underlying research scaffold and the nature of the discussions, problems and the criticisms of sceptics revolving around it have not changed so much. Thus, despite being a historical study, Noakes's book is also of relevance today and nobody interested in the history of psychical research should neglect it.

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N EQUALS 1: SINGLE CASE STUDIES IN ANOMALISTICS edited by Gerhard Mayer. Zürich: Lit Verlag. 2019. 402 pp. £34.80. ISBN 9783643911230.

N Equals 1 is an edited collection of discussions and presentations of single case psychical research. This book is a valuable and innovative contribution to the literature. Rather than attempting to verify paranormal claims, the contributors focus on psychological and social-psychological processes associated with anomalous experiences. Contributors reveal special methodologies specific to single case studies, portraying unique features within this realm of inquiry. This orientation advances a paradigm that could replace traditional psychical research strategies. The new paradigm combines

psychical research sensitivities, theories from other fields, and mainstream social scientific methodologies.

Analyses of single case psychical research can be compared to parapsychology's laboratory paradigm associated with J. B. Rhine. He and his colleagues sought to verify paranormal claims through statistical analysis. To what degree has the Rhinean paradigm been successful? Comparing the old *Handbook of Parapsychology* (Wolman, 1977) to *Parapsychology: A Handbook for the 21st Century* (Cardeña, Palmer & Marcusson-Clavertz, 2015) allows an evaluation: "It is hard to avoid being struck by the apparent lack of progress" (Mörck, 2016, p. 194). Haunting/poltergeist research suffers from a similar problem: "Since research began in earnest, many creative and lively ideas have been proposed to account for apparitions and ghosts, but none have been experimentally productive" (Maher, 2015, p. 338).

N Equals 1 offers an alternative paradigm. Many contributors suggest that psi has characteristics that thwart its investigation. Rather than seeking to prove that psi is real, they gather information regarding its impact and meaning to those experiencing it and to those exposed to accounts of it. Some contributors focus on the psychological well-being of experiencers; their research includes a form of therapy. The resulting paradigm includes standard social scientific methodologies with therapeutic goals. This orientation allows theory development, testable hypotheses, and theory revision, features associated with scientific progress. A brief summation of each chapter supports this argument.

Foreword

Stephen Braude offers ideas about "the knotty psychogenesis of the phenomena" (p. 4). Braude provides ideas about savants, prodigies, mnemonists, and musical abilities. His discussions of these topics exemplify the types of creative thinking that could result in theoretical development. If psi is not information and energy transfer, it must be something else.

Part I: General Considerations

Gerhard Mayer and Michael Schetsche discuss the logic of single case studies. They review models and methods pertaining to recurrent spontaneous psychokinesis (RSPK), that is, poltergeist disturbances. They note the reluctance of scientific parapsychologists to get involved in these investigations. Their discussion reveals the innovative quality within this book. Rather than attempt to prove that psi is *real*, they focus on experiencers' thoughts, feelings, and subsequent actions. They discuss the impacts of amateur research, endeavors that involve special research methods, processing of data, and quality of documentation. They also discuss the role of mass media and resulting psychosocial dynamics.

Carlos Alvarado's (1996) article advocates a pluralistic investigative approach for RSPK cases. He argues that the Rhinean paradigm caused a decline of interest in spontaneous cases and reviews the limitations of the Rhinean paradigm. Laboratory studies "may not be telling us much about ESP itself; rather, they concern the ability subjects have to perform in an artificial situation" (p. 51). Spontaneous cases "allow us to see if experimental

findings can also be found outside of the experimental context" (p. 51). Spontaneous case research offers important insights. These investigations shed light on the cultural and psychological correlates of psi. Researchers can compare incidence of various experiences, look at religious contexts, mental health issues, and the degree to which spontaneous cases coincide with experimental findings. Field studies allow insights on the social relevance of parapsychology. They remind parapsychologists of the complexity of psi.

Part II: Single Case Studies in Anomalistics

Mayer and Schetsche discuss the nature of RSPK investigations. They note three types of interpretation: spiritualist, animistic-parapsychological, and natural. Single case investigations can be classified on the basis of researcher professional qualifications, methodology, and equipment. They review investigations conducted by the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP) [Institute for Frontier Areas of Psychology and Mental Health] in Freiburg, Germany. The *Freiburg School* is strongly committed to a psychological, process-oriented approach derived from Hans Bender's research. IGPP has a counseling and information department which conducts scientific investigations documenting the phenomena, psychodynamic situation, and the social dynamics among people involved. The authors discuss amateur ghost-hunting groups in the USA, Great Britain, and Germany. They note that person-oriented processes (interviews, documentation of activities, etc.) tend to be more fruitful than investigations using measuring instruments.

