival" (p. 117). They also point out that we still know too little about the nature of psi to be able to differentiate living and discarnate sources of information. In their view, to address this problem we need first to "unveil the mystery of psi" (p. 127). I agree that living agency has to be considered in the evaluation of survival evidence, and that decisions can never be clear-cut, depending on the antecedent probability each person assigns to possible explanations. In this process it is also important to be critical of the evidence for such living agency separate from speculations.

The section closes with an article by Stanley Krippner about psi and shamanism that raises, as other writings by this author do, fascinating issues. He argues at the end that the systematic exploration of the topic has been neglected, but he holds hope for the future.

In the last section, "Challenging the Limits of Matter and Energy," Juan Gimeno opens with a discussion of his table-turning work, showing that this

topic has a future if he and others can continue their work. The concept of a non-local mind is discussed by Patrizio E. Tressoldi, who presents much relevant experimental evidence. Tressoldi is aware of the resistance of many scientists to the idea of a non-local mind, but is confident that the work will bring up this "conceptual revolution," and adds, "I am convinced that we are going to witness this change soon" (p. 187). While I agree there is much to make us think, and perhaps change, traditional scientific views about the potentials of the mind, I cannot but be skeptical of the immediacy of such change. There is still much resistance that will diminish in a significant way only with fundamental changes in the assumptions of the current paradigm.

Finally, Alfonso Martínez Taboas presents a discussion of poltergeists. As in his previous writings, he is skeptical about the validity of the psychological work of William Roll and others. The author also says much about evidential problems, but he affirms that he believes that the evidence strongly suggests that the poltergeist is a paranormal phenomenon and one that presents a challenge to established knowledge.

The fourth and last section is entitled "Exceptional Human Experiences: Approaches from Neuroscience, Consciousness Studies, and Psychopathology." David Luke starts with an article about "parapsychopharmacology" in which he summarizes research and argues for various approaches for future studies, such as the consideration of more naturalistic contexts. This is followed by a paper authored by Alejandro Parra and Juan Carlos Argibay reviewing the topic of psychic sensibility which includes work on psychometry, medical diagnosis, and psychic readings. Regarding the latter, the authors argue for the importance of studying the performance of psychics while considering the context in which they usually work. A "strict and maybe obsessive control of the experimental session may neutralize the possible emergence of genuine psi . . . To control for this, experimental sessions should be friendly and cordial" (p. 249) in conditions similar to those the psychic is used to working under, but including some controls.

Other work in this area includes Christine Simmonds-Moore's discussion of boundaries, as seen in the concepts of transliminality and boundary thinness. Thin boundaries may be related to the occurrence of psi experiences, but there is more we need to learn about such boundaries in general in order to understand their relationship to psychic phenomena. I also wonder what the effect is of specific content experiences. For example, while there may be a general relationship between thin boundaries and ESP experiences, it may be speculated that highly emotional ESP experiences, such as those involving death, show a different pattern. I am not saying that boundary thinness is not important, but that emotion connected to the ESP

message may also open the person, or facilitate the emergence of an ESP message to mind, and sometimes in spite of thick boundaries.

The final chapter in this section, by Renaud Evrard, is about clinical aspects of exceptional experiences. He focuses on differential diagnosis between exceptional and pathological ones. The chapter is a good summary of the topic and it is clear from the author's review that this is a neglected area, particularly in terms of empirical work.

From the editorial point of view, some criticisms could be made about the book. Chapters 2, 3, 6, and 13 have different titles in the table of contents from the ones in the text. Furthermore, I question the subtitle, "A Neuroscience of Paranormal Experiences," because I believe there is not enough neuroscience in the book to put this emphasis in the subtitle.

These issues aside, this collection of essays presents useful, up-to-date overviews about various aspects of modern parapsychology in a serious and responsible way. Most readers of this review are probably not aware of the uniqueness of this volume, since there are very few books in Spanish that are up-to-date and that present high-quality discussions of the topic. *Ojos Invisibles* is a unique contribution to the Spanish-language literature about parapsychology.

