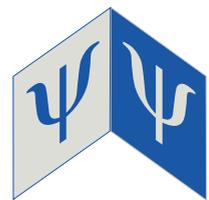


Biennial Report 2016–2017



Institut für Grenzgebiete der Psychologie
und Psychohygiene e.V. (IGPP)
Freiburg im Breisgau

Biennial Report 2016–2017

Institut für Grenzgebiete
der Psychologie und
Psychohygiene e.V.
Freiburg i. Br.

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Printed by: schwarz auf weiss. Litho- und Druck GmbH, Freiburg i. Br.

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Freiburg i. Br., April 2018

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Preface

Extraordinary experiences and phenomena are part of our life, whether we like it or not. They fascinate; they remind us that we - and the world we live in - are not and do not always function the way we imagine. There are occurrences, which are still mysterious and inexplicable, and this will most likely be so for a long time. The unshakeable belief in the reality of these phenomena and the stubborn skepticism towards these are the poles between which the discourse about their appearance and their authenticity takes place. It concerns experiences at the frontier of our everyday reality, extraordinary subjective experiences, physical and biological anomalies, and if nothing else, it concerns the expansion of the understanding of the world we live in. Thus, it does not revolve solely and exclusively around the classical phenomena of parapsychology, such as hauntings, extrasensory perception, or telepathy, but more generally and in the broadest sense, it concerns the study of hitherto poorly understood phenomena and anomalies at the frontiers of knowledge. And these exist more or less manifest in all scientific disciplines, be it physics, biology, medicine, psychology, or social sciences.

For over six decades, the Institute for Frontier Areas of Psychology and Mental Health (IGPP) in Freiburg founded by the physician and psychologist Hans Bender in 1950 has striven to explore the world of anomalous phenomena with all existing scientific methods. At the beginning of the Institute's research, the applied methods were largely derived from the fields of psychology, medicine, and the humanities. In recent years, neuroscientific methods diversified these with increasing significance. Finally, physics were at place when it came to the development of explanations concerning anomalous phenomena. Nevertheless, whatever unusual happens and however extraordinary the experiences people occasionally make are, they always take place in a social context and are anchored in the reality of life. This is what the social sciences recently deal with.

Research in the field of frontier areas must be organized inevitably in a multi-disciplinary and intercultural way. However, this presupposes that the dialogue between and the discourse within the disciplines involved in this research needs to develop and maintain a common language of communication. Such a thing cannot be standardized and thus needs to be in a constant process of optimization.

The reflexive concern with frontier areas and anomalies is not only important under these



Fig. 1. Prof. em Dr. Dieter Vaitl,
Director of the Institut für Grenzgebiete
der Psychologie und Psychohygiene e.V.

specific aspects, but also provides a basis for reflection for the traditional scientific landscape. Common central questions are, for example, the replicability of results, the social context in which they occur, and not least the pitfalls that evolve from misinterpretations when, for instance, no distinction is made between ontological and epistemic statements. The current biennial report attempts to give an insight into some of the Institute's pursued research approaches and areas of work and summarizes the main findings from 2016 and 2017. This aims and hopes to revive the discourse on how we can deal with frontier experiences confronted with in our daily life and our scientific endeavours.

April 2018, Freiburg

Dieter Vaitl

1. History

The exploration of phenomena and experiences in the frontier areas of our reality has a long tradition in Freiburg. The Institute for Frontier Areas of Psychology and Mental Health (IGPP) contributed significantly to this. Its founder, Professor Dr. Dr. Hans Bender (1907-1991) was probably the best known and the most popular academic representatives of German parapsychology after the Second World War (Fig. 2). Shortly after the war, Hans Bender began to establish an Institute in the “Eichhalde 12” building in Freiburg-Herdern (Fig. 3). There, operations began in 1950 and he was the Institute’s director until his death. Soon, a connection with the university was established; between 1954 and 1975, Bender held a Professorship of Psychology and its Frontier Areas at the Department of Psychology at the University of Freiburg. He was followed by Professor Dr. Johannes Mischo (1930 - 2001), who held the Professorship until 1998 and was the director of the IGPP until 2001. His successor since 2001 is Professor Dieter Vaitl, University of Gießen.

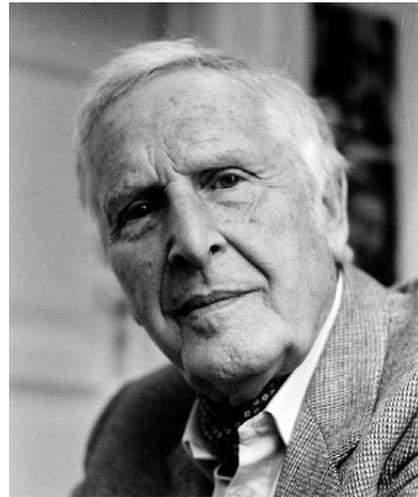


Fig. 2. Hans Bender, the founder of the IGPP around 1980.



Fig. 3. The IGPP at Eichhalde 12 in Freiburg in 1967. (Photo: Willi Pragher, Landesarchiv Baden-Württemberg, Staatsarchiv Freiburg, W 134 Nr. 5218c).

Historically, the “Eichhalde-Era” can be seen as the heroic time of the institute: Until the mid/ end eighties of the last century, it was highly influenced by the charismatic personality of Hans Bender, who was seen as the Parapsychology Professor (“Spook-Professor”) par excellence. Bender’s lectures and seminars at the University of Freiburg gained legendary status with generations of students. Several hundred auditors followed his Tuesday lectures at the university fascinated and amused about his enthralling elaborations of the future, based on well-documented prophetic dreams, or of haunting research, such as the Rosenheim case.

Bender never tired of pointing out that uncommon (paranormal) experiences and

occurrences (psi-phenomena) are basic human features and that they belong to human life, deserving to be researched in detail. Besides establishing this form of science in the canon of psychological disciplines, he contributed with his intensive public work to the fact that the frontier areas of psychology became popular and found entrance into the academic discourse. The financial and personnel resources of the institute were very modest at first and were financed mainly by the foundation of the Swiss biologist and parapsychologist Dr. Fanny Moser (1872 -1953) (Fig. 4). The financial shortage surrounding the research of the frontier areas, changed in 1992, when the IGPP started to be financially support by the Holler Foundation, leading to an expansion of the previous fields of research.

The spouses Holler had already in the 60's decided that their assets should fall to a charitable foundation. Asta Holler (Fig. 5), who outlived her husband by 20 years, provided with



Fig. 4. Fanny Moser around 1920 .



Fig. 5. Asta Holler around 1970.

her will assets, which should allow time unlimited benefits. In September 1990, one year after Asta Holler's death, the foundation started work. Heidrun Edelmann wrote an overview worth reading about the Holler-Foundation with the title „Vermögen als Vermächtnis. Leben und Werk der Stifter Christian und Asta Holler“ (München: Oldenburg, 2011).

The improved financial situation called for a restructuring of the Institute. With the growing number of research projects and scientific personnel from natural, social, and cultural sciences, the Eichhalde-Institute was left and the Institute moved into the centre of town. Since then, the IGPP and its research has been the focal point of very different scientific cultures. Today, the IGPP is the world's largest institution of its kind.

2. Research

Following its initial mission, the IGPP concentrated as in the previous years on interdisciplinary research of so far insufficiently understood phenomena and anomalies at the frontiers of our knowledge. These include conditions of altered states of consciousness, extraordinary human experiences, mind-matter interactions as well as their social, cultural, and historical context in the humane, social, and natural disciplines. This mission is declared in the institute's statutes.

One outstanding characteristic of the IGPP is its philosophy of neutrality and its institutional independence. At the centre is the investigation of frontier areas of psychology. Its topics and methods can be summarized with the term reflexive anomalistics. Reflexive means an anomalistic, which, in the discourses in its field, is aware of the context of the epistemological characteristics of the examined phenomena and the particular methodological problems associated as well as the entanglement between subjective evidence, scientific data, and social discourse.

In order to fulfill these tasks, the IGPP has a specific organizational structure: (1) The IGPP is a registered organization with eighteen members from various universities, the economics, medicine, and the natural and cultural sciences. (2) The Institute is led by a three-member board, which selects from its ranks a director for a four-year term. (3) The Rules of Procedure of the IGPP provide that a scientific advisory board accompanies and evaluates the research and performance. (4) The advisory board consists of nationally and internationally recognized scientists and researchers and serves as an external advice and monitoring system in relation to the objectives that are set out in the statutes of the IGPP. (5) A research committee prepares a decision paper for the Institute's management concerning project fund applications. The basis for this is statute conformity as well as the quality and the sustainability of the respective research projects. (6) A local ethics committee assesses internal research projects conforming to the exemplary rules of procedure provided by the German Society for Psychology.

Research at the IGPP splits into four research subjects:

- *Natural sciences and experimental research*

Research interests include for example generalized quantum theory, acategoriality, mind-matter interactions, physiology of subjective evidence (deception, lies, pseudo-memories), time and space as fundamental dimensions of consciousness, questions about the "objectivity of perception", or altered states of consciousness.

- *Social and cultural research*

Research interests include for example the prevalence and patterns of extraordinary experiences, the social relationships between stigmatization, anomalies, and heterodoxies as well as the problems and history of parapsychology research and its predecessors since the 19th century to the present.

- *Psychological counseling research*

In addition, the IGPP maintains a broad-based counseling, information and education program for people with extraordinary experiences. This includes, as accompanying research, the conceptual development and empirical testing of specific diagnostic tools and treatment approaches for people with such experiences.

- *External research unit: Bender Institute of Neuroimaging (BION)*

For neuropsychological investigation of structural and functional brain activity an extra mural research institute (from 2000 through 2012 research institute of the IGPP) exists at the University of Gießen, where studies on altered states of consciousness we conducted by magnetic resonance tomography (MRT).

2.1 Natural Sciences and Experimental Research

2.1.1 Dual Aspect Monism

Correlations between mental and material states are an intrinsic feature of mind-matter models which consider such states as dual aspects of an underlying reality that itself is neither mental nor material. An early version of such a model is due to Spinoza, and since then variants thereof have recurrently been formulated, mostly outside philosophical mainstream directions. Well-known names in the modern philosophical history of dual-aspect monism are Strawson, Nagel, and Chalmers. From the perspective of philosophically interested scientists, Wolfgang Pauli and C.G. Jung are to be mentioned (in addition, e.g., Bohm and d'Espagnat).

In a series of publications, partly with a history-of-science flavor, we could systematically reconstruct the most significant characteristics of the ideas of Pauli and Jung. For this purpose, the comprehensive correspondence of Pauli, edited in eight volumes by Karl von Meyenn, was enormously helpful. We worked out how the apparently related position of neutral monism (Mach, James, Russell) deviates from the conception of Pauli and Jung. A key difference is that the psychophysically neutral reality in the Pauli-Jung conjecture is conceived holistically and can only be subject to decomposition. By contrast, neutral mo-

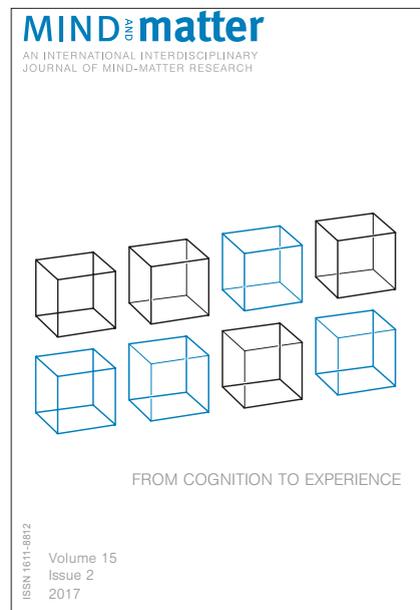


Fig. 6. Mind and Matter, From Cognition to Experience, 15/2, 2017.

nism is based on psychophysically neutral elements whose composition decides whether mental or material properties arise.

Atmanspacher

Publication: Atmanspacher (2017)

Journal “Mind and Matter”

The journal “Mind and Matter” was established in 2003 and has received increasing visibility as a high-quality publication outlet for questions of mind-matter research since then. The journal appears semi-annually and is, since 2013, indexed and abstracted by Elsevier’s scopus system. The number of submissions grows continuously, the current acceptance rate is about 30%. Since 2005 the journal has been produced and distributed by Imprint Academic, Exeter (UK). The themes of the 2016 and 2017 issues so far were “Quantum Mind ?” (14/1), “Minds and Markets” (14/2), “The Reality of Experience” (15/1) and “From Cognition to Experience” (15/2).

Atmanspacher, Moos

Publications: Atmanspacher, ed., Mind and Matter

2.1.2 Perception and Cognition

The discrimination between reality and illusion is to a large degree based on the capability of our perceptual system. The information available via our senses is restricted and to varying degrees ambiguous. It needs to be disambiguated and continuously interpreted in order to construct stable and reliable percepts. Ambiguous figures are paradigmatic examples in this context. They are maximally ambiguous, and percepts become only temporarily stable and alternate repeatedly between possible outcomes. We use this phenomenon of perceptual instability to study the influence of sensory and cognitive factors during the construction of an endogenous perceptual world.

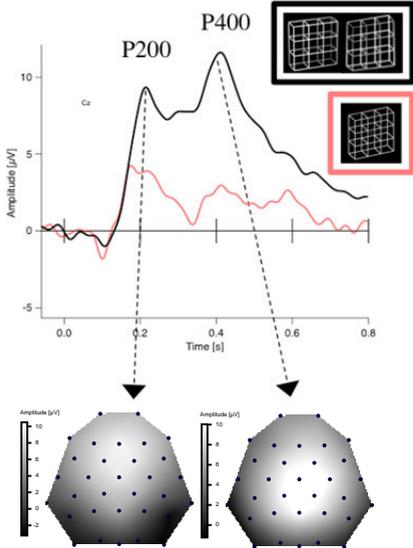
Meditation induces altered states of perception

During prolonged observation of an ambiguous figure our perception gets unstable and alternates spontaneously between mainly two interpretations. Earlier behavioral studies found longer average periods of stable percepts and thus fewer perceptual alternations of ambiguous figures in experienced meditators compared to non-meditating controls.