Mayer and Schetsche also discuss cryptozoology and crop circle research. Cryptozoology involves investigating animal forms whose existence is based only on testimony, circumstantial evidence, or other insufficient material. Crop circle research deals with regular geometric patterns, mostly in cornfields, thought to have anomalous origins. Results of these investigations often include an assessment of the degree the phenomena seem anomalous. In both cases, the phenomena involve physically manifested objects, which can be examined using conventional scientific methods. Cryptozoologists focus on *large* animals whose existence is in doubt since smaller species are continually being discovered through normal means. As with crop circles, some artifacts are determined to be fraudulent. Researchers seem to be conducting a targeted search for open outcomes where results and knowledge regarding the phenomena are unclear and ambiguous. As in psychical research, these endeavors are strongly influenced by lay scientific actors and possible fraud.

Andreas Anton discusses UFO research (investigations of unexplained aerial phenomena). He summarizes UFO sighting data, theoretical explanations, and research methods. He provides an exemplary case study of the Hessdalen Lights (rural central Norway). Theoretical explanations include: (1) normal explanations (fraud, misinterpretation, hallucinations, secret military projects, etc.), (2) unknown natural phenomena (weak UFO anomalous principle), (3) extraterrestrial, time, or dimensional travelers (strong UFO anomalous principle). From the vantage point of the society of

science, UFOs are a classic anomaly, an "undesirable deviation from the pool of generally accepted scientific knowledge" (p. 144). Anton notes that the discovery of numerous earth-like planets in our galaxy increases the probability that intelligent species, beside ours, exist in our universe. "Against this background, it is astonishing that some scientists argue so persistently against the UFO-ET hypothesis and also against a scientific investigation of the UFO topic" (pp. 145–6). Anton discusses ideological barriers to UFO research: fear of physical destruction, cultural destruction, ideological shocks, losing control and sovereignty.

Part III: Historical Case Studies

Michael Nahm reviews Justinus Kerner's investigation of the "Prison Spook" in Weinsberg, Germany in 1835 and early 1836. This case is interesting because the investigator encountered so many elements found in later cases. Kerner was a distinguished German poet, practicing physician, and medical writer. He gave the first detailed description of botulism. The haunting case revolved around a prison inmate, Mrs. Eslinger, around whom haunting manifestations were prevalent. Kerner interviewed dozens of witnesses who reported unusual acoustic phenomena (spoken words, shrieks, walking sounds, knocks, gun shots, dripping water, rustling paper, objects being thrown), inexplicable visual impressions (moving yellowish or whiteish blotches, twinkling stars, human-like shapes, full-fledged apparitions), tactile sensations (cold winds, touching), PK events (blankets pulled, objects thrown, etc.), unexplained odors, and abnormal behavior of cats. The case is remarkable due to its antiquity, careful documentation, incidence in multiple locations, and parallel elements to those in many later cases. The haunting case resulted in much discussion at the time and Nahm documents reactions to this case. The "imbroglios and accusations" (p. 189) that Kerner experienced are found throughout history and are prevalent in modern haunting cases. Explanations for these phenomena vary. Kerner assumed the phenomena were caused by deceased spirits who were not fully aware of their condition. His writing "remains a pioneering milestone of early studies into haunting phenomena...[which] highlight how little the reception problem concerning such kinds of phenomena has changed since the days of Justinus Kerner" (p. 192).

Gerd Hövelmann, Carlos Alvarado, Massimo Biondi, and Friedrike Schriever discuss the recurrent apparitions of Emilie Sagée. In 1845, Sagée was a teacher at a college for noble young ladies in what is now Latvia. The students and faculty saw many instances of her doppelganger. Thirteen students saw her spectral twin standing by her side, mirroring her movements. Forty-two pupils saw her simultaneously walking outside while, at the same time, sitting at her desk. Although documents of first-hand accounts are limited, witnesses seemed convinced that their experiences were valid. The authors discuss the social reactions to these reports. Published descriptions shaped spiritualist folklore and occult doctrines. Accounts were used to support multiple theoretical ideas in ways that make this case a classic exemplar. Interpretations were diverse and contradictory: external fluidic or subtle body, external manifestation of the soul, hallucination, astral

projection. Interpretations were shaped by respective zeitgeists. "[T]he question of the authenticity of the reported events is unimportant or irrelevant for the interpretation of the phenomena of the doppleganger" (p. 225).