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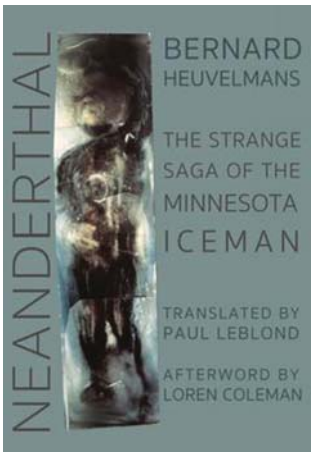
BOOK REVIEW

Neanderthal: The Strange Saga of the Minnesota Iceman by Bernard Heuvelmans, translated by Paul LeBlond, with Afterword by Loren Coleman. San Antonio, TX: Anomalist Books, 2016. 284 pp. $22.95 (paperback). ISBN 978-1938398612.

The story of the Minnesota Iceman, the alleged corpse of an unknown hominid, might be conflated by some today, with a more recent iteration on this theme—the claim by charlatans Rick Dyer and Matt Wheaton to have recovered the corpse of a shot and dispatched Bigfoot and their sophomoric attempt to entomb it in a block of ice. It turned out to be an off-the-shelf Bigfoot costume, laced with roadkill. In fact, there was a second attempt by Dyer to pass off an alleged Bigfoot corpse (what is the adage?—"Fool me once, shame on you; fool me twice . . . "). In the second more notorious incident, Dyer claims to have shot the unfortunate specimen himself outside of Austin, Texas. Eventually, the supposedly taxidermied skin was stuffed and displayed in a crude plywood coffin placed in a garishly decorated trailer, while the skinless corpse itself was reportedly sequestered in a secret lab facility, being examined by unnamed specialists. The resemblance between these tales and the Minnesota Iceman largely ends there, at least as far as the lead-in goes. In 1968, the Iceman incident involved a credentialed and reputable scientist, Bernard Heuvelmans, and a renowned naturalist, Ivan T. Sanderson, who jointly examined Frank Hansen's exhibit extensively in December 1968. Beyond that distinction, any similarity in outcomes remains an open question.

For decades, those Anglophones interested in the saga of the Iceman were left to rely largely on the popular paper by Sanderson in *Argosy* (May 1969), a men's adventure magazine. Additionally, there were the second-hand insights offered by authors of books touching upon the subject, most notably Dr. John Napier's *Bigfoot: The Yeti and Sasquatch in Myth and Reality*, he being one of few primatologists who gave the question of unknown primates a semblance of objective consideration. It was Heuvelmans' perhaps rash rush to publish a scientific report of the discovery and examination in March 1969, in the *Bulletin of the Royal Institute of Natural Science* in Belgium, which precipitated much publicity for the Iceman. However, his original report remained inaccessible to most English speakers. Heuvelmans' in-depth account of events and descriptions of the



Iceman were likewise published in French as the second part of a joint effort with Russian historian (and hominologist) Boris Porshnev, entitled *Neanderthal Man Is Still Alive* (Plon 1974).

Heuvelmans' contribution has now been translated by Paul LeBlond, a professor emeritus of ocean science at the University of British Columbia, with a long-standing interest in cryptozoology. It offers what seemed to be the culmination of Porshnev and Heuvelmans' search for Linnaeus' second species of human, *Homo troglodytes*, the Wildman, which they considered to be a relict form of Neanderthal. The discovery and evaluation of the alleged frozen corpse occurred within, and must be considered within, this conceptual context. Connecting the dots between a Minnesota carnival side show and a relict Asian Neanderthal constitutes a significant portion of Heuvelmans' deductive reasoning and rationalizing on this "discovery."