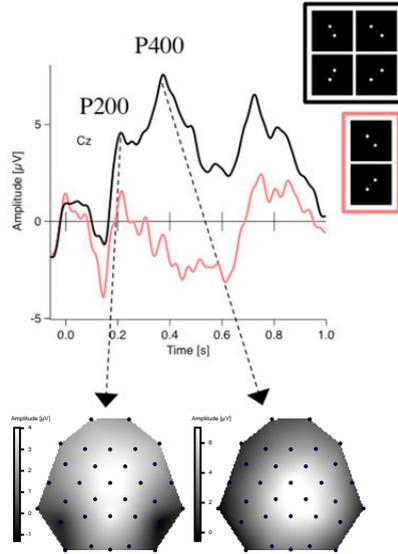
In this study, we compared the ERP correlates (ERP = event related potentials, calculated from the EEG) to spontaneous perceptual reversals during observation of the ambiguous Necker cube between experienced meditators and non-meditating controls. For this purpose we applied the so-called “Onset Paradigm“.

Results: Experienced meditators show larger amplitudes of early visual ERPs compared to non-meditators. These effects occurred already about 100 milliseconds after onset of the Necker cube and were independent of perceptual reversals. Meditators further showed lower rates of perceptual reversals and larger reversal-related ERP signatures between 200

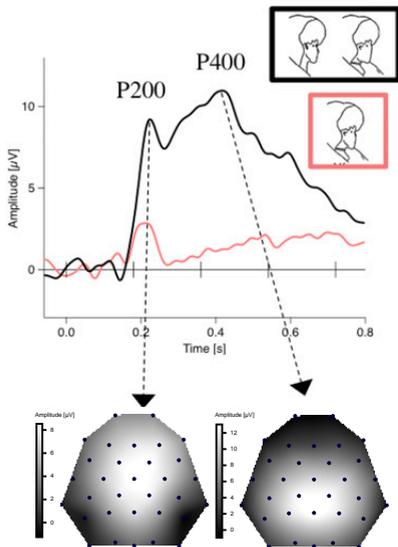
(a) Geometry



(b) Motion



(c) „Gestalt“



(d) Emotion

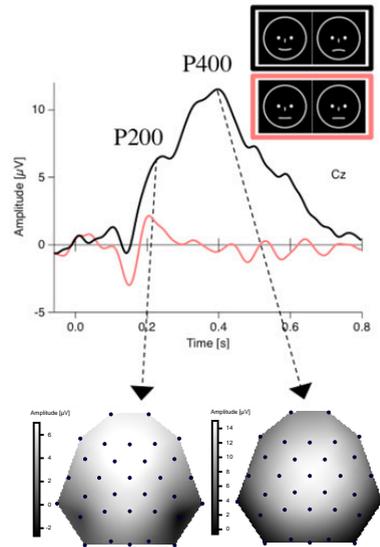


Fig. 7. Upper graphs: ERP Ambiguity Effect at electrode Cz: Unambiguous visual stimuli (black traces) evoke two ERP signatures a positivity 200 milliseconds after stimulus onset (P200) and another positivity 200 milliseconds later (P400). Ambiguous stimulus variants (grey traces) evoke in both components significantly smaller amplitudes than unambiguous stimuli. We found this effect for stimuli from very different visual categories like geometry (a) and motion (b) and also for stimuli from different complexity levels of perceptual processing, like gestalt formation (c) and even emotion (d). Lower graphs: Voltage maps show the distributions of P200 and P400, at the time points of maximal excursion, across visual categories and complexity levels on schematic scalps. Large amplitudes are coded in bright, small amplitudes in dark. Obvious are the fronto-central distributions of the P200 and the centro-parietal distributions of the P400 across stimulus categories and complexity levels. ERP = event related potential, calculated from the EEG.

and 600 milliseconds after stimulus onset. Finally, meditators showed an ERP negativity about 100 s after stimulus onset with a centro-frontal scalp distribution. Remarkably, this latter component was absent in non-meditating controls.

Interpretation: Larger attentional capacities and a more efficient attentional focus probably evoke more intense processing of the visual stimuli (early signatures) together with a more intense experience of spontaneous perceptual reversals of the Necker cube (larger activity, particularly at the fronto-central areas)

Repeated meditation practice seems to alter brain functions on longer time scales, lasting beyond the meditative praxis. Such altered brain functions may be related to altered states of perception and of consciousness.

Kornmeier and Wittmann, together with Atmanspacher, Friedel and Schmidt

Perception and meta-perception perceptual evaluation and the ERP Ambiguity Effect

Comparison of the ERP during observation of an ambiguous Necker cube (unstable percepts) and during observation of disambiguated cube variants (stabilized percepts) reveals highly significant differences: A fronto-central P200 and a parieto-central P400 show much larger amplitudes during observation of the disambiguated cube variants compared to the ambiguous Necker cube (Fig. 7a).

In the present ERP study we examined, whether this “ERP Ambiguity Effect” (effect size between 1 and 2) is also present with ambiguous motion stimuli (von Schiller’s Stroboscopic Alternative Motion, “SAM”: two alternating dot pairs induce perceptual alternations between horizontal and vertical motion) and with Borings famous Old/Young Woman stimulus (perceptual alternations between the faces of an old and a young woman). Results: Ambiguity in geometry (cubes), motion (SAM) and semantics (faces) evoke highly similar ERP Ambiguity Effects with large P200- and P400 amplitudes for disambiguated compared to ambiguous stimulus variants (Fig. 7a-c). A recent study from our group further indicates that only the ambiguity level of the task-relevant content of the visual short-term memory determines the amplitude modulation of the P200. The P400 amplitude, on the other hand, is modulated by the ambiguity level of both the visual short-term memory and the current sensory information.

Interpretation: Our perceptual system needs to continuously disambiguate the inherently ambiguous visual information. We propose that a meta-perceptual evaluation instance has been developed during cognitive evolution. This instance evaluates, generalized across visual categories, the reliability of the automatically generated perceptual results. The ERP Ambiguity Effect may reflect the evaluation results with large amplitudes in cases of high reliability. Findings of a recent study with Asperger autism patients indicate that perturbations of this postulated evaluation system may cause patterns of altered perception together with alterations of the ERP Ambiguity Effect.

Kornmeier and Joos, together with Bach and Tebartz van Elst

Publications: Kornmeier, Wörner, Bach (2016); Joos (2016); Kornmeier, Wörner, Riedel and Tebartz van Elst (2017)

Ambiguity at higher levels of complexity

Our previous studies about stimulus ambiguity and perceptual instability were restricted to basic visual (geometry, motion, etc.), auditory and tactile categories. However, ambiguity also occurs at higher levels of perceptual complexity, e.g. during the interpretation of the emotional content of faces or during human communication. In the present study we examined whether the ERP patterns, hitherto found for lower-level ambiguity, are also present at a higher level of perceptual complexity.

In a first pilot study we used Leonardo da Vinci's famous Mona Lisa portrait, because Art historians describe Mona Lisa's face as highly ambiguous. Starting with a grey-scale version of Mona Lisa we systematically changed the curvature of her mouth in order to create versions with increasing happiness and increasing sadness. In two separate experiments we presented two different sets of Mona Lisa variants in pseudo-randomized order. Participants indicated the perceived happiness as a psychometric function of our independent stimulus variable (i.e. the mouth curvature). Aim of this experiment was, to empirically determine the perceptually most ambiguous Mona Lisa variant together with an appropriate range of disambiguated happier and sadder variants for a subsequent psychophysiological study.

Results: (1) In contrast to numerous descriptions in art history, Da Vinci's original painting was perceived as happy in almost 100% of the cases. (2) The identity of the maximally ambiguous Mona Lisa variant and therewith the shape of the underlying sigmoid function strongly depended on and varied with the extent of the range of stimulus variants used in the respective experiment.

Interpretation: In the case of the classical ambiguous figures we have clearly defined physically maximally ambiguous reference stimuli (e.g. the Necker cube). No such reference stimuli seem to be present for ambiguity at higher levels of complexity. In contrast, our perceptual system shows a high flexibility to adapt quickly to a given stimulus context.

Kornmeier, Fischer and Liaci, together with Heinrichs and Tebartz van Elst

Publication: Liaci, Fischer, Heinrichs, Tebartz van Elst, Kornmeier (2017)

ERP Ambiguity Effect with ambiguity at a higher level of complexity

In a currently ongoing study we presented face stimuli with unambiguously happy and sad face expressions in one condition, and more ambiguous face stimuli with less intense expressions of happiness and sadness in a second condition. The aim of this study was to test whether the ERP Ambiguity Effect is also present for ambiguity at the level of emotional face expressions.

Preliminary results and interpretations: The ERP Ambiguity Effect is also present with ambiguity in the emotional expression of faces (Fig. 7d). Our data thus provide further evidence that the ERP Ambiguity Effect may reflect the outcome of a meta-perceptual evaluation process, generalized across visual categories and complexity levels.

Kornmeier and Joos, together with Giersch, Schaller, Rauh and Tebartz van Elst

2.1.3 Time Perception and Time Consciousness

Feeling states and the sense of time are strongly related. Accordingly, our research concepts focus on how emotional and body states underlie the perception of time. The sense of time is embodied. The bodily self is the functional anchor of phenomenal experience and the mental self. Time is thereafter fundamental for the understanding of self-consciousness. This relation is revealed in studies on altered states of consciousness such as in meditative states, under the influence of hallucinogens as well as in many psychiatric and neurological conditions.

Development of the scales on subjective time, self, space (STSS)

In order to assess the dimensions of consciousness when in an altered state, the STSS was developed asking the following questions pertaining to an experience: (a) the awareness of the bodily self, (b) the awareness of the surrounding space, with non-verbal pictorial scales containing answer categories ranging from 0 to 6. The questions are: “How intensively did you experience your body most of the time?” and “How intensively did you experience the surrounding space most of the time?” Higher scores indicate greater awareness of body and space. (c) Participants are asked to indicate the amount of time they focused on the past, present and future. A 100-mm line has to be subdivided into three parts (making two marks) representing the past, present and future. Two 100-mm-line VASs are presented with the following questions of (d) “How often did you think about time?” (Anchor points: not at all – extremely often); (e) “How fast did time pass for you?” (Anchor points: Extremely slowly – extremely fast). (f) Participants are finally asked to indicate how long they thought that the experience had lasted in units of clock time. The scales have been used and shown sensitive to changes in consciousness states during a form of meditation (Pfeifer, Sarikaya, Wittmann 2016), the experience of one’s last sexual orgasm (Costa, Pestana, Costa, Wittmann 2016, 2017), while watching a dance performance (Deinzer, Clancy, Wittmann 2017), and using the ganzfeld procedure as psi-conductive tool (Müller, Wittmann, 2017). Currently the scales are employed in

ongoing studies on waiting time (with Jokic, Zakay) and by further assessing the ganzfeld experience (with Nothdurft).

The sense of time while watching a dance performance

Although the judgment of time is importantly embedded in the context of cognitive and emotional appraisals of events, only few studies exist on the perception of time within an ecologically valid context. A dance performance is a paradigmatic situation in which viewers might perceive time differently as a function of performance characteristics and viewers' own personal engagement. We staged two dance pieces that differed in speed of movement but lasted the same time (5 minutes) performed by a professional female dancer. 52 participants watched both performances and rated their impressions, their senses of self, and their perceptions of space and time (besides other scales assessed with the SSTS). On average, spectator-participants liked the faster dance more than the slower dance and felt more positive afterwards. During the fast dance, participants paid more attention to the dancer's breathing and less attention to their own bodily self. Participant's subjective perceptions were that time seemed to pass more slowly during the slow dance but participants estimated the faster dance to have lasted longer than the slower dance. Statistical path analyses revealed that paying attention to one's own bodily signals mediated the feeling of time intensity. Since typical flow states are characterized by positive feelings during an activity, as well as by a weakened sense of self and time, these results suggest that the participants average response reflected a relatively stronger state of flow in the faster dance condition.

Deinzer, Clancy, Wittmann

Publication: Deinzer, Clancy, Wittmann (2017)

Changes in subjective time as indication of increased mindfulness after meditation

We based our study, external funds by FUNDAÇÃO Bial, Porto (06/2015 – 10/2017), on conceptualizations pertaining to the relationship between meditation, subjective time, and psychophysiology. We conducted a series of experiments probing for changes in temporal-integration processes after meditation. The aim was to assess whether physiological parameter changes of heart rate and breathing rate during meditation would



Fig. 8. Depiction of a dance scene presented to the audience which evaluated the perception of the bodily self, the emotions, and time.

influence the timing of perceived events. We employed three psychophysical tasks related to perception of sequence in the milliseconds range, the integration of metronome beats, and the perception of alternations in the ambiguous Necker cube. The tasks were administered before and after the intervention. 91 participants were experienced mindfulness meditators who in three separate 10 minute sessions either meditated by following a meditation session (n=44) or listened to an audio play (n=47), the three counterbalanced sessions being conducted on three separate days. During the intervention heart-rate and breathing rate were recorded and compared to a resting-state condition. Applying statistical path analyses, we found several mediating and moderating effects. Regarding subjective scales (STSS), those meditators who were less aware of the passage of time felt less emotional arousal. Regarding psychophysiology and the switching of the aspects of the Necker cube, breathing rate significantly mediated the effect of meditation across all participants. The slower the breathing rate during meditation, the slower the switches of the two aspects of the Necker cube under the condition where subjects were asked to hold one of the seen aspects as long as possible. Additionally, a moderator effect showed that higher trait-mindfulness leads to slower switching times in meditators under the hold condition. Regarding the metronome task, and over all frequencies meditation in more experienced meditators (n > 100 hours) lead to a decrease of the duration of integration intervals. However, for the fastest (ISI = 0.3 s) and slowest (ISI = 3 s) metronome frequencies, an opposite effect occurred: the larger RMSSD, a measure of heart rate variability, during meditation, the larger the integration interval. Overall, these findings add evidence to meditation-induced changes in subjective time and the general notion of the embodiment of mental functioning. Specific effects of breathing rate and heart-rate variability are indicative of physiological arousal effects on temporal processing functions after meditation.