Gerhard Mayer discusses the Bélmez Faces case, investigated by Hans Bender, among others. The case began in 1971 in the Andalusian village Bélmez de la Moraleda. Phenomena involved images of faces that appeared in the concrete kitchen of the focal person's house. Police (Guardia Civil) conducted early investigations which stimulated much media attention. Bender learned about the case in 1972. Although subsequent investigations, involving a TV Team, generated interesting results, by 1972 the media began rejecting parapsychological interpretations. Even so, phenomena continued. Observers watched a face develop on the floor during a ten-minute period. Plastic sheets were secured on the floor to prevent fraud. Although new faces appeared under the transparent sheeting, these images disappeared within two days, before they could be photographed. A second plastic sheet experiment with video camera was less successful and the experiment was terminated. A less controlled experiment resulted in new faces, but these emergences were not filmed. Continued experiments generated mixed results, none of which proved paranormal qualities beyond doubt. "Bender was convinced of the paranormal quality of the phenomena, but he was forced to state: 'Technical obstacles prevented reaching intended highest level of documentary evidence" (p. 248). Fake news became a factor in the public's perception of this case. Reports that a photographer had produced the faces were widely disseminated but the photographer stated that he never made this confession.

Mayer describes the "Chopper" poltergeist case. His findings illustrate concepts regarding social suppression, social elusiveness, and rational gravity. In 1981, a 16-year-old dentist's assistant began receiving threatening phone calls in a small Bavarian town. The caller called himself Chopper. After the police became involved, the Chopper's voice began intruding in telephone conversations between the dentist and his patients. The Chopper spoke up to 120 times a day, with vulgar content. Technicians were unable to determine the source of this voice. In 1982, the phenomena began manifesting as a voice in the room and was labeled a poltergeist. Bender and his assistant, Elmar Gruber, launched an investigation while, simultaneously, police elicited partial confessions from the main experiencers. Bender regarded this as a "mixed" case, one combining fraud with authentic phenomena. Mayer interprets this case as an example of a later stage in poltergeist cases, a period where "rational gravity" is restored. This case coincides with predictions derived from Walter von Lucadou's (1995, 2015) theories: poltergeist phenomena follow phases: surprise (initial experiences attract attention), displacement (observers seek to find other sources beside the central figure), decline phase (the central figure is recognized and phenomena decline), and social suppression (skeptical "rational gravity" takes over, ending the phenomena).

Mayer describes investigating a photographic anomaly. An enlarged element within a photograph taken at a birthday party shows a face-like

shape. Initial investigations failed to account for this image. Mayer interviewed central figures, visited the scene, and attempted to simulate the image. He portrays the anomaly as a social process and discusses possible explanations including spiritualist and folklore interpretations.

Mayer and Jürgen Kornmeier report on mysterious objects in photographs taken by a wildlife camera. The camera, which reacts to movements using an infrared sensor, was installed mainly for documenting boars. Photographs show a strange object moving in the bottom right section of the images (possibly a small humanoid skull). Other photographs, with the same camera, show another unexplained image. An investigation revealed the second image to be an insect flying close to the camera. Further analysis of the first image suggested that the humanoid image was a bird.

Mayer reviews the "Castle Hotel" haunting case. Evidence was derived from interview data, photographic records, and historical research. Phenomena involved a wide range of extraordinary reports beginning in the 1990s, particularly in specific rooms: unexplained acoustic phenomena such as singing, unexplained images in mirrors, failures of lights, sensations of cold, unexplained smells, dysfunctions of technical devices, unexplained feelings and sensations. A variety of people experienced the phenomena, offering different interpretations. The hotel's financial problems may have generated anxiety contributing to the haunting. The hotel's history as a hospital during World War II may also have been a factor, as was the death of a popular hotel director in 1949. Mayer discusses the impact of the investigation on those involved. The investigation generated further interest even after the hotel closed.