Chapter 1 provides a brief objective description of what was observed and examined under the glass. In Chapter 2 Heuvelmans lays out what he considers the 6 potential hypotheses that may explain what was observed. Chapter 3 establishes a paleoanthropological context, albeit dated in terms of today's understanding, for the affirmative hypotheses about the corpse's identity and nature. Chapter 4 explores the potentially ominous implications of Frank Hansen's evasiveness concerning the Iceman's origins and ownership. Chapter 5 describes the fallout and complications arising from official interest in the Iceman by the Smithsonian, the FBI, and various media outlets. Chapter 6 traces Hansen's "confession" and the ensuing shell game surrounding the origin and disposition of the corpse. Chapter 7 expounds upon further intrigue over the origin, authenticity, ownership, and professed substitution of the fabricated model. Chapter 8 develops Heuvelmans' cloak-and-dagger theory surrounding a Viet Nam connection for the Iceman. Chapter 9 laments the politics and paradigms that produce a dauntingly prejudicial gauntlet for the person announcing an unorthodox find. Chapter 10 provides a significant and revealing in-depth description of the "original" specimen. Chapter 11 is a bestiary of man-beasts, offering a series of fascinating comparisons of the Iceman to Khakhlov's *Ksy-Gyik*, and other potential Asian relict hominoids. Chapter 12 employs the notion of "de-hominization" (i.e. the gradual distancing from traits of modern *H.*

sapiens), or what today might be referred to as hominid adaptive radiation, or niche partitioning, to account for the distinction of a frozen relict Neanderthal corpse.

An Afterword written by Loren Coleman lends his personal perspective, based on his initial encounter with what he concludes is the substituted Iceman model in August 1969, and through his correspondence with Sanderson during the ensuing years. He traces the comeback of the long-missing mannequin, which ends up in the possession of the proprietor of the Museum of the Weird in Austin Texas, in July 2013. It also had a 5-month-long display stint at Coleman's International Cryptozoology Museum, in Maine, through January 2016, before returning to Texas. That seems to be the only surviving physical legacy of the Minnesota Iceman.

Setting aside all the speculations spawned by Hansen's shell games, the question remains—Was there ever a flesh-and-bones corpse—a real hominid? Perhaps more fundamentally, will the answer to that question carry any weight whatsoever in the absence of the body?—Or does this constitute an example of *corpus delicti*? After nearly 50 years the point remains moot. Therefore, what is the value of this volume? It certainly provides a more meticulous description, accompanied by figures and measurements of the Iceman, more extensive than in Sanderson's accounts. What is perhaps more revealing is the personal discussion of the struggle to bring attention and consideration by the scientific community to the matter. A reactionary statement to the press by Dr. Josef Biegert (1921–1989), professor of comparative morphology of primates at Zurich's Anthropological Institute, was particularly illuminating of the obstacle of the prevailing paradigm at that time—"The thesis to which Neanderthal creatures might still be living among us is absolute nonsense, whatever supposed proofs might be put forward. Today, on the Earth, there lives only one species of hominid, modern *Homo sapiens*" (p. 144). Heuvelmans expressed dismay at this declaration by a respected colleague. However, this is a rather typical manifestation betraying the dogmatic and generally pervasive attitude toward "supposed proof," or credible evidence of any sort, regarding a notion perceived as running askance of the accepted orthodoxy. Regardless of whether there ever was a flesh-and-blood corpse encased in a block of ice, Heuvelmans' *Neanderthal* is a lesson that all interested in the case for relict hominoids should take note of, and reflect upon in the wake of shifting paradigms in the here and now.

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BOOK REVIEW

One Mind: How Our Individual Mind Is Part of a Greater Consciousness and Why It Matters by Larry Dossey. Hay House, 2014. 339 pp. $13.05. ISBN 978-1401943158.

One Mind brings age-old philosophies into immediate focus, and more importantly illuminates the current context in a world dominated by a materialistic view of everything. In *Recovering the Soul*, written in 1989, Dossey created the term *nonlocal mind*, what he states "is a spatially and temporally infinite aspect of our consciousness." Nonlocal mind, he suggests, is analogous to what has been described as the soul; a concept often rejected by traditional scientists. There is an inherent conflict between a materialistic worldview and a concept of a consciousness-based, infinite interconnectedness, and the implications could not be more profound. If Dossey is correct, and everything is interconnected at some fundamental level, and I certainly believe he is, then it should impact all aspects of our daily lives. Understanding that the hurtful actions we often take against others also are harmful to ourselves and everyone else, while far from new, is mostly lost in our day-to-day lives. He argues that it shouldn't be.