Linares Gutierrez, Kübel, Wittmann, together with Giersch, Schmidt, Meissner

Subjective time distortion during near-death experiences: an analysis of reports

Studies with individuals who have faced life-threatening situations show that a majority of them report an apparent slowing down of external time. Moreover, a majority of individuals who had near-death experiences (NDEs) reported that subjective time had changed. Anecdotal reports of NDEs reveal feelings of apparent timelessness, which is a typical feature of altered states of consciousness. However strongly the sense of time is changed in NDEs, not many systematic studies assessing exactly how time is altered during NDEs exist. Therefore, we conducted an analysis of a web-based databank from the Near Death Experience Research Foundation, which has collected NDE reports since 1998. To cover a considerable time range, we selected individual reports from three time periods: (a) 1998 to 2001, (b) the year 2010, and (c) January to March 2017 (in total N = 196). We concentrated on responses to the question: “Did time seem to speed up or to slow down?” 127 of the 196 individuals reported a change in subjective time (65%). 120 of these 127 persons reported a feeling of timelessness (94%). The different narratives

bear witness of individual variations, but they can still be interpreted as the impression of an apparently lost sense of the passage of time. Our study complements individual anecdotal reports showing an extremely distorted subjective time impression in a majority of people who suffered an NDE.

*Wittmann, Neumaier, Schmied-Knittel together with Evrard, Weibel
Publication: Wittmann, Neumaier, Evrard, Weibel, Schmied-Knittel (2017)*

Remote Viewing: Feasibility studies with variations in the experimental design

A series of proof-of-principles studies with the standardized Remote-Viewing procedure – which is derived from the original protocol of the Stargate program financed by the American military – was conducted in variations of the design. In study 1, 36 participants were first stimulated with a ganzfeld device and then subjected to a remote viewing session. Solely by relying upon their spontaneous perceptions, they were asked to describe and draw sketches of one of six photos (the targets) enclosed in an envelope. Following this session the six photographs were openly presented and participants were asked to form a correspondence/confidence rating related to their own records. Overall, 14 of 36 subjects judged the photo, which was actually in the envelope, with the highest confidence and thus had correctly identified it. Regarding a binomial distribution and an expected value of 6, the probability for such an event happening by chance lies at $p < 0.0009$ and is therefore highly significant ($p < 0.0009$, binomial distribution $B_{36}(1/6)$). Distribution of individual rank orders of the target also showed a highly significant deviation from the expected value.

In a following study, one out of four selected different targets had to be identified which this time was not present in the room. In contrast to study 1, the following changes were additionally made: on each trial one of the photos was chosen randomly using a real random generator (vs. pseudo-randomly across all subjects as done in study 1); the instruction had no reference (intentional direction) to the target, which was located in a separate room. Only 5 of 36 subjects identified the target correctly ($p < 0.0493$; binomial distribution $B_{36}(1/4)$; the target was significantly in 17 out of 36 cases identified as being on second position: $p < 0.0021$). In following studies,



Fig. 9. A subject is brought into a psi-conducise state via the ganzfeld method. The eyes are covered by special goggles with which the visual field is illuminated homogenously red. In addition, uniform (white) noise is transmitted via earphones.

variations in the study design pertaining to different procedures and instructions (target in the same room or not) will have to be conducted. The team of researchers won the 2017 Warcollier Prize of the International Remote Viewing Association. With the prize money of \$3000 a third study was conducted which aimed at the fluctuating DAX value (German stock index). In 38 out of 48 sessions, participants were able to significantly predict the rising or falling DAX value through associated targets one hour ahead of time ($p < 0.00004$, binomial distribution $B_{48}(1/2)$). Predictions made with a random generator could on average not predict the DAX value. Interestingly, however, the researchers are still working in their regular professions as the losses in the 10 session averaged out the amount of money won in the 38 positive sessions.

Müller, Arndt, Wittmann

Publication: Müller, Wittmann (2017)

2.1.4 Clinical and Physiological Psychology

The research group “Clinical and Physiological Psychology” conducts experimental research on the psychophysiology of true and false reports, false memories, and exceptional experiences. In addition to application-oriented research in these fields, fundamental methodological studies concerning psychophysiological interdependencies are carried out. The following methods are employed: 1. Recording of brain electrical potentials (EEG) to obtain information about the involved neuronal processes, 2. Peripheral physiological measures (skin conductance, cardiovascular parameters, breathing) which, mainly via the autonomic nervous system, lead to conclusions about ongoing psychophysiological processes, and 3. psychodiagnostic methods (questionnaires).

Psychophysiological detection of deception and concealed information

Reports of unusual events and experiences are often doubted regarding their validity. When looking closely, the initial dichotomous separation of “true” and “false” blurs in many cases. The scientific research towards phenomena in the field stretched between “true” and “false” aims at a deeper understanding of the subjective experiences of truth and untruth as well as memory and recognition, together with their psychological sub-processes and physiological correlates.

The laboratory experiments conducted towards these aims are based on the Concealed Information Test (CIT) according to Lykken (1959). This test measures the responses of several physiological functional systems during the concealment of information. So far, the project focused mainly on elaborating the theoretical foundations of the CIT and on studying the influences of social, emotional, and motivational conditions under which the test is conducted.

During the period covered by this report, the experimental paradigm was repeatedly transferred to memory research, which allowed a profound and innovative approach to the psychophysiological investigation of memory functions and false memories.

In collaboration, a book chapter about the detection of deception and concealed infor-

mation was issued in an international anthology which provides an overview of the history and present research status of the CIT. The specific value of each of its physiological measures and their possible combinations are summarized as well as the present theoretical and applied perspectives of the CIT.

Ambach, together with Gamer

False memory – psychophysiology of recognition and memory

The human memory does not represent past reality perfectly, but rather constructs a memory by assembling different pieces of stored information into a coherent event. This assembly is adaptive in many situations, although it can also lead to the formation of false memories. False memories are defined as memories of events or details that did not happen or actually did happen differently. This project aims on studying psychophysiological correlates of such (false) memories. Hereby, we focused upon EEG and peripheral physiological correlates (skin conductance, phasic heart rate, respiration and finger pulse). The main question is whether psychophysiological correlates of false memories provide incremental information over the subjectively reported memory.

In a study with 75 participants, we combined the misinformation paradigm (Loftus *et al.*, 1987; Loftus, 2005) with peripheral physiological measurement derived from the Concealed Information Test (CIT) to investigate physiological correlates of false memory. Participants watched a video containing nine randomized details. After two distractor tasks, six of the nine details were replaced by misleading information in a narrative text. Thereafter, and supported by a visual cue, participants were asked to recall three of the six details visually. Finally, physiology was measured during memory testing. Results show that the used materials were sufficient to elicit a robust misinformation effect (which has also been found in the study by Bahr, 2015): When misleading details appeared in the text, video details were remembered worse; misleading details were remembered more often than unknown control details. Contrary to our hypothesis, the influence of misleading information could not be decreased by the cued recall task. As proposed, lowest skin conductance responses were associated with unknown control details, followed by misleading details; greatest skin conductance responses were associated with original details from the video. There were no differences between true and false memory in any peripheral physiological measure. Consequently, we concluded that skin conductance is primarily associated with the subjective experience of remembering. We did not find an additional correlation of skin conductance and objectively correct memory. That is, skin conductance did not provide incremental information over the subjectively reported memory. The results of this study contribute to both forensically as well as psychophysiological research of memory.

Volz, together with Ambach, Leonhart, Wielandt, Stark, Vaitl
Publications: Volz (2016); Volz, Leonhart, Stark, Vaitl, Ambach (2017)

In another study, event-related potentials were measured in a classical misinformation paradigm for the first time. Deriving from previous research examining event-related po-

tentials of false recognition in a different paradigm, three specific event-related potentials were examined. Parallel to the studies of Bahr (2015) and Volz (2016), 40 participants first watched a video containing eight details. One week later, four of the eight details were replaced by misleading information in a narrative text. Afterwards, during the recognition task, a 29-channel EEG was recorded. The results again show a replication of the misinformation effect: Figure 10 depicts how confident participants were when being

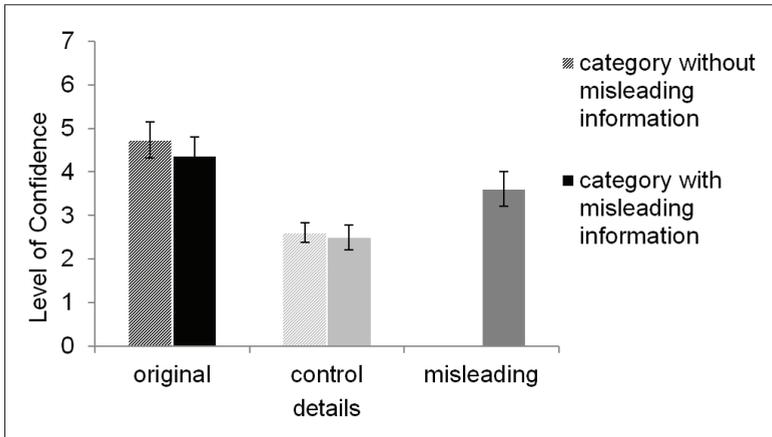


Fig. 10. Means of subjective level of confidence to which participants estimated whether a specific detail (original detail / misleading detail / unknown control detail) is known to them from the video. Error bars represent 95% confidence intervals.

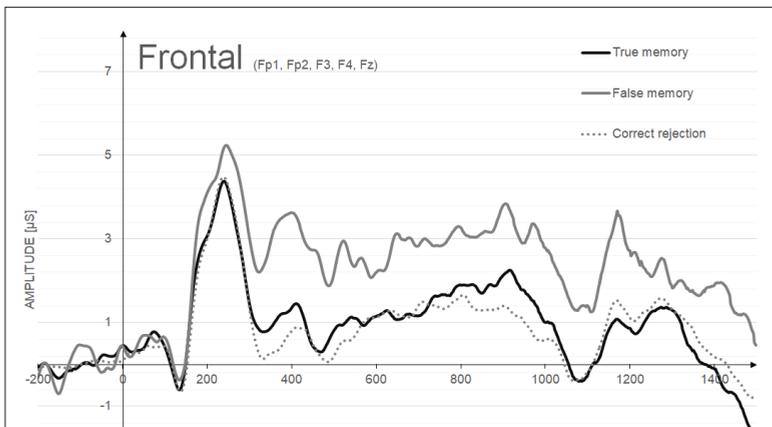


Fig. 11. Average EEG amplitudes at frontal electrodes (Fp1, Fp2, F3, Fz, F4), separately for true memories (“yes”-responses to video details), false memories (“yes”-responses to misleading details) and correct rejections (“no”-responses to unknown control details).

asked if they had seen a specific detail in the video; when misleading details appeared in the narrative text, this led to an enhancement of false memory.

Analyses of event-related potentials showed that parietal positivity (examined using P300 and LPC) did not differ between true and false memories. Instead, results showed an effect of response type: “Yes”-responses were associated with more pronounced parietal positivity compared to “no”-responses. However, for frontal negativity (examined using FN400), a difference between true and false memories was found: Figure 11 depicts that false memory is associated with a more pronounced frontal negativity compared to true memory.

We concluded that parietal positivity may be associated with the subjective experience of remembering, whereas frontal negativity holds incremental information over the subjectively experienced remembering. Consequently, this study contributes first evidence that indicates a differentiation of true and false memories by event-related potentials in the misinformation paradigm is possible. Further analyses using so-called microstates of EEG will follow.

Volz, together with Ambach, Gibr, Schiller

Distant intention

In collaboration, a laboratory study with 46 participants was conducted to investigate a possible distant interaction of experienced meditation practitioners. Meditating participants were tested as pairs and locally separated. One person of a pair had the “supportive” role, the other one had the role of the “supported”. With repeating some experiments with interchanged roles, the total number of sessions amounted to 33. The declared aim was that the “supportive” person helped to deepen its “supported” counterpart’s meditative state. As a subjective measure of meditation depth, the supported person was asked to press a button every time a deepening of meditation was noticed after a period of flattening. Skin conductance was recorded as psychophysiological measure. The amount of so-called spontaneous responses served as indicator of the current activation level (“arousal”) and as correlate of meditation depth. Time periods with “supporting” instruction were compared to time periods with no such instruction. The study was funded by the BIAL foundation. All methodical details of this study were part of a pre-registration. This project is currently in the state of analysis and interpretation.

Ambach, together with Schmidt, Wittmann

Meditation and neurofeedback

Feedback of physiological measures to a person is a procedure well known from many research and application oriented areas. The possibility to enhance relaxation, for instance, by providing feedback about vegetative functions, has been applied for a long time. Even feedback of neural measures, i.e. “alpha-activity” in the EEG, is applied with similar goals. Neurofeedback is defined as feedback of a parameter extracted from the EEG-signal; this ideally occurs close to real-time. There are numerous different measures

suitable for neurofeedback.

This project focuses on the feedback of specific parameters, which are derived almost in real-time from the EEG, to a sample of meditation practitioners. The aim of the current exploration is to parametrically register functional states of mind and use them as feedback instead of the more popular feedback of specific frequency band activities. The activity of specific functional neural systems which are associated with the quality and depth of meditative states are measured continuously after adapting all parameters individually. This feedback should help participants to enhance or decrease the activity of a specific functional neural system and to deepen the meditative states. The meditation practiced in the current experiment is modulated by a combination of directed breathing and a specific concentrative posture.

Ambach, together with Ott

2.2 Social and Cultural Research

2.2.1 Cultural Studies and Social Research

In the shadow of scientism. On dealing with heterodox knowledge, experiences and practices in the German Democratic Republic (GDR) (Duration: 2013-2017)

Against the background of the state-promoted scientific worldview, all paranormal topics in the GDR were regarded as ‘superstition’ and were systematically discredited in public discourse. Beyond such public condemnations, however, hardly anything was known about the significance of the paranormal in GDR society. What were the thoughts on topics like telepathy, prophetic dreams, premonitions, experiences of poltergeist phenomena and apparitions, parapsychology, astrology, alternative medicine or UFOs? Was there perhaps even something like an “occult underground” in GDR? These empirical questions formed the foundation of a historical-sociological research project funded by the German Research Society (DFG) until summer 2017. As part of the dissertation thesis of Andreas Anton, the following central research objectives were formulated: Reconstruction of the public discourse about the topic of the paranormal; Identification of institutional practices and the amount of governmental control and sanction measures; Identification and analysis of subjective experiences and practices of dealing with the paranormal in everyday life.