Manuela von Lucadou and Sarah Pohl describe methods and findings of the Parapsychological Counseling Centre in Freiburg regarding a 2016 poltergeist case. A family asked for help in ending the phenomena. The counseling center used Walter von Lucadou's (2015) Model of Pragmatic Information (MPI). Lucadou conceives of hauntings/poltergeists as "a kind of psychosomatic reaction shifted to the outside world" (p. 352). Rather than distinguishing between poltergeists and hauntings, this model portrays a continuum, with haunting/poltergeists representing meaningful events within psychophysical systems. Within this model, attempts to "use" the phenomena destroy the locality of the system. As in Mayer's investigations, phenomena incidence coincided, to a degree, with the model's predictions. Lucadou and Pohl argue that attempts by outside observers to witness and document the phenomena tend to be thwarted. Instead, they ask the question, "What is the message of the haunting phenomena?" This case involved a family living communally with five other families in an isolated former boarding school. The house had previously been the residence of sadistic monks who used corporal punishment. The families were members of a Pentecostal movement that emphasized gifts of grace from the Holy Ghost. Phenomena included strange noises, chairs moving, pots rattling, unexplained stepping sounds, doors opening anomalously, books flying, apparitions, uncanny atmosphere. The investigators asked about personal interpretations of the phenomena. They launched a haunting diary. They investigated extended family and community systems and identified core individuals (the

eldest adolescent daughter was a central figure in the case and seemed to be reacting to her parents' faith). The investigators described therapy strategies using for this type of research. Examples include psychoeducation, reframing, haunting diary, normalization, working with timelines, rituals, installing a camera (to thwart phenomena). A few weeks after this intervention, a witness reported reduced phenomena and reduced fear, perhaps as a result of changes in sleeping locations and departure of a core experiencer.

Renaud Evrard describes an RSPK case in Amnéville. France (not to be confused with Amityville). Although prevented from investigating directly, he conducted a cultural analysis of media accounts. He uses a framework derived from Lucadou's MPI (Lucadou & Zahadnik, 2004). Lucadou's theory states that psi phenomena are nonlocal correlations in psychophysical systems rather than signals or forces. As a result, psi is affected by the meaning of the situation (Lucadou, 1995, 2015). Evrard discusses social elusiveness, natural elusiveness, and trickster theory (Hansen, 2001). Phenomena included jam jars falling to the ground, laundry thrown about. animals that remained calm during noisy disruptions, artificial flowers coming out of their pot, witnesses struck by a telephone and pillows, and a heavy flowerpot fell. The police and, later, journalists arrived to investigate. Evrard correctly predicted, based on Lucadou's theory, that their efforts would restore normalcy. Skeptics attracted media interest, and, within two weeks, a witness confessed. The media reported that the case was resolved. Evrard reveals the intense ambiguity of the situation, reviewing evidence crediting and discrediting paranormal claims. Evrard makes a good case for his arguments regarding social elusiveness and Lucadou's model: (1) initial witnesses claimed the phenomena were genuine, (2) outside observation coincided with phenomena decline, (3) a central figure admitted to fraud, and finally (4) debunking articles were published, ending the case.

Discussion

Overall, *N Equals 1* is well-written, scholarly, and stimulating. This book does not attempt to resolve issues regarding the authenticity of psi. It focuses on factors related to psi experiences and on the impacts of these experiences. I will argue that this paradigm is more promising than that of mainstream parapsychology since it offers greater possibilities for theory development and hypothesis testing. In support of this argument, I will briefly discuss innovative theories and speculative hypotheses, loosely associated with this orientation.

Walter von Lucadou's theory is at the heart of *N Equals 1*'s paradigm (Lucadou, 1995, 2015; Lucadou & Wald, 2014; Lucadou & Zahradnik, 2004). Lucadou argues that similarities between psi and quantum properties support the assumption that quantum theorums explain paranormal processes. Quantum physicists note that nonstable particles have larger fluctuations when not observed and that continuous observation prevents quantum decay (Zeno effect). A second theorum is that quantum entaglement (spooky action at a distance) cannot convey information. In similar fashion, psychical researchers find that the incidence and magnitude of psi are reduced by observation. Cameras, security devices, documentation, and

observer scrutiny reduce RSPK (Lucadou & Wald, 2014). Lucadou argues that psi declines when exposed to scrutiny due to quantum processes and that quantum entanglements (which allow psi) cannot be used as a carrier to convey information — with a special definition of *pragmatic* information.

This theory is in harmony with Kenneth Batcheldor's (1994) observations regarding table-tipping PK. Table-tipping groups found that lighting. skeptical scrutiny, photographic and electronic documentation thwart the phenomena. Batcheldor hypothesized that psychological variables (fear of psi, ownership resistance, witness inhibition) also thwart PK. Batcheldor (1994) adjusted his model to describe a Universal Creative Principle which affects human consciousness. He argued that PK occurs only within pockets of indeterminacy, a theoretical addition that helps explain psi's trickster/ fraud qualities (Hansen, 2001; Kennedy, 2003). McClenon (2018, 2019) extended this argument, suggesting that dissociative disruptions of the sleep-wake cycle play a role. Collective PK has dream-like, trickster qualities due to its physiological relationship with trance and dream/waking processes. Dreaming consciousness has different functions than does waking consciousness; as a result, simultaneous operations of these mechanisms (Batcheldor's projections into collective reality) have trickster, dream-like characteristics. Spirit personalities cannot be fully verified but have qualities like actors in a dream. These psychological explanations for psi's characteristics extend, rather than refute, quantum models.