One Mind is oriented toward the layperson but will still be of interest to researchers such as most SSE members. The author is well-known to the SSE, and a frequent contributor at our conferences. Dossey is the author of many books on the power of mind and alternative healing methodologies, including the classic *Space, Time & Medicine* published in 1982. As an internal medicine physician, he is exceptionally well-qualified to address the complex and not-well-understood issues of the impact the mind has on health. Previously he served as the chief-of-staff of Medical City Dallas Hospital, and he had extensive experience with traumatic injuries as a combat doctor assigned to the U.S. Army 173rd Airborne Brigade in Vietnam.

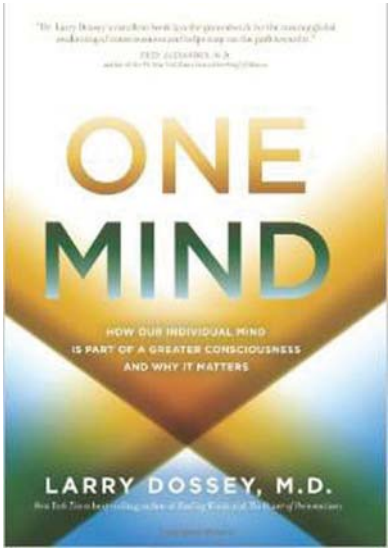
Dossey explores a wide range of phenomena in the book. He begins by asking what observations might be made if his premise of nonlocal mind is real. These include shared thoughts and emotions, detailed knowledge of a deceased person's life, and telepathic communication as examples. He also suggests behavior of large groups of animals in which we see choreographed movements responding to the environment but in ways that could not be communicated through traditional means.

A major thrust of the book includes chapters that exemplify all of the attributes that are hypothesized in the nonlocal mind concept. Addressed, of course, are the perennial brain–mind duality conundrums. Here Dossey briefly surveys some of the extensive literature that examines the role of the brain and he notes that none of the observations "prove that the brain produces the mind, or that the mind is confined to the brain."

One interesting chapter discusses *telesomatic* events, based on a word coined by neuropsychiatrist Berthold Schwarz. These are events in which two or more bodies, separated by distance, share "similar sensations or actual physical changes." Dossey, himself an identical twin, has personal experience with such events. One anecdote that caught my attention was that of a lone Tuareg sitting on a camel in the remote Sahara Desert in Mali. He was waiting for a friend coming from a different direction to join him at that undesignated and nondescript location. Having traveled to Timbuktu and been with the Tuaregs, I know how foreboding the Sahel really is. When one leaves a town, it can be a thousand kilometers, or more, to the next location that provides the resources necessary for survival. The sands constantly shift, making traditional land navigation following trails or identifiable checkpoints nearly impossible. Yet, his friend arrived, and this meeting was an example of mental communication that defies explanation. There are many such reports attributed to indigenous peoples. Addressing miracles, Dossey notes that St. Augustine indicated that they "did not contradict nature, but they contradict what we know about nature." As Dossey relates in some detail, there is an urgent need to expand our concept of science.

As a researcher of near-death experiences (NDEs), I was especially drawn to the chapters concerning not only NDEs, but also evidence for the continuation of consciousness beyond bodily death. Previously, I reviewed Eben Alexander's book *Proof of Heaven* for the *JSE*. I believe Alexander's experience to be one of the most extraordinary cases that exists. As a medical doctor, Dossey agrees with the significance of having a neurosurgeon report on his personal venture into unexplored realms. He believes that Alexander produced veridical evidence to support his claims and has included a synopsis in *One Mind*. In a further step, he covers the recent work of another medical doctor and pioneer in NDE research, Raymond Moody. The topic of shared-death experiences is introduced to those not intimately familiar with the field of NDEs. It becomes very difficult to dismiss such events as hallucinations or psychological aberrations of the dying patient when they are externally confirmed by additional independent witnesses.