Key findings: With regard to the public discourse in relation to the paranormal, there is an ideologically charged *discourse of danger*, which existed over the entire period of the GDR and is characterized by *five structural features*: (1) Scientism as an ideological background and a formative ideological framework, (2) the complete nihilation of the paranormal in the sense of a systematic exclusion from the current definition of reality, (3) a uniform interpretation pattern of ‘superstition’, (4) two phases of discourse (education phase and agitation phase) that can be chronologically separated from each other

and finally (5) (only) a few central protagonists who exerted a massive influence with regards to the quantitative and qualitative characteristics of the public discourse. The obvious ideological thrust of the public discourse on the paranormal was accompanied by an institutionally supported defensive struggle against the propagated dangers of superstition. This became particularly evident in the early days of the GDR, for example in the context of educational measures, but also in prohibitions, censorship, control and sometimes drastic persecution and punishments. Naturally, all of this had an influence on everyday life. At least since the mid-1960s paranormal topics, practices and bodies of knowledge can be detected among the GDR population, but only to a very limited extent and in most hidden forms.

The paranormal can therefore be regarded as an example of a successfully *marginalized heterodoxy*, which had almost no social or cultural relevance. However, other potential influencing factors must also be taken into account, for example the strong secularization tendency of East German regions that goes back further in history.

Anton, Schmied-Knittel, Schetsche

Publications: Schmied-Knittel, Anton, Schetsche (2016); Anton (2017); Anton, Schmied-Knittel, Schetsche (2017)

Publication project: Heterodoxy. Concepts, fields, figures of deviation

In addition to the numerous lectures and publications on the empirical findings of the DFG project “In the shadow of scientism” described above, we also wanted to set a theoretically oriented conclusion. We opted for a publication project and conceived an anthology that focus on a basic concept of the GDR project: *heterodoxy*. The main topic is on the significance of heterodox knowledge, ideas and interpretations in modern societies and their relationship to orthodoxy. From a genealogical point of view, heterodoxy has long been familiar in many scientific disciplines, either (especially in a very defining way) in theology and religious studies or (since Pierre Bourdieu) in the cultural and social sciences. Nevertheless (as we have noticed not only in the GDR-project) “Heterodoxy” as a scientific category is often theoretically vague and also from an empirical perspective quite unspecifically. The anthology is able to close this gap. In cooperation with colleagues, 14 contributions from religious studies, medical history, the history of science, economics and sociology of knowledge and culture have emerged (in print: Herbert von Halem Verlag Cologne).

Schetsche, Schmied-Knittel, Krebber

Survey among members of two German societies for the advancement of anomalistics and parapsychology

Harvey Irwin, in 2014, published the results of an online survey of members of the Parapsychological Association concerning the views of parapsychologists about paranormal phenomena and parapsychological research. The current study is a conceptual replication with a German version of the questionnaire that is partly adapted to the special demands

of the two particular survey groups, members of the Wissenschaftliche Gesellschaft zur Förderung der Parapsychologie (WGFP) [Scientific Society for the Advancement of Parapsychology] and the Gesellschaft für Anomalistik (GfA) [Society for Anomalistics]. While the WGFP is in many respects similar to the PA the situation is different with the GfA. Its foundation in 1999 did not pursue the objective of kind of an exclusive professional association. Everybody who is interested in anomalistics research and likes to support it can become a member. Accordingly, the proportion of professional scientists is much lower than in the WGFP and PA. A further difference consists in a greater heterogeneity of the main areas of interest because the focus of the GfA covers also topics such as ufology, cryptozoology, astrology, etc. 25 WGFP members and 57 GfA members took part in the survey. The results are compared between the groups as well as with the data of the survey conducted by Irwin. Despite many parallels, some remarkable differences were found. With regard to the general assessment of the reality of psi, the average of the GfA sample is lower (73%) than the WGFP (84%) and PA (79%) sample because some GfA respondents were extremely critical about the evidence. However, with regard to the indications of the assessment of evidence for specific facets of psi (clairvoyance, telepathy, precognition, psychokinesis), the WGFP respondents are slightly more critical on average than the respondents of GfA. Overall, this specific experimental evidence is much more conservatively assessed by the German groups than the (international, with a majority of American members,) PA respondents. A salient difference between the PA sample and the two German samples concerns the survival hypothesis. The proportion of the PA sample that believes, at least to a certain degree, that after the death of the physical body some part of the person will survive, is significantly larger than in both German groups. In general, it became apparent that parapsychologists and interested persons in anomalistics do not form a homogenous group with regard to the assessment of the evidence and the opinions on research-specific issues. Thus, they are not credulous ‘sheeps’ who adopt, without thinking, every paranormal claim or ‘evidence’, but rather a group of individuals whose assessments often demonstrate a high degree of variance.

Mayer

Publications: Mayer (2016a, 2017a)

Publication project: Spiritualität und spirituelle Krisen. Handbuch zu Theorie, Forschung und Praxis [Spirituality and Spiritual Crises. Handbook on Theory, Research and Practice]

An increasing number of individuals in western societies are engaged with a wide variety of spiritual pathways and practices, in order to gain personal access to the spiritual dimension as well as to foster their spiritual development. As a consequence, more and more individuals are undergoing various forms of so called “exceptional experiences” as well as distressing and difficult phases that require professional advice and support. Against this background, the intention of the publication-project was the compilation of an anthology on the current state of knowledge concerning the crises and problems in the

context of spiritual development, orientation and practice.

The thematic field of “spiritual crisis” is complex and therefore approached from the perspectives of different professional disciplines and fields of application. Among the authors are renowned scientific and psychotherapeutic experts as well as representatives of a renowned spiritual center and a semi-professional network. A total of 28 authors have contributed to this volume. It comprises 523 pages and is divided into six sections: I) historical and contextual backgrounds, II) theoretical models, III) types of spiritual and religious problems, IV) research, V) diagnosis and treatment and VI) societal perspectives. In the appendix relevant resources and contact points are specified. A comprehensive index facilitates orientation. As recommended by various experts in the field of exceptional, religious or spiritual experiences, the volume is committed to the principles of paradigmatic openness and methodological pluralism.

Primarily addressed are practitioners from the different fields of psycho-social care, who are providing psychotherapeutic, counseling or pastoral care services for individuals, who are undergoing stressful experiences and difficult phases in connection with their religious/spiritual orientation and practice. Scientists working on spiritual development and spiritual crises will also find valuable information. Furthermore academically educated lay people with an interest in such topics are also addressed. This first German-language reference work fills a crucial gap of demand, since due to the growing popularity of spiritual practices and instructions the respective expert knowledge is becoming increasingly important for clinical practitioners. This newly published handbook provides a valuable pool of materials on psycho-spiritual development and its possible dangers. It would be an important desideratum to follow this up with the development of respective training and continuing education concepts for the fields of psychotherapy and counseling.

Hofmann, Heise (and 28 co-authors)
Publications: Hofmann, Heise (2016a)



Fig. 12. L. Hofmann, P. Heise (Eds.), *Spiritualität und spirituelle Krisen*, Handbuch zur Theorie, Forschung und Praxis. Stuttgart: Schattauer.

Workshop: Gender and Occultism (22.–23.06.2017, University of Freiburg)

Occultism has attracted increasing interest in academic research in recent years, and the field of research now encompasses a whole series of works on cultural, scientific, historical, religious, media-cultural and discourse theory. The DFG's researcher group "Social innovation through 'non-hegemonic' production of knowledge. 'Occult' phenomena between media history, cultural transfer and science" is also part of this research field, and some IGPP members and projects are associated within the research group. In cooperation with two historians, a workshop was conceived and organized in the summer of 2017. The main topic was to investigate the relationship between occultism and gender in its reciprocity. In a total of 8 lectures, the focus was mainly on the social, biographical and historical dimension of the category "gender", such as the gender-specific distribution of roles and power in occultism, the chances and opportunities for female mediums, the connection between theosophy and women's movement, the connection between spiritualism, new age or shamanism to feminism, or the careers of famous female parapsychologists such as Victoria Woodhull, Fanny Moser and Gerda Walter. In all the papers it became evident that the explanatory value and the theoretical range of *gender* as a socio-cultural construction are extremely relevant and profitable for occultism research.

Schmied-Knittel, together with Lux and Paletschek

Cooperation project: Near-death experiences

This heading covers a whole series of individual scientific undertakings dealing with the topic of near-death experience (NDE). The focus varies:

a) *Application*: Two major research proposals have been submitted. First on the subject of "Time perception during near-death experiences: an explorative questionnaire and interview study" at the Bial Foundation (together with Marc Wittmann; unfortunately rejected); then a bilingual proposal for the German-French DFG programme in the humanities and social sciences entitled "Extreme changes in the perception of time in life-threatening situations" (together with Marc Wittman and Renaud Evrard; decision in progress).

b) *Scientific support*: A further focus is on cooperation with Wolfgang Fach (IGPP consulting) and Michael Nahm and Adrian Weibel (Gesellschaft für Anomalistik). This was about the scientific advice in an online survey on the topic of "Near-death experiences and extraordinary experiences" as well as the quantitative (Fach) and qualitative (Schmied-Knittel) analysis of the questionnaire. The study focused on the relationship between NDE and (other) extraordinary experiences, in particular the question if people report further paranormal experiences after an NDE.

c) *Networking*: A third complex means the cooperation with an interdisciplinary university research network on the topic of near-death and thanatology, initiated by Enno E. Poppkes (University of Kiel) and Stephanie Gripenstrog (University of Greifswald). An interdisciplinary conference (2016 University of Greifswald) and a panel (2017 Univer-

sity of Marburg) were held with IGPP participation.
Schmied-Knittel, together with Fach and Wittmann

Exosociology – Scenario analysis of the first contact with an extraterrestrial civilization

The primary goal of the project (running until the end of 2018) is to assess the potential consequences of human contact with an extraterrestrial civilization. The research project uses sociological and social-psychological, cultural-historical and anthropological findings and employs the methodology of futurological *scenario analysis* (multiple scenario analysis – MSA) to summarize them. Starting points of the project are on the one hand own theoretical reflections on interspecies communication (see Schetsche et al. 2009: “Der maximal Fremde”), on the other hand historical studies on forms and consequences of contacts between different earthly cultures. The analysis carried out in the first phase of the project distinguishes between four encounter scenarios with very different starting conditions:

The signal scenario: Humankind receives an (electromagnetic) signal from the vastness of space, whose source lies far beyond the boundaries of our solar system and which is undoubtedly of artificial origin.

The Artefact Scenario: On Earth or anywhere in “our” solar system, an artificial object is discovered that is certainly not of earthly origin and which found its place there a long time ago.

Nekrology Scenario: The ancient remains of an alien being are discovered on Earth or in the solar system.

The encounter scenario: An extraterrestrial spacecraft arrives in the solar system, with which direct communication appears to be possible (The spacecraft can be controlled by an AI or a foreign biological intelligence).

Scenario analysis is primarily concerned with making predictions about the effects the relevant events on different social subsystems. In addition, concrete proposals are being developed to prepare humanity for the different forms of first contact. The results of the scenario analysis are included in a comprehensive monograph edited by Andreas Anton and Michael Schetsche, which is expected to be published by Springer publishing company at the end of 2018 under the title “Einführung in die Exosozioologie” (“Introduction to Exosociology”). The interdisciplinary “Research Network Extraterrestrial Intelligence”, which we co-founded in 2016, provides the working context of the project and involves over thirty scientists from more than ten scientific disciplines.

Schetsche, Anton

Publications: Anton, Schetsche (2016); Schetsche (2017)

2.2.2 Cultural and Historical Studies, Archives and Library

This research field covers the cultural and social history and the history of science of parapsychological research and other unorthodox fields (“Historical Parapsychology“). The emphasis is on the historical reception of spiritism, occultism, psychical research and parapsychology in Germany from the 19th century up to today. Of particular interest is the reception of paranormal and “anomalous” phenomena with regard to established scientific disciplines like psychology, medicine, literary studies or history of art. Special topics of interest are: (1) biographies of psychical researchers and psychics or mediums; (2) the history of organizations and societies in the field; (3) the role of photography in the history of parapsychological research; (4) the relationship between occultism and fine arts; (5) the history of the IGPP and the biography of its founder Hans Bender. All these studies rely critically on the holdings of the IGPP research library and the IGPP archives.

Historical and Biographical Studies

Interviews from the viewpoint of a contemporary witness about the history of the Freiburg Institute

In the context of a historical research project “Hans Bender – Parapsychology at the crossroads of scientific research, social inquiry, and public media (ca. 1945-1975)” which, supervised by the Freiburg historian Prof. Dr. Sylvia Paletschek, forms part of the DFG research project “Social innovation through the non-hegemonic production of knowledge: ‚occult‘ phenomena at the intersections of science, media history, and cultural transfer (1770-1970)”, Dr. Anna Lux and Dr. Ehler Voss, two collaborators of this project, interviewed Eberhard Bauer, a long-time collaborator and former assistant of Hans Bender, in his function as a central proponent of the legacy inspired by Bender. Topics discussed with were Bauer’s biographical development, his activities at the IGPP and at the (former) Chair of Psychology and Frontier Areas of Psychology at the Psychological Institute of Freiburg University, the importance of public and media for his work and his personal evaluation of the evidence claimed for the existence of paranormal (psi) phenomena. In a similar way, Eberhard Bauer was interviewed by Dr. Marc Benecke, a criminal biologist. This time, the questions came from a ‚skeptical‘ minded member of the “German Society for the Scientific Investigations of Parascientific Claims”. The discussion dealt with pro and contra positions regarding the paranormal, how do deal with controversies within parapsychology and the possibility of common positions.

Bauer

Publications: Bauer (2016b); Bauer, Benecke (2017)

On the institutionalization and professionalisation of parapsychological research in the 20th century

Written for the volume *Okkultismus im Gehäuse*, the contribution is dealing in a histor-

ical and a contemporary context with two organisations that are of central importance for the the institutionalization and professionalisation of parapsychological research in the 20th century. (1) The “Parapsychology Foundation” (PF), founded in 1951 by Eileen Garrett (1893-1970), represented over decades the most important funding foundation for parapsychological research projects in an international context. Of special importance were the organisation and funding of international conferences between 1951 and 2008 whose proceedings, printed as books, were mirroring and sometimes anticipating major research trends of the interdisciplinary parapsychological research over the last 50 years. (2) “The Parapsychological Association” (PA) (www.parapsych.org) can be seen as the international and interdisciplinary organisation of professional researchers in the field of parapsychology, often in an academic context. The PA was founded in 1957 at Duke University, North Carolina, USA, by J. B. Rhine (1895-1980), one of the pioneers of academic parapsychology. The aims of the PA are (1) to support the scientific progress of parapsychology, (2) to disseminate the knowledge regarding paranormal phenomena, (3) to integrate its findings with those of other branches of science. In 1969 the PA was granted affiliation with American Association for the Advancement of Science (AAAS). A major goal of the PA is the planning and organisation of an annual conference covering all aspects of the interdisciplinary parapsychological (psi-)research. A conspicuous feature of the PA is its broad multidisciplinary membership.