RSPK researchers need not depend on speculative theories to devise replicable hypotheses. *N Equals 1* portrays patterns regarding psi's hiding quality, decline phases, effects of outside observers, and association with fraud. The history of Spiritualism, psychical research, chapters in *N Equals 1*, and other recent cases reveal a wider set of recurring patterns (Cropper & Healy, 2014; McClenon, 2018, 2019; Pilkington, 2006). These patterns imply the following hypotheses:

- (1) Experimental psi will not attain the robustness witnessed in the field. Laboratory psi should be regarded as a *performance*, a form of collective psi involving experimenters, subjects, and observers. Although all actors can enhance or thwart psi phenomena, there is a tendency for outside observers to thwart it.
- (2) Field researchers can identify variables correlated with enhancing or thwarting psi experience. Psi experience frequency can be measured through questionnaires. Robustness can be operationally defined by quantifying media impact. The following variables (in performers, participants, outside observers) affect collective psi experience: (a) history of spontaneous psi experience (b) history of performance psi experience (c) genetic propensity for psi (measured by counting psi experiences reported by close relatives), (d) psychological variables such as absorption. dissociation, transliminality, (e) variables affecting psychological variables, such as socialization and childhood difficulty, (f) belief facilitates psi; skepticism thwarts it, (g) rapport facilitates psi; dissension thwarts it, (h) the probability of experiencing psi is enhanced by psi-conducive

- individuals surrounded by a supportive audience, (i) some practices facilitate psi experience (meditation, martial arts, yoga, tai chi, artistic and musical endeavors, etc.), and (j) methodological rigor thwarts psi (use of electronic equipment, photography, precise documentation, careful scrutiny, skeptical observers).
- (3) Within quantum processes, the future affects the past. As a result, psi declines over time since future observers tend to thwart psi (Millar, 1978).
- (4) Psi experiences tend to generate belief in spirits, souls, life after death, and magical abilities, ideologies providing survival benefits. Although psi tends to decline over time, future performers, with genetic propensity, experience psi, attain belief, foster rapport, and induce experiences among participants, generating hypnotic and placebo effects (McClenon, 1997, 2002). Researchers could identify phenotypes associated with psi's genotypes (McClenon, 2012, 2013).
- (5) Cultural and historical factors affect prevalence of variables (dissociation, absorption, transliminality, childhood difficulty, social cohesion and instability) affecting psi incidence.
- (6) Researchers will not generate fully replicable experiments or create artifacts proving the existence of psi unless their efforts are shielded from general observation.
- (7) Psi phenomena have trickster qualities (Hansen, 2001; Kennedy, 2003): (a) unpredictable, sporadic qualities, (b) association with fraud, (c) absurd qualities, (d) hiding qualities, and (e) propensity to occur under ambiguous conditions.
- (8) Field researchers should expect to encounter: (a) performers who seem to consistently demonstrate psi, (b) prevalent mixed cases, and (c) stigma associated with psi experience. Stigma seems associated with psi's decline.

Although these patterns suggest that psi has qualities that thwart its scientific investigation, other fields such as genetics, consciousness studies, and quantum mechanics are predicted to generate findings pertaining to psychical research. For example, Zurek (2009) offers a Quantum Darwinism model. His theory argues that quantum probabilities generate collective reality through a process involving "survival of the fittest" among quantum probabilities (Greene, 2019). Early hypotheses derived from this idea have passed evaluative tests (Ball, 2019). This theory implies that reality, as we perceive it, is not something "inside" our brains but a collective product. Multiple observers witness the collapse of wave functions determining whether Schrödinger's cat, and all other living beings, are alive or dead. Each of us experiences a series of outcomes in which we are temporarily alive but do not experience outcomes in which we are dead (unless we visit alternate realities inferred by Quantum theories). Although linkages between quantum processes and psi are speculative, we should expect progress in established scientific areas to have impact on the direction of psychical research. N Equals 1 offers an innovative way of thinking, useful for advancing this line of thought. This book offers a pathway toward creative theory, hypothesis testing, and theoretical progress.

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