Equally hard to explain are reports of communications with deceased entities via mediums or dreams. Dossey again examines the work of several



SSE members including Julie Beischel and Gary Schwartz as well as other non-member researchers. He notes that historically such material caught the attention of experts including William James and Carl Jung. Not included, but certainly related, was research at the University of Sao Paulo comparing the psychographs of famed Brazilian medium Chico Xavier to material written by a known individual who had died earlier. The researchers found that the letters Xavier wrote were nearly completely compatible with those of the now-deceased person, someone Xavier had never met.

Other topics illuminated include instances of data acquisition at a distance using only the mind and devoid of technological devices. These examples include both spontaneous transmissions, often with high emotional integration, and intentional applications. What is now called remote viewing is a classic illustration and one practiced and taught by some of our SSE members.

Dossey also reports on nonhuman cases of interconnectedness of consciousness. This will be appreciated by all readers who have a strong affinity for their pets. The book cites numerous cases that strongly suggest interactions that are not simple to explain. These include amazing homing stories, as well as a sense of impending danger or reaction to the death of their human companion, even when at a distance. Dossey references the work of Rupert Sheldrake who carefully studied the reaction of animals to actions of humans distant from them.

Clearly, if consciousness continues in a post-mortem condition, the implications are extremely significant for everyone. Yet serious research into the topic is minuscule compared with the funding put into the search for a *God Particle* that many materialists believe will solve the question of the fundamental nature of everything. As a compendium of anecdotes and research reports, *One Mind* provides a very compelling case for the existence of nonlocal mind. Even though one reviewer termed it "subway reading," meaning that it can be read in short bursts, it is still worth reading to renew your acquaintance with the breadth of topics covered. I guarantee you will learn things that you were not previously aware of.

For the individual, *One Mind* provides food for thought about how you conduct your own life. We tend to think of our physical bodies as establishing limits on our "beingness." That which lies outside our skin is often thought of as being "other," and too frequently not of one's concern. Dossey suggests that we are part of a much larger whole, one bounded only with infinity. Thus, our actions, and even thoughts, may be like the butterfly wings that create hurricanes.

There are geostrategic implications for Dossey's postulation as well. In recent years, we have witnessed the devolution of the nation-state as the foundation of international relations. Witness the breakup of the Soviet Union, disintegration of the Balkan states, and conflicts across Africa and the Middle East. Apparent are emergent tribal or clan identities that often precipitate into civil wars that now plague many areas of the world. Macro-social organizations often are based on belief systems, ones that are established by emphasizing differences between them and external groups. Xenophobia has become increasingly endemic and impacts international policies. Worth considering are the implications postulated in *One Mind* when viewing our positions on refugees and immigration policies. These are now destabilizing factors in many areas of the world, and these problems likely will increase for the foreseeable future.

At the personal level, we tend to foster ideas as to how we are different from others. Throughout the developed nations, too many people encourage a *winner-take-all* philosophy and honor the ultra-wealthy; even though some have risen at the expense of the many. The Gordon Gekko admonition that "Greed is good" reverberates throughout the world. All of these observations are antithetical to a notion of interconnectedness portrayed in *One Mind*. Yet, egocentrism abounds. I urge everyone to read this book, and consider how their own role fits in a realm of universal consciousness.

John Alexander

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Further Book of Note

Science for Heretics: Why So Much of Science Is Wrong by Barrie Condon. CreateSpace Independent Publishing, 2016. 470 pp. $16.99 (paperback). ISBN 978-1534820586.

This title, *Science for Heretics*, seemed to demand a review in the *Journal of Scientific Exploration*; nine unanimously 5-star reviews on amazon.com lent confirmation. But I was very disappointed in this book.

Somewhere I've read about other work, "What's true isn't new and what's new isn't true," and that applies here. There's much sound criticism (in Chapters 2–6) of cosmology, quantum mechanics, relativity, string theory, chaos theory. Condon details the mutual incompatibility of relativity, gravity, and other continuous-field concepts with non-continuous concepts involving particles and quanta, and he points out that those incompatible views lead to directly conflicting conclusions about black holes.