Bauer

Publication: Bauer (2016a)

Professor Inge Strauch (1932-2017) – “La grande dame” of European dream research

Inge Strauch was among the first generation of Hans Bender’s scientific assistants at the IGPP. After studying psychology in Freiburg, she got her PhD degree with a topic belonging to the “mental health” research program of the IGPP. Her thesis supervised by Bender presented results of experimental investigations into the activities of a “mental healer” and his patients. Among Inge Strauch’s special research interests was the experimental dream and sleep research. From 1976 to 1999 she was a chair holder of clinical psychology at Zurich University and supervised, together with her research group, numerous empirical studies dealing with the phenomenology of dreams which contributed to



Fig. 13. Inge Strauch in the role of a „sender“ in a telepathic dream experiment around 1970. (Photograph by Leif Geiges).

her international reputation as a dream researcher. Inge Strauch belonged also to those scientific pioneers who did experimental research into the possible telepathic ‘influence’ of REM phases under lab conditions. As a member of the council, she remained actively connected with the Freiburg Institute for many years. She assisted with the foundation of a Psychophysiological lab at the IGPP, recommended scientific collaborators belonging to her group and supervised research projects in an exchange between Zurich and Freiburg.

Bauer

Publications: Bauer (2017e, 2017f)

Parapsychology – quo vadis?

This essay describes the importance of several possible scenarios for the future development of parapsychology. Among them are: (1) the continuously great importance of spontaneous paranormal phenomena in the daily life of many persons; (2) the problems of acceptance of parapsychology as a scientific discipline and the continuation of the psi controversy stabilized by the public presence of ‘skeptical’ organisations worldwide; (3) the question what constitutes ‘progress’ in an ‘unorthodox’ field like parapsychology; (4) the development of new theoretical models that treats paranormal phenomena as entanglement correlations in a generalized quantum theory.

Bauer

Publication: Bauer (2017h)

Security through insecure knowledge? Parapsychological insights and paranormal practices in secret services, the military and the police

On the basis of detailed case studies the question should be explored when and how parapsychological knowledge was considered, or occult or paranormal practices are applied, in unambiguously constituted systems such as secret services, the military and the police, all of which usually hark back on a secure range of methods. What were the conditions under which paranormal abilities were used, who had the responsibility for such practices and which protagonists took part in? There will be a particular focus on the currently poorly explored history of occultism and parapsychology during the period of National Socialism in Germany.

Schellinger, together with Anton and Wittmann

Publikation: Schellinger (2016b)

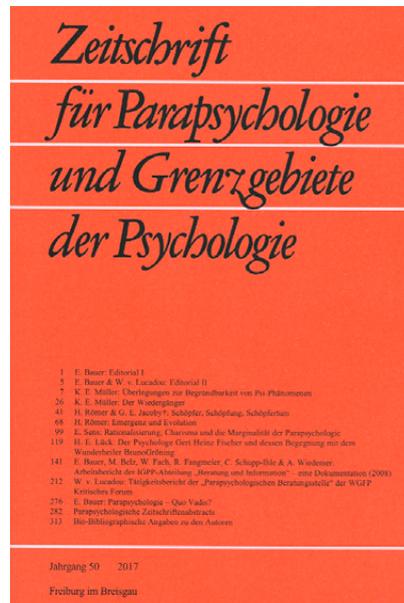


Fig.14. Publication in: Zeitschrift für Parapsychologie, 2017.

Exhibition project: “Freiburg collects. Memories for tomorrow” of the Freiburg Municipal Museums

The IGPP is sharing in preparation a participative exhibition project of the Freiburg Municipal Museums. The project shall inquire and document how the citizens of Freiburg collect the history of their own town and which narratives and memories the citizens of Freiburg want to preserve for future. In the exhibition “Freiburg collects. Memories for tomorrow”, which will be showcased from March to September 2018 in the Museum of Town History, everything deals with the process of collecting and with connected memories and narratives of Freiburg’s history. The presented collections raise the questions, which objects and memories shall be preserved for future times and which items people wish to be displayed in museums. The IGPP will take part contributing selected documents and objects of its archives.

Schellinger

Publication project: “locus occultus: Healing, popular and scientific occultism in Freiburg 1900 until 1945“

Only little was known about the situation and the spreading of the scientific and popular occultism as well as the movement of alternative medicine in the city of Freiburg in the second half of the 19th century respectively in the first half of the 20th century. Thus, in 2013/2014, a local historical project in cooperation with the Department of History at the University of Freiburg investigated relevant indications on special institutions, interesting events and remarkable protagonists. The basic sources for the research were the record groups and collections of the archives and the library of the IGPP, records in the local and regional archives being situated in Freiburg as well as the reporting in contemporary newspapers. Now, three years later, a book publication convenes in 15 articles a multitude of outcomes of that research project, which mainly was supported by students of the historical science. The publication is supplemented by articles of other researchers.

Schellinger

Publications: Schellinger (2017a, 2017b, 2017c, 2017d, 2017e); Schellinger, Koreck (2017); Schellinger, Rüscher (2017)

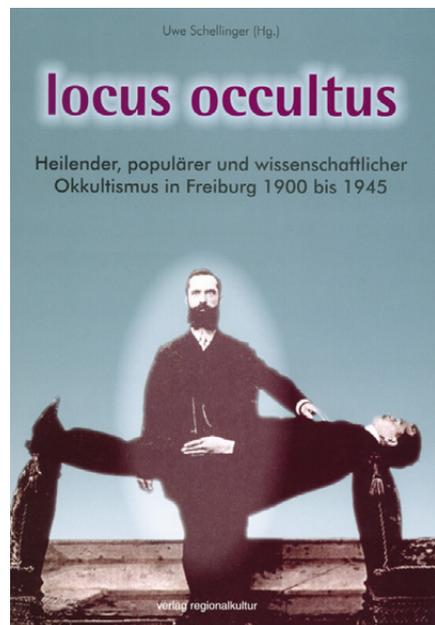


Fig.15.

Personal mediums and crime: The history of ‚criminal telepathy‘ in Germany (1880-1980)

This research project investigates the historical trajectories of the practices and problems that defined ‚criminal telepathy‘ from 1880 through 1980. The focus is on the confrontation and cooperation of so called “psychic detectives“ and other personal mediums with paranormal abilities with the law enforcement authorities in Germany. For this project, the following questions are of central interest:

How were the tensions between ‘mediums’ and law enforcement agencies and how were important protagonists implicated? Which positive and negative consequences for involving a “psychic detective“ and other mediums in police investigations of spectacular cases can be identified? How has the interaction between law and enforcement agencies and psychic detectives changed in the 20th century, and how important were thereby criminal-policy decisions, particularly in the context of political system changes? How have the specific expectations of state agencies and general public changed and what factors were central for approving and disapproving the assistance of “psychic detectives“? Until 2016 the research project was part of the Network Research Project “Social Innovation through ‚Non-hegemonial‘ Knowledge Production. ‚Occult‘ Phenomena Between Media History, Culture Transfer and Science, 1770-1970“ of the German Research Society (DFG).

Schellinger

Publication: Schellinger (2016a); Schellinger, Koreck (2017)

Clairvoyants, Mediums and Miracle Healers: Activities and the perception of paranormally-gifted individuals in regional contexts (Middle and South Baden)

In this project, with the focus on regional history, the biographies of individuals (from the 19th and 20th-century Middle and South Baden) with self-attributed or other-attributed “paranormal“ abilities – such as clairvoyants, magicians, mediums, somnambules, spiritists, visionaries or miracle healers – are described and subjected to comparative analyses. By considering the biographies of and the actual practices employed by such queer characters, something may be learned about the processes of socialization and marginalization as well as about the contemporary social mindset. Of what kind were the real abilities as well as the social functions of those persons? How could their practical actions be described, which kind of methods did they apply? Were they in fact considered as marginal or were they regarded as a necessary part of the daily culture? How becomes a person to be known as a “clairvoyant“ or a “miracle healer“? Were the careers of such persons lifelong or only short-time? How were the responses of the local environment, the authorities and the scientific community? In this project, consistently the biography of the so called “Miracle healer of Schutterwald“ Josef Weber (1945-1991) comes to the fore.

Schellinger

Publication: Schellinger (2016b)

Biographical Research in the History of Parapsychology

We tried to do more detailed research into some protagonists of the history of parapsychology to commemorate them in an adequate manner. For example, only little is



Fig. 16. Pioneer of the Historiography of German Parapsychology: Adolf Kurzweg (1925-2014).

known about the life of the medium Martha Fischer (1866-1943) from the city of Charlottenburg, who played an important role for the background of the scientist Fanny Moser, famous for her research in haunted houses and occultism. In the 1920s, the Freiburg concert vocalist Anna Weismann (1871-1953) tried to train her dog in communication skills with the help of the so called “Klopfsprechalphabet”. From 1912 to the 1930s, experiments with the salon clairvoyant Ludwig Kahn alias “Professor Alkadar” (1873-about 1966) ignited intensive scientific debates on the existence of clairvoyance skills. Josef Kraus alias Fred Marion (1892-about 1950) is regarded as one of the most famous stage telepaths of the 1920s and 1930s. Finally, another commemoration is related to the theologian and physician Adolf Kurzweg (1925-2014), who is regarded as a pioneer of the historiography of German parapsychology due to his dissertation “Die Geschichte

der Berliner ‚Gesellschaft für Experimental-Psychologie‘ mit besonderer Berücksichtigung ihrer Ausgangssituation und des Wirkens von Max Dessoir” (“History of the Berlin Society of Experimental Psychology in regard to its starting conditions and to the work of Max Dessoir”) (1976).

Schellinger

Publications: Schellinger (2016c, 2017c, 2017d, 2017e); Schellinger, Ruscher (2017)

The Occult in Art and Photography

This field of work is dedicated to the relationship between art and photography and occultism. It entails (a) archival and documentary work, (b) the handling of research requests, and (c) service, organizational and research tasks related to exhibitions and publications.

The Occult in Contemporary Art and Exhibitions

Aesthetic practice often shows an influence of the occult which can be felt by numerous exhibitions during the last years, some of them were organized in cooperation with the IGPP. (For examples Cosa Mentale, Centre Pompidou Metz, 2015-2016). This relation-

ship will be documented in detail and discussed in regard to their different theoretical concepts, the priorities in regard to the chosen artists or topics, or possible changes in public reception, print media and academic circles. These works are part of an explorative project which examines the various forms of artistic approaches to the ‘occult’ and tries to establish criteria for differentiation.

“Be Happy! We Do Not Forget You“. Exhibition of the Zander Collection, Schloss Bönningheim

In the context of this project the exhibition “*Be Happy! We Do Not Forget You*” was organized at the Zander Collection at the Stadionsches Schloss in Bönningheim, one of the most noted collections on outsider art and naïve art in Germany. The exhibition was curated in collaboration with art historian Veit Loers.

Point of focus were mediumistic artworks from the collection like “minute portraits” (spirit portraits) by the German medium painter *Heinrich Nüsslein* (1879-1947) or paintings showing an architectural and ornamental style by *Augustin Lesage* (1867-1954) and *Fleury-Joseph Crépin* (1875-1948). Such exhibits have been contextualized by further documents from history of the occultism like spirit photographs by *William H. Mumler* (1832-1884) and *Madge Donohoe* (?-1940), moulds from “materialized” spirit hands obtained in séances with *Franek Kluski* (1873-1943) or protocols and drawings taken at mediumistic experiments carried out at the laboratory of *Albert von Schrenck-Notzing* (1862-1929). The main part of the rare exhibits belongs to the archives of the IGPP. Some others were loans from the archives of the *Institut Métapsychique Internationale* in Paris and from the collection of *Gerd Hövelmann* (1956-2017) like a unique and unpublished photograph showing famous scientist *William Crookes* (1832-1919) with the phantom *Katie King*. Further extraordinary exhibits were some “Klecksografien” by *Justinus Kerner* (1786-1862), a physician from Württemberg, which form part of the collection of the German Literature Archive in Marbach, Neckar. These “automatic” ink blot drawings represent an interface between the fascination about the spirit world and aesthetic experiments. Furthermore numerous works by contemporary artists were presented

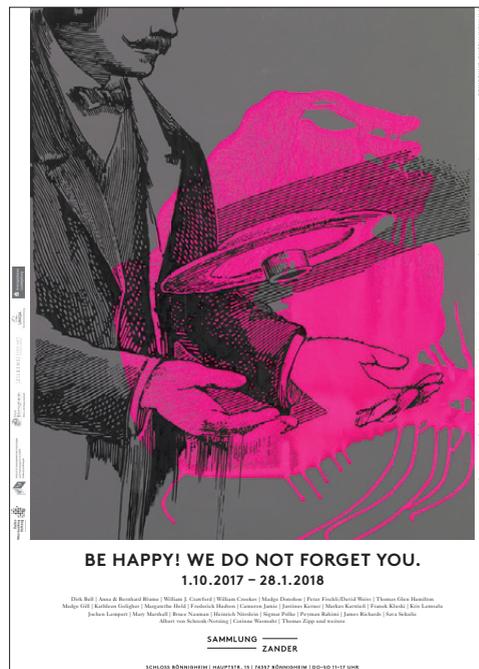


Fig. 17. Exhibition poster showing an untitled art work by Sigmar Polke.

which seem to reflect occult topics. Among them ceramic sculptures by *Markus Karstieß* (*1971), the installation “Ilsatin” (2009) by *Thomas Zipp* (*1966), a video by the Welsh artist and Turner price winner *James Richards* or photo works by *Anna* (*1937) and *Bernhard Blume* (1937–2011), *Sigmar Polke* (1941–2010), *Bruce Nauman* (*1941) or *Jochen Lempert* (*1958).

The exhibition, sponsored by the Baden-Württemberg Stiftung, was presented between 1.10.2017 and 28.1.2018. It demonstrated on one hand the historical and aesthetic value of occult sources and on the other hand its significance for fine arts after 1950. An exhibition catalogue will be published. Within the framework of the exhibition an extensive documentation of history of mediumistic art was built up and will be continued in the context of the research focus on art and occultism at the IGPP.