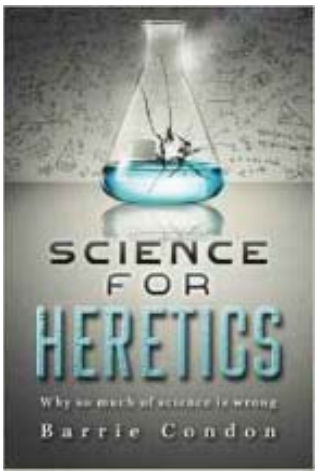
The book is also sound in criticizing accepted cosmological views that claim to understand much while asserting that 90% or more of the universe consists of things about which we know essentially nothing except that they are needed as fudge factors: dark matter and dark energy.

Chapters 7 and 8 also are sound in criticizing reductionism and pointing to limitations, inherent in being human, as to comprehending the universe and ultimate origins.

Chapter 9 is correct in describing engineering as not simply a step-child of science, but seems off-base in ascribing engineering mistakes to inappropriately relying on science and mathematics.

Chapters 10 and 11 discuss failings of modern drug-based medicine in dealing respectively with physical and with so-called mental illnesses. There is far more that needs to be said on those matters, and the references are quite inadequate; for better coverage, see my bibliography (Bauer no date).

Chapter 12 is partly sound as to the intellectual difficulties faced by the social sciences; but I disagree with the book's contention that the physical sciences should model their investigations on the social sciences. That contention follows from Condon's apparently central



dissatisfaction with physics and other quantifying disciplines: He asserts that there is a fundamental flaw in applying mathematics to the natural world.

Condon's reason for this iconoclastic assertion is spelled out in Chapter 1 and caused me to read the rest of the book with a jaundiced mind. No two things in nature are truly identical, according to Condon, so it is inappropriate to group and count them as though they were identical. Not even two elementary particles (electrons, etc.) may be identical (pp. 99–100).

In my view, the successes of the natural sciences are strong evidence that one can indeed properly treat, say, two atoms of hydrogen 1 as identical. That natural laws and constants of nature have been discovered that describe so many phenomena so well seems to justify treating as identical the ultimate components of matter—electrons, neutrons, protons, etc.—even if those components are not "particles." That the equations used in quantum mechanics get so much right about what happens in the world seems to me disproof of Condon's contention. I agree with his concerns to the extent that the physical meanings we attach to or imply for the variables in equations are arbitrary, that the real things are not as we picture them; but this too may be true but not new; Richard Feynman (Feynman, Leighton, & Sands 1964: II, 18) is cited not infrequently to this effect: "What counts are the equations themselves and not the models used to get them."

I suggest that the fundamental difference between the physical sciences and the social sciences is that the former but not the latter can indeed treat the things they study as collections of identical objects (Bauer 2016).

Chapter 13 is about "Long Timescale Controversies: Evolution and Climate Change." Condon claims to be impartial since he is no fan of "either side" in these controversies. However, he raises questions about dating techniques in ways that, so far as I know, only adherents of scientific creationism or intelligent design do. The discussion of evolution is flawed by mis-describing modern "Darwinist" views, for example not mentioning Margulis's demonstration of big-step–wise

"evolution" via symbiosis.

Doubts are also expressed over the dating of ice cores in climate-change research. I agree with this book that the evidence for human-caused climate change is far from sound, but I do so on other grounds (Bauer 2012, 2015).

I found again unsatisfactory, unconvincing, the discussion in Chapter 14 of potential risks from science. Thalidomide, DDT, the archiving of smallpox virus seem appropriately pertinent here, but the possibility of catastrophic events from research with the Large Hadron Collider seems too farfetched.

Technical failings of this book include the lack of an index and a very unattractive presentation—it looks like photocopied typescript, too faint to be read comfortably. The cited references neglect much relevant and important material. These flaws no doubt reflect self-publication through Amazon's CreateSpace Independent Publishing and illustrate the potential benefits that might have accompanied competent editorial work. I was also quite puzzled by the statement on page 2, "First published by Hartley and Truro in 2016"; Google and Internet yielded no information about the existence of such a publisher.

I dislike writing bad reviews. Given the comments on amazon.com, I'm in a minority of one as against nine fans in being disappointed in this book. Clearly, potential readers attracted by the book's title should look also at the amazon.com reviews.

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Vol: No.	Article	Author(s)
1:1	A Brief History of the Society for Scientific Exploration	P. Sturrock
	Aterations in Recollection of Unusual and Unexpected Events	D. Hall et al.
	Toward a Quantitative Theory of Intellectual Discovery (Esp. in Phys.)	R. Fowler
	Engineering Anomalies Research	R. Jahn et al.
	Common Knowledge about the Loch Ness Monster	H. Bauer
	An Analysis of the Condon Report on the Colorado UFO Project	P. Sturrock
1:2	The Strange Properties of Psychokinesis	H. Schmidt
	What Do We Mean by "Scientific?"	H. Bauer
	Analysis of a UFO Photograph	R. Haines
	Periodically Flashing Lights Filmed off the Coast of New Zealand	B. Maccabee
2:1	Commonalities in Arguments over Anomalies	H. Bauer
	Remote Viewing and Computer Communications—An Experiment	J. Vallee
	Is There a Mars Effect?	M. Gauquelin
	Raising the Hurdle for the Athletes' Mars Effect	S. Ertel
2:2	UFOs and NASA	R. Henry
	The Nature of Time	Y. Terzian
	Operator-Related Anomalies in a Random Mechanical Cascade	B. Dunne et al.
	Evidence for a Short-Period Internal Clock in Humans	T. Slanger
	Three New Cases of Reincarnation Types in Sri Lanka with Written Records	I. Stevenson et al.
3:1	Arguments Over Anomalies: H. \?Polemics	H. Bauer
	Anomalies: Analysis and Aesthetics	R. Jahn
	Trends in the Study of Out-of-Body Experiences	C. Alvarado
	A Methodology for the Objective Study of Transpersonal Imagery	W. Braud/ M. Schlitz
	The Influence of Intention on Random and Pseudorandom Events	D. Radin/J. Utts
	Case of Possession Type in India with Evidence of Paranormal Knowledge	I. Stevenson et al.
3:2	New Ideas in Science	T. Gold
	Photo Analysis of an Aerial Disc Over Costa Rica	R. Haines/J. Vallee
	Three Cases of Children in Northern India Who Remember a Previous Life	A. Mills
	"Signatures" in Anomalous Human–Machine Interaction Data	D. Radin
	A Case of Severe Birth Defects Possibly Due to Cursing	I. Stevenson
4:1	Biochemical Traumatology/Plant Metabolic Disorders in a UFO Landing	M. Bounias
	Return to Trans-en-Provence	J. Vallee
	Analysis of Anomalous Physical Traces: 1981 Trans-en-Provence UFO Case	J. Velasco
	Physical Interpretation of Very Small Concentrations	H. Bauer
	Luminous Phenomena and Seismic Energy in the Central United States	J. Derr/ M. Persinger
	Photo Analysis of an Aerial Disc Over Costa Rica: New Evidence	R. Haines/J. Vallee
	A Scientific Inquiry into the Validity of Astrology	J. McGrew/ R. McFall
	Planetary Influences on Human Behavior: Absurd for a Scientific Explanation?	A. Müller
	Five Arguments against Extraterrestrial Origin of Unidentified Flying Objects	J. Vallee
4:2	Using the Study of Anomalies To Enhance Critical Thinking in the Classroom	M. Swords
	Observations of Electromagnetic Signals Prior to California Earthquakes	M. Adams
	Bayesian Analysis of Random Event Generator Data	W. Jefferys
	Moslem Case of Reincarnation Type in Northern India: Analysis of 26 Cases	A. Mills

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