Fischer, Moos, together with Loers

“Spuk! Die Fotografien von Leif Geiges”. Exhibition at the Augustinermuseum in Freiburg

From 1949 to the beginning of the 1970s the Freiburg based photographer *Leif Geiges* (1915-1990) documented some of the research activities from Hans Bender (1907-1991), the founder of the IGPP. For example he was involved in investigations about poltergeist phenomena, he illustrated occult practices like dowsing and table tilting or depicted experiments on extrasensory perception carried out at the “Eichhalde-Institute”. Particularly, *Leif Geiges* is known for photographs from the region of Baden, whereas such pictures about the paranormal only represent a small part of his work. But they allow a fascinating insight into a much discussed topic in science and society in the post-war period. Furthermore, they represent a unique chapter in the long and voluminous

history of the relationship between photography and occultism, which have been evaluated in detail in numerous exhibitions during the last years.

In cooperation with the Augustinermuseum in Freiburg a wide selection of the photographs by *Geiges* will be presented in October 2018, completed by further documents like case files, audiotapes or other photographs from history of occultism and parapsychology. A detailed catalogue



Fig. 18. Leif Geiges, Demonstration of occult techniques. Pendulum over a photograph, Freiburg, around 1950. (On the left the photographer Leif Geiges).

will be published and special programs of lectures will be accompanying the exhibition.
Fischer, Moos, Vaitl

Archives

Overview

The tasks of the IGPP archives are the long-term protection, indexing, communication and utilization of documents and materials which are important for the cultural and social history and of the history of science of parapsychology viz. border areas of psychology in general, and for the history of the Institute in particular. Since the foundation of the IGPP, the documentation and collection of relevant research material belong to its central tasks. Special archives with its own structure were established after the Institute has moved from the “Eichhalde“ to the “Wilhelmstraße” in 1996. Due to its specific and unique profile, the IGPP archives are of a particular significance within German and European scientific culture. As a special and scientific collection, the IGPP archives are corporate member of the “Association of German Archivists” (VdA).

Record groups and collections

The IGPP archives consist of several major groups of records and collections: photographs; audio material; film material; objects; and completed databases. The main body consists of research files of the Institute when it was located at the “Eichhalde” (Freiburg) from 1950 to 1995, among them collections of reports of spontaneous phenomena, like precognitive dreams, or collections of RSPK case studies, as well as the research files of the Institute in the “Wilhelmstraße” (Freiburg) since 1996. Next in line are partial or complete collections of personal papers (currently 37 holdings) belonging to a variety of important researchers in psychical research and parapsychology. Finally, there are collections of relevant items, e.g. of academic theses, reports or publications as well as comprehensive press collections (currently: 49 holdings). A more detailed overview regarding the archival holdings and general information on the archives can be found on the website of the IGPP at <http://www.igpp.de/german/archive/info.htm>. Current Informations on the archival work delivers the facebook-website: <https://www.facebook.com/igpp.archiv>. During the period under review, the holdings of the IGPP archives were supplemented by 40 acquisitions of various size and content. Beside single academic theses and records of the IGPP work, the following acquisitions should be mentioned: papers of the Dutch sensitive Gérard Croiset (10/37), collections on the Italian spiritualist Calogero Picone Chiodo (20/31), collections of the German theologian Gabriele Lademann-Priemer (20/34) as well as scientific papers of the German psychologist and philosopher Harald Walach (10/41).

Use of the Archives

Apart from the acquisition and securing of relevant material, the analysis and utilization

for scientific projects is one of the major focus of archival work. Archival holdings are utilized by staff of the Institute as well as by external researchers whose research interests are approved by the IGPP. During the period under review, numerous publications utilizing archival material of the Archives were produced. The following subjects of academic theses, articles and books should be mentioned: Discussions on radiesthesia in the 1920s and 1930s: the pendulum user Karl Kessler (M. Baunach); Spontaneous phenomena in the First World War – manifestations and explanatories (D. Hildebrandt); Between scientific experiment and fraud: Fred Marion and the scientific community (J. Ruscher); Passing through the Needle's Eye. Dimensions of the academic integration of parapsychology in Germany and the USA; "Criminal telepaths" and "Occult detectives". Efforts of integrating paranormal skills in police procedures in the German speaking space 1920 until 1960 (U. Schellinger);

Adolf Kurzweg (1925-2014) and his pioneer work on the history of parapsychology (U. Schellinger); Institutionalization impossible... Relations with paranormal knowledge, experiences and practices in the GDR (I. Schmied-Knittel, A. Anton, M. Schetsche); Soldiers of enlightenment: the "German Society "Protection against Superstition"" and its struggle against parapsychology and occultism (1953-1963)(M. Schneider); The Paranormal in Socialism. Relations with heterodox knowledge, experiences and practices in the GDR (A. Anton); Hitler's Monsters. A Supernatural History of the Third Reich (E. Kurlander); Fanny Moser and the Charlottenburg medium Martha Fischer (1866-1943) (U. Schellinger); Reports on Uri Geller in the German media in the 1970s (T. Usluer); Scientific experiments on clairvoyance by Max Schottelius with "Professor Alkadar" in Freiburg (U. Schellinger); Anna Weismann (1871–1953) and the speaking dogs (U. Schellinger). IGPP archival materials, mainly from its photographic collections, were also presented in several art historical and culture historical exhibitions.

Bauer, Fischer, Schellinger

Library

History

The historical basis of the Institute's library comprises the collection of the Swiss biolo-



Fig. 19. Press clipping from 1955 from the "Archief Gerard Croiset", given to the IGPP by the Het Borgman Fonds, in Bunnik, Netherlands.

gist and psychical researcher Dr. Fanny Moser (1872-1953). Among its 2000 volumes rare original editions from the early history of mesmerism, magnetism, occultism and psychical research can be found. Another important collection of 2500 volumes belonged to Albert von Schrenck-Notzing, M. D. (1862-1929), a Munich physician and psychotherapist and a well-known pioneer of researches into “physical mediumship”, including telekinesis and materialization phenomena. Starting with 1970, with the help of the Stiftung Volkswagenwerk, it became possible to build up systematically a comprehensive collection of literature dealing with parapsychology and other anomalistic research topics. Since 1973, the IGPP library has been supported by the Deutsche Forschungsgemeinschaft (DFG) (German Research Society) as a specialized research library for Parapsychology and Frontier Areas of Psychology. From 2011 to 2014, the DFG was supporting the IGPP library as a special collection (Sondersammelgebiet) as part of the University Library of Freiburg. The IGPP is responsible for the scientific supervision and selection of the library and collaborates closely with the University Library of Freiburg which is the owner of the library holdings and responsible for its technical administration.

Profile of the library

The goal of the library is a systematic and comprehensive collection of the whole spectrum of the national and international scientific literature dealing with parapsychology, psi research and anomalistics (including so called “grey” literature). This comprises (1) spontaneous paranormal experiences like telepathy, clairvoyance, precognition, psychokinesis, apparitions, paranormal impressions and RSPK or poltergeist phenomena together with relevant case collections, field studies, laboratory experiments and theoretical models comprising its historical development, methods, results, problems, controversies and interdisciplinary aspects of research into scientific border areas; (2) psychological fringe experiences like out-of-body and near-death experiences, lucid dreams, multiple personalities; (3) collecting the whole spectrum of “fringe sciences”, like occultism, spiritism, e. g. “occult techniques” such as pendulum, contacts with the dead, mediumistic communications, channeling, memories of previous lives, voices on tape; (4) esoteric and New Age literature; (5) dowsing and radiesthesia (“earth rays”); (6) mental and spiritual healing and paramedicine; (7) magic, possession, witches and demons; (8) secret societies, sects, lodges; (9) cabbala, numerology, symbolistics; (10) divination and oracle techniques (Tarot, I Ging); (11) UFO research; (12) conjurors and trickery; (13) the whole field of “anomalistics”, including phenomena in the sense of Charles Fort (“Fortean”), e. g. cryptozoology (Loch Ness, Bigfoot), Atlantis, Bermuda Triangle, Ancient Astronauts etc.

Holdings

With approximately 65.900 volumes the IGPP has one of the most comprehensive libraries of its kind in Europe. The collection increases by about 600 volumes per years on average. Actually, the library has subscribed to approximately 174 international journals

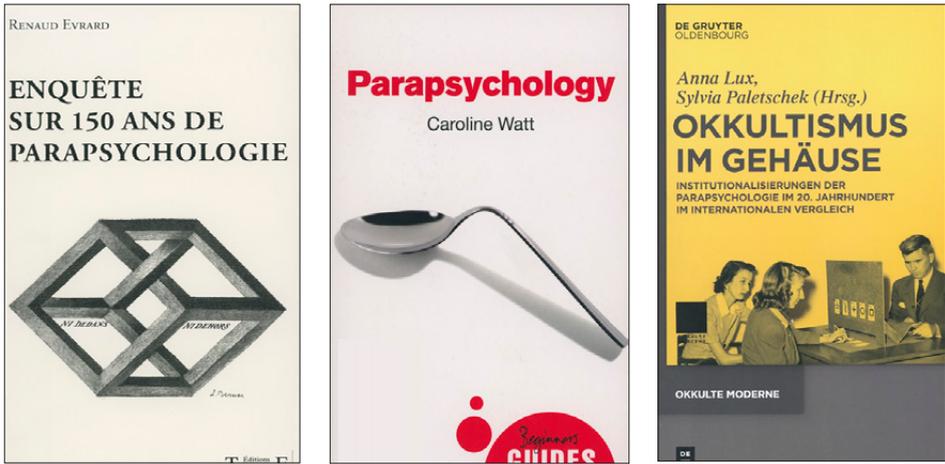


Fig. 20. Some acquisition to the Institute's library: Renaud Evrard, *Enquête sur 150 ans de parapsychologie : la légende de l'esprit*, Escalquens: Piktos, 2016; Caroline Watt, *Parapsychology: A beginner's guide*, London: Oneworld, 2016; Anna Lux, Sylvia Paletschek (Eds.), *Okkultismus im Gehäuse, Institutionalisierungen von Parapsychologie im 20. Jahrhundert im internationalen Vergleich*, Berlin, Boston: De Gruyter Oldenbourg, 2016.

and newsletters. All international specialist journals for parapsychological research and anomalistics have completely been registered in the library stock. The current stock of journals is around 2200, more than half of which are unique specimen nowhere else available. As a result, the IGPP library is a unique source of information and documentation regarding all topics of parapsychology and frontier areas of psychology. All volumes can be borrowed online from the library of the University of Freiburg (www.ub.uni-freiburg.de/olix). About 16.700 requests were recorded in the years 2016 and 2017. In 2005 the IGPP started in collaboration with the University library of Freiburg, to digitalize selected journals in order to make them available via internet. Decisive selection criteria are aspects of the conservation of these journals (disintegration of paper) and its value for historical sources regarding the cultural, social and scientific history of spiritualism, occultism, psychical research and parapsychology. Until 2015, the following journals were published online (www.ub.uni-freiburg.de/dipro/igpp/): (1) *Magikon* (1840-1851); (2) *Sphinx* (1886-1896); (3) *Psychische Studien* (1874-1925); (4) *Zentralblatt für Okkultismus* (1907-1933); (5) *Zeitschrift für kritischen Okkultismus* (1925-1928); (6) *Zeitschrift für Parapsychologie* (1926-1934); (7) *Das Wunder* (1927-1929); (8) *Neue Wissenschaft. Zeitschrift für Grenzgebiete des Seelenlebens* (1950-1968); (8) *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* (1957-1968).

Bauer, Brunner

2.3 Counseling and Information

History

Since its foundation in 1950 by Prof. Hans Bender (1907-1991), the IGPP has provided the public with an information and counseling service covering the whole spectrum of parapsychology, fringe sciences and anomalistic phenomena, summarized under the neutral term “Exceptional Experiences” (ExE). This includes information and material about the distribution and phenomenology of psychic experiences together with expert knowledge regarding the state of the art of interdisciplinary research related to border areas of psychology and anomalous phenomena. A special IGPP counseling program is designed to meet individual needs of people who have to cope with “occult”, supernatural or paranormal experiences causing them and others emotional distress (“mental hygiene”).

Patterns of Exceptional Experiences

Depending on the cultural tradition or ideological background, “exceptional experiences” are described as supernatural, supersensory, magical, paranormal, spiritual, transcendent, transpersonal etc. Ever since, such experiences belong to the varieties of human experiences that are well-known across cultures. The varieties of ExE which are reported by IGPP clients can be grouped into six major categories: (1) As *extrasensory perception* (ESP) such experiences can be described when persons outside their usual sensory channels get information about objective events unknown to them (“clairvoyance”) or about thoughts and feelings of other persons (“telepathy”). This implies also the knowledge of unpredictable future events (“precognition”, “announcing dreams”); (2) *poltergeist phenomena* encompass physical anomalies (the disappearance or appearance of objects or their movement without apparent cause), acoustic phenomena (e.g., steps, raps) and visual impressions (appearances of lights or shapes etc.); (3) *phenomena of a presence* describe a diffuse invisible entity-like presence (beings, forces, atmospheres etc.). They are often reported during awakening accompanied with an inability to move one’s body (sleep paralysis) and frequently with sensations of pressure and touches (“nightmare”); (4) *experiences of being influenced* manifest themselves in somatic symptoms and the hearing of inner voices often connected by the afflicted persons with strange forces, black magic or spells; (5) *mediumship* encompasses exceptional experiences occurring in the context of occult techniques such as moving glasses, table tilting, pendulum or “channeling” whose messages are often interpreted as coming from ghosts or departed persons; (6) as *meaningful or fateful coincidences* such occurrences or events are subjectively perceived as being connected or determined in an extraordinary way (e.g. the frequency of accidents or mishaps, the special role of a certain number in a person’s biography etc.).

ExE are occurring mostly spontaneous, i. e. unexpected and without apparent cause. They can be self-induced by techniques like automatic writing or practices of meditation. In addition there are externally induced ExE which are reported after having contacted healers, psychics, clairvoyants or after the use of offerings from the esoteric market.

A lot of people can appreciate such experiences in a positive way and are able to integrate ExE in their world view. Given specific circumstances however, ExE can also induce emotional distress and anxieties. The afflicted persons have problems to cope with these adequately. Often the search for explanations and practical help is in vain in the existing psychosocial care institutions. The goal of our counseling work is to improve the situation for people who are looking for help. The counseling service is free of charge and open to everyone.

Counseling and care activities

• *Documentation System*

With the help of the documentation system (DOKU), introduced at the IGPP in 1998 in accordance with current standards for basic documentation, about 4500 people requesting for counseling concerning ExE were recorded and evaluated. The results reveal over the years quite similar patterns concerning the reported exceptional phenomena, the sociodemography of the advice-seeking people and the distribution of clinically significant variables.

• *Number of counseling cases*

In the years 2016 and 2017, in addition to a total of about 1000 general information requests, around 200 people from all over Germany used the special counseling service for people reporting ExE and seeking advice. An estimation based on the data from 2016 for both years shows that ca. 27% of all inquiries came from the county state of Baden-Württemberg, among them about 15% from the Freiburg area. Approximately 61% of all first counseling contacts were established by phone, 36% by e-mail, 2% by letters, and 1% by unannounced visits at the IGPP. The consultation of all 200 clients took about 1000 contacts. In addition to the regular counseling contacts, there are more than 1000 requests for information by telephone, letter and e-mail coming from journalists, students, people interested in science and the general public regarding parapsychological research and anomalous phenomena.

• *Clients*

In the period between 2016 and 2017 almost 56% of the clients were women and the average age was 44 years. Almost 29% of the clients are nondenominational. In accordance with the data from previous years, there is a high level of education: 49% obtained a high school diploma (Abitur/Matura), 42% are graduates of a technical school or a university. The conspicuous trend of social withdrawal was found to be without change: About 65% of the clients are single, divorced or widowed. Approximately 50% are without (marital) partner, 50% live on their own. At the moment of first contact, about 45% were unemployed, unable to work, or retired. 90% of the clients report social conflicts (divorces, financial difficulties, etc.), 79% complain about psychological problems (stress, proneness to fear, depression, etc.) and 75% about physical symptoms and diseases. Ac-

cordingly, 70% of the clients feel distressed and burdened by their general living conditions even independent of ExE. Despite missing data in the majority of cases, it is quite certain that 39% of the clients had psychotherapy and/or psychiatric treatment before or during their counseling contacts with the IGPP. By a conservative estimation, the percentage in fact may be around 50%. About 50% of the clients reported and described symptoms which were assessed by the IGPP counseling staff as possible indications for the existence of mental disorders. About 60% of all persons who had contacted the IGPP evaluate their ExE clearly negative and experience them as a burden, while the rest is mostly ambivalent in their assessment. About 90% of the reported ExE happened unprepared and unexpected. Only in a few cases they were induced by psychotechniques and other methods such as glass tilting or automatic writing. In few instances they were

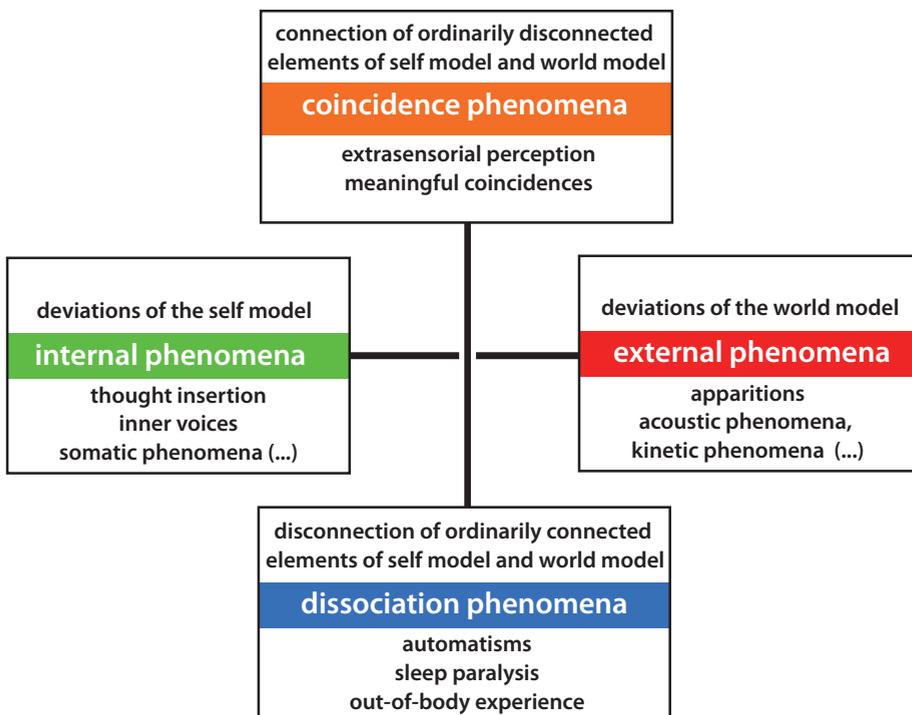


Fig. 21. The four phenomenon basic classes. Based on Metzinger's postulate that the human model of reality is composed of two basic elements, the self model and the world model, four classes of phenomena as deviations in the reality model are possible: Internal phenomena in the self domain and external phenomena in the world domain can be predicted. Concerning the dichotomy of self and world, coincidence phenomena as extraordinary connections of ordinarily disconnected elements, and also dissociation phenomena as extraordinary disconnections of ordinarily connected elements of both domains, can be expected. All phenomena that form the six described typical patterns of ExE, can be attributed to the four basic classes.

related to contacts with healers, psychics or suppliers from the esoteric market.

• *Frequencies of phenomenon basic classes*

All patterns of ExE can be traced back to four basic classes of phenomena that are shown in Figure 21. Coincidence-phenomena like extrasensory perception (clairvoyance, telepathy, precognition) and meaningful coincidences comprise 35%. About 34% are belonging to external phenomena like apparitions, poltergeist phenomena and kinetic and acoustical anomalies. Internal phenomena, associated with thought insertion, hearing voices or somatic phenomena, occurred with 23%. Dissociation-phenomena connected with sleep paralysis, nightmares, feeling of an invisible external presence or automatisms and mediumship are reported by 8% of the clients.

Bauer, Fach, Zöhn

Development of a web-based counseling service

The widespread use of the Internet has been expressed for years in increased e-mail requests for advice. Against this background, an online counseling as part of a special research project service has been developed that enables users to retrieve information and to deal independently with their ExE. This service is low-threshold and offers the opportunity to use it anonymously. For the time being, the program is designed for persons who are reporting ExE which can be classified according to the patterns of extrasensory perception and meaningful coincidences. After an evaluation and revision, it will be extended to other forms of ExE.

On the start page, interested parties will get an initial overview of the structure of the research project and will be informed about possible benefits and risks of participation. Once registered, users will have access to the FAQs, information sheets and the Questionnaire for Assessing the Phenomenology of Exceptional Experiences (PAGE-R). In the login area users can inform themselves about ExE listed alphabetically in a directory and get first hints how to deal with ExE. Depending on the answers provided in the questionnaire, the program will allow (or deny) users access to the program to enter their ExE in the first step. The program will automatically sort the described experiences chronologically by age. In the same way, special life events will be recorded. In a third step participants will be asked about their satisfaction with life at the time of the ExE. The program will then present an overview of the relations between the ExE, life events and satisfaction with life graphically on a time bar.

With this synoptic presentation and supplementary texts (information sheets) a self-exploratory process as well as new insights and opportunities to deal with ExE should be stimulated. Of course, the participants have the opportunity to make personal e-mail contact with the counseling staff. They can also decide whether they want to share their evaluation profile. Approved profiles are available to all clients registered within the program

Zöhn, together with Bauer, Fach

Contributions on ExE in a new handbook on spirituality and spiritual crises

The Spirituality and Spiritual Crises Handbook (2017), edited by an IGPP team, contains two contributions from the IGPP's counseling team. On the one hand, "A psycho-physical model approach for the understanding of extraordinary experiences" is presented, on the other hand, a practical overview of "Counseling and psychotherapy for people with exceptional experiences" is given.

Publications: Fach (2017); Fach, Belz (2017)

Review article about the development of the counseling work at the IGPP

The organizational development of the counseling service in context of the restructuring of the IGPP, which started in 1998, is presented in a detailed review article. The professionalization of the counseling team, the care and counseling work in its essential components, as well as the research instruments and counseling concepts for ExE developed within the scope of the accompanying research, are described in detail.

Publications: Bauer et al. (2017)

Networking

Fourth International Expert Meeting on Clinical Parapsychology in Heidelberg

From May 26th to 27th 2017, the Fourth International Expert Meeting on Clinical Parapsychology took place at the University of Heidelberg. It was organized by Wim Kramer from the Dutch foundation "Het Johan Borgman Fonds" (HJBF) in collaboration with Nicole Maria Bauer from the Institute of Religious Studies in Heidelberg. The conference was a continuation of the previous three expert meetings, which took place in Naarden, the Netherlands in 2007, at the IGPP in Freiburg in 2010 and at the IMI in Paris in 2012. The topic of the conference was "The Changing World, New Media Technologies and its Influence on Religious and Exceptional Experiences". The 12 lectures and following discussions, with about 30 participants, dealt with a wide range of personal experiences as well as theoretical counseling concepts in dealing with religious, spiritual and ExE. Eberhard Bauer (IGPP Freiburg) presented in his lecture on "'The Elusive Psi?' Possibilities and Limits of Audiovisual Documentation of Anomalous Phenomena: Case Studies in a Historical Context" some archival film material taken from the historical collections of the Institute in Freiburg (Zugun, Kulagina, Serios and Rosenheim) and demonstrated that the traces to the original sources and their contexts of this material are gradually lost in today's Internet.

Bauer

Research on Exceptional Experiences

Comparative studies with the revised questionnaire for assessing the phenomenology of Exceptional Experiences (PAGE-R)

The PAGE-R, developed at the IGPP, has been used since 2011 in counseling practice to document ExE by self-assessments of the clients. The questionnaire is based on the paradigm of mental representation and captures ExE concerning the four phenomenon basic classes (Fig. 21). In a comparative study, advice seekers at the IGPP (S1, n = 272) and four further PAGE-R samples were examined. The second sample (S2, n = 176) is based on a questionnaire study on “ExE after near-death experiences“ conducted by Adrian Weibel and Michael Nahm in 2016 using a German translation of the Greyson scale for measuring the depth of near-death experiences and the PAGE-R for recording ExE. The third sample (S3, n = 334) consists of students who attended lectures by Ulrich Ott (IGPP) at the University of Gießen between 2011 and 2014 and students from Freiburg as participants in an experimental study of Alexander Siller at the IGPP in 2013. The data of the fourth sample (S4, n = 1351) was collected under mediation of Harald Atmanspacher as part of a study of the Swiss Psychiatric University Hospital Zurich in the Swiss population. The fifth sample (S5, n = 148) is based on data from an online survey by Christine Simmonds-Moore (University of West Georgia) on the geographic distribution of ExE in the US with the English translation of the PAGE-R. Fig. 23 shows the mean values of the four phenomenon basic classes for all samples in a spider-web diagram. Obviously, ExE occur in different populations in different frequencies, but in comparable proportional proportions of the phenomenon basic classes. The US study provides initial indications that the results of the German-speaking world could also be transferable to non-European countries.

Fach, together with Atmanspacher, Nahm, Ott, Siller Simmonds-Moore, Weibel

Validation of the PAGE-R with four samples

Factor analyzes, cluster analyzes, item analyzes and scale analyzes were used to examine the reliability and validity of PAGE-R in the four German-language samples. After reducing the item pool from 32 to 20 variables by selecting weak and problematic items, principal axis factor analyzes showed a systematic differentiation of the four phenomenon basic classes in all samples starting from a general factor. The extraction of four factors turned out to be the most robust and best-generalizable model. Based on the factors, reliable scales for externality, internality, coincidence and dissociation were formed. Item analyzes and scale analyzes show characteristic values and reliability coefficients which correspond to general standards. Result of the validation study is the new PAGE-R-II with 20 randomized ExE-items and four dimensions based on stable factors. In addition, the questionnaire covers contextual conditions of ExE and sociographic data.

Fach

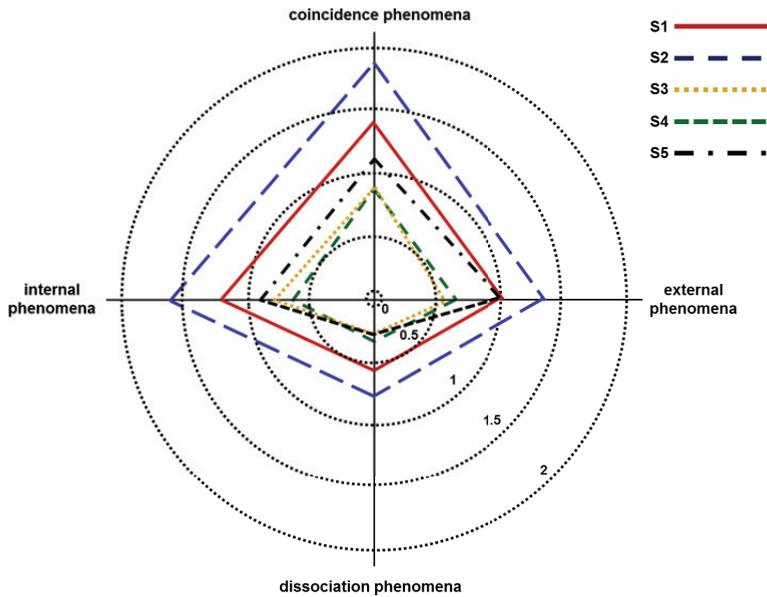


Fig. 22. Means of the four phenomenon basic classes of samples S1 to S5. The graph shows the averages obtained from each of the eight items of the four PAGE-R sections on a scale from 0 („never”) to 4 („very often“). The values are comparable to the subscale values after validation. The highest scores in all areas are the NDE sample (S2) with a maximum of 1.8 in the coincidence phenomena. The students (S3) and the Swiss population (S4) have the lowest scores and a nearly congruent profile. The US sample (S5) has higher values, but still below those of the IGPP clientele (S1). The proportionality of the basic phenomenon classes is largely comparable for all samples. This circumstance speaks for a latent principle of order in the genesis of ExE.

Exceptional Experiences and Near-Death Experiences

At the center of the study (S2) was the question of whether near-death experiences (NDE) would lead to further ExE or increased ExE. The evaluation of the NDE-sample initially showed that the Greyson scale and the PAGE-R measure are widely different constructs. The correlation of the NDE and ExE total scores is only .30, that is, the frequency of ExE has little to do with the measured depth of an NDE. People with NDE have higher scores on all ExE subscales than other samples (Fig. 22) and are characterized by a higher proportion of out-of-body experiences and greater involvement of extreme situations and spiritual practices in triggering their ExE. In addition, they feel more than any other respondents positively enriched by their ExE. With regard to the central issue, it was found that nearly 60% of the respondents had ExE even before their first NDE.

These occurred on average at about 30 years, with the average age in the sample at 50 years. Already before the age of 18 years, 46% of the respondents had ExE and 25% an NDE. The respondents who already had ExE before an NDE have a significant ($p = .009$) higher total ExE score and a higher total NDE score than those whose ExE followed for the first time after an NDE. Remarkably, early ExE appear to have a more sustainable impact than an early NDE. Thus, 36% of those with ExE, but only 17% of those with an NDE before the age of 18, also have the remaining lifespan up to the time window of the last 12 months ExE. This trend also applies to respondents who first reported ExE at a later adulthood but before an NDE. Analyzes that differentiated groups according to different types of closeness to death (medical vs. subjective context), did not show any relationship to NDE depth or to the type and frequency of ExE. In the end, no specific influence on the expression of ExE was found either with regard to the time or the nature of the NDE. However, because the participants were recruited through self-selection (esoteric market) the results are by no means representative of the overall population of people with near-death experiences.

Fach, together with Nahm, Schmied-Knittel and Weibel

2.4 Bender Institute of Neuroimaging (BION)

The BION was opened in 2000. Since the commencement of its new statute at November 23th 2012 it is an institution of the Department of Psychology and Sports Science of the Justus Liebig University Giessen, cooperating closely with the IGPP. The core of the BION is a magnetic resonance tomograph (MRT), which is exclusively available for psychological investigations of brain functions. The MRT generates a homogeneous magnetic field of 3 Tesla and provides cross sections of any requested orientation, representing the interior head structure and brain function during particular tasks.

Ten research groups of different divisions of the department are currently working at the BION. In addition, starting at the end of 2017, the BION is developed further into a core facility of the German Research Foundation, that can be used in the future by research groups from everywhere in Germany. The following report focuses exclusively on the work of the research group “Altered States of Consciousness – Meditation Research”, headed by Dr. Ulrich Ott, an employee of the IGPP, in close coordination with Prof. em. Dr. Dieter Vaitl.

Varieties of contemplative experience

This project is being conducted in close cooperation with Willoughby Britton (Brown University, USA) and intends (1) to develop a detailed description and classification of phenomena induced by meditation, (2) to determine factors that have an influence on the occurrence of these phenomena –for instance personality traits or duration and type of practice–, and finally (3) to identify successful strategies for prevention and treatment. These questions are explored using semi-structured interviews first and later on using

questionnaire surveys. In addition to two doctoral students Dr. Terje Sparby is part of the research team. He is conducting interviews with practitioners of anthroposophical meditation.

Ott, Tremmel, von Hohnhorst, together with Britton

Meditation and brain aging

Today, it is possible with specialized computer software to estimate quite exactly the age of a person on the basis of an anatomical brain scan. If a person is estimated to be older than he/she actually is, then the risk to suffer from Alzheimer Dementia later is considerably increased. On the other side, methods of stress reduction, like meditation, and a healthy lifestyle could presumably slow down aging processes in the brain. In order to test this hypothesis anatomical Magnetic Resonance Imaging (MRI) scans of 33 meditators and 31 controls were analyzed by a program, which was first trained with 180 freely available brain images to provide an age estimation as exact as possible. The average difference in estimated brain age between both groups – half a year in favor of the meditators – was not significant and solely a trend towards a negative correlation between meditation experience and estimated brain age was found.

Ott

Publications: Laneri et al. (2016); Rumpf (2017)

Meditation and neurofeedback

This ongoing project aims at the combination of meditative techniques of self-regulation with biofeedback of electrical brain activity (neurofeedback). To this end, simultaneously recorded EEG and functional MRI data were analyzed in a first step to detect correlations between the so-called default-mode network (DMN) in the brain and components of the EEG. The DMN is active during daydreaming and mind wandering and is inhibited by meditation. Two EEG components were identified, whose associated functional MRI activity was overlapping significantly with regions of the DMN: (1) a frontal midline theta components and (2) a parietal beta component. This two components provide now in the next step the signals, that are presented on a monitor and acoustically, to be changed systematically by meditation (programming of the visual feedback signals in cooperation with Wolfgang Ambach). We expect that the successful modification of EEG activity will be accompanied by subjective changes in the subjects, who will perceive a connection between successful meditation and changes in their brain activity. In the long run, this technique is planned to be employed with patients who learn by meditative strategies of self-regulation to modify activity in the DMN, which is related to their symptoms, e. g. excessive activity in the anterior DMN, which is linked to the rumination in depressive patients.

Ott

Effects of basic meditation techniques

Meanwhile, it can be regarded as an established fact that meditation works. A large number of empirical studies found generally positive effects for a wide variety of psychological variables, both for healthy practitioners and patients. These psychological findings are corroborated in studies that examined the impact of meditation on brain structures and processes. However, theories about why and how these effects arise are still in their infancy. One important reason for this situation lies in the high degree of heterogeneity of what scholars mean when they write about meditation. All traditional approaches to meditation as well as recent secular approaches to mindfulness meditation include several different basic meditation techniques and the effects found may be due to a single technique, all techniques together or any combination of techniques. As yet, none of the existing theoretical approaches to meditation, traditional or secular, deals with the effects of basic meditation techniques. Another deficit in previous meditation research concerns the way the effects of meditation are measured: most measures have not been theoretically derived. The planned project intends to analyze the specific and common effects of basic meditation techniques by both explorative and deductive methods. First, a pool of basic meditation techniques will be identified by an exhaustive search and, following that, a consensus of experienced meditators. For the most representative techniques, predictions for both psychological and brain variables will be derived by relying on available theoretical approaches and plausibility. To examine these possible effects suitable measures will be employed. The effects will be measured longitudinally, with a short measurement intervals using experimental single case design. As a central result of the project, we expect specific profiles of effects for the basic meditation techniques, both for psychological and brain variables, which provide building blocks for arriving at a comprehensive theory of meditation.

Ott, together with Sedlmeier

2. Personnel

2.1 Corporate Members

- Dipl. Psych. Eberhard Bauer
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- Prof. Dr. Dr. Jürgen Bengel
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2.6 Research

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Natascha Anka, stud. assistant (since July 2017)
PD Dr. Harald Atmospacher, research staff
Dr. Monica Intaite, Postdoc (until May 2017)
Ellen Joos, stud. assistant (until July 2016), scientific assistant (August 2016 - July 2017), PhD student (since May 2017)
PD Dr. Jürgen Kornmeier, research staff (Coordinator: Perception and Cognition)
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Emanuela Liaci, PhD student (since May 2014)
Damisela Linares Gutierrez, M.A., PhD student (June 2015 - October 2017)
Ursula Nothdurft, stud. assistant (since December 2016)
Dr. Sebastian Phillip, Postdoc (until July 2017)

Blanda Wielandt, stud. assistant (until March 2016)

PD Dr. Marc Wittmann, research staff (Coordinator: Time Perception and Time Consciousness)

Hannah Wunderlich, stud. assistant (September - November 2017)

Katja Volz, PhD student (since September 2016)

Trainees: Laura Arndt, Leonard Brauch, Joschka Cremers, Hans-Peter Gühr, Stefan Gutmann, Lukas Hecker, Mona Heiland, Stefan Lemke, Jan Lietz, Elena Morone, Maximilian Müller, Laura Neumaier

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Nikola Roth, scientific assistant (till April 2016)

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4. Appendix

4.1 Publications

Refereed Publications

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4.2 Doctoral, Master and Bachelor Theses

Doctoral Theses

Anton A. (2017): Das Paranormale im Sozialismus. Zum Umgang mit heterodoxen Wissensbeständen, Erfahrungen und Praktiken in der DDR. Doctoral Theses, Albert-Ludwigs-Universität Freiburg.

Rumpf K. P. (2017): Meditation und Hirnalterung: Implikationen für die Demenz-Prävention. Doctoral Theses, Justus-Liebig-Universität Gießen.

Master Theses

Adrian L. (2016): The influence of mindfulness meditation on time perception. Master Theses, Albert-Ludwigs-Universität Freiburg.

Arena L. (2017): Eine andere Wirklichkeit. Zur Phänomenologie des Mystery-Genres. Eine explorative Untersuchung. Master Theses, Albert-Ludwigs-Universität Freiburg.

Buckenberger R. (2017): Unterscheidung zwischen Meditation und Tagträumen anhand von EEG-Komponenten als Voraussetzung für ein Neurofeedback-Training. Master Theses, Justus-Liebig-Universität Gießen.

Deinzer V. (2016): Subjektive Zeitwahrnehmung und Tanz. Eine Pilotstudie. Master Theses, Albert-Ludwigs-Universität Freiburg.

Epe J. (2016): Unterschiede in der Induktion von Gamma-Aktivität im EEG durch auditive Stimulation in den vier Atemphasen. Master Theses, Justus-Liebig-Universität Gießen.

Fiedler H. (2016): Impulsivität und Zeitwahrnehmung. Masterarbeit, Universität Trier.

Hartmann S. (2017): Entspannungsverfahren vor psychotherapeutischen Sitzungen: Effekte bei Angstpatienten und Depressiven. Master Theses, Justus-Liebig-Universität Gießen.

Joos E. (2016): EEG-correlates of memory effects during perceptual disambiguation. Master Theses Albert-Ludwigs-Universität Freiburg.

Kunz J. (2016): Das Versprechen der Achtsamkeit – eine soziologische Annäherung an Achtsamkeitsmeditation. Master Theses, Albert-Ludwigs-Universität Freiburg.

Mross P. M. (2016): Neuronale Resonanz: Maximale Gamma-Aktivität durch visuelle Stimulation. Master Theses, Justus-Liebig-Universität Gießen.

Thumann M. (2017): Entspannungsverfahren vor psychotherapeutischen Sitzungen: Effekte auf das Bewusstsein und Einfluss der Absorptionsfähigkeit. Master Theses Justus-Liebig-Universität Gießen.

Volz K. (2016): Modifikation des Falschinformationseffekts durch aktives Erinnern von Gedächtnisspuren. Master Theses, Albert-Ludwigs-Universität Freiburg.

Vonau V. (2017): Die Mensch-Kuh-Kommunikation beim therapeutischen Handmelken. Eine interdisziplinäre Ethnographie. Master Theses, Albert-Ludwigs-Universität Freiburg.

Bachelor Theses

Figura H. M. (2016): Wirkung von Yoga auf den Lebensstil in Abhängigkeit von der Persönlichkeit. Bachelor Theses, Justus-Liebig-Universität Gießen.

Breitenbach C. P. (2017): Auswirkungen eines Yoga-Atemtrainings auf den Stress-Index und Parasympathikotonus. Bachelor Theses, Justus-Liebig-Universität Gießen.

Kuhlenkamp I. (2016): Trance-Induktion mittels Mind-Machine: Einfluss der Absorptionsfähigkeit. Bachelor Theses, Justus-Liebig-Universität Gießen.

Otto M. (2016): Trainingsprogramm zur Verbesserung der Beweglichkeit als Voraussetzung für den Lo-tussitz. Bachelor Theses, Justus-Liebig-Universität Gießen.

Schwan M. (2016): Theta-EEG mittels Mind-Machine: Eine Methode zur Induktion von Trance? Bachelor Theses, Justus-Liebig-Universität Gießen.

State Examination

Gutmann S. (2017): Spacing-Effekte bei verschiedenen Komplexitätsstufen des Lernens. State Examination, Albert-Ludwigs-Universität Freiburg.

Lemke S. (2017): Temporal Aspects of Memory and Learning. . State Examination, Albert-Ludwigs-Universität Freiburg.

4.3 Raising of External Funds

2014/2017: Kornmeier J.: Neural processing of sensory ambiguity in healthy subjects and patients with Asperger Autism. Deutsche Forschungsgemeinschaft (DFG), (€ 200.000,-).

2015 /2017: Kornmeier J.: Finanzierung der Post-doc Stelle von M. Intaite . Fundação para a Ciência e a Tecnologia, Portugal, (€ 54.000,-).

2015/2017: Kornmeier J.: Finanzierung der Postdoc Stelle von S. Phillip . Universität Bochum, (€ 50.000,-).

6/2015-11/2016: Schmidt S., Jo H.-G., Wittmann M. , Hinterberger T.: “Remote meditation support – a multimodal distant intention experiment”. FUNDAÇÃO Bial, (€ 49.500,-).

6/2015-10/2017: Wittmann M., Schmidt S. , Meissner K.: “Changes in subjective time as indication of increased mindfulness after meditation.” FUNDAÇÃO Bial, (€ 38.900,-).

2016: Kornmeier J.: Reisestipendien. Freunde der Albert-Ludwigs Universität Freiburg, Heinrich-Kirchner-Stiftung, (€ 1.500,-).

2016: Kornmeier J.: Zwischenfinanzierung von Frau Joos. Psychiatrie der Albert-Ludwigs Universität Freiburg, (€ 1.140,-).

4/2016–3/2018: Ott U.: „Risiken und negative Wirkungen von Meditation“. Deutsche Forschungsgemeinschaft (DFG), (€ 121.030,-).

2016/2017: Kornmeier J.: Kooperationsprojekt: „Quantum Cognition“. Psychiatrie der Universität Ulm, (€ 9.000,-).

2017: Kornmeier J.: Finanzierungsprogramm zur Förderung von Open-Access Publikationen. Deutsche Forschungsgemeinschaft(DFG) und Albert-Ludwigs Universität Freiburg, (€ 3.000,-).

5/2017 - 4/2020: Kornmeier J: Neurex Doctoral Fellowship, (€ 51.000,-).

5/2017–4/2019: Tremmel M., von Hohnhorst F.: “Risks and adverse effects of meditation”. Mind and Life Europe 2016 Francisco J. Varela Research Award Grant, (€ 11.316,-).