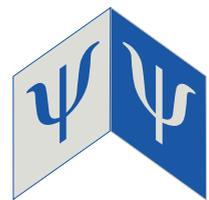


Biennial Report 2014–2015



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

Biennial Report 2014–2015

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der Psychologie und
Psychohygiene e.V.
Freiburg i. Br.

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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 2014 and 2015. 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.

January 2016, 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, Uni-

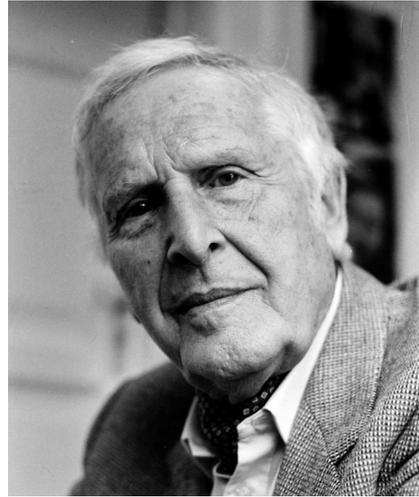


Abb. 2. Hans Bender, the founder of the IGPP around 1980.



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

versity of Gießen.

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.



Fig. 4. Fanny Moser around 1920 .

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. 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 scheme is empirically accessible only in an indirect fashion, through its aspects.

Atmanspacher

Publication: Atmanspacher H. (2014); Atmanspacher H., Fach W.(2015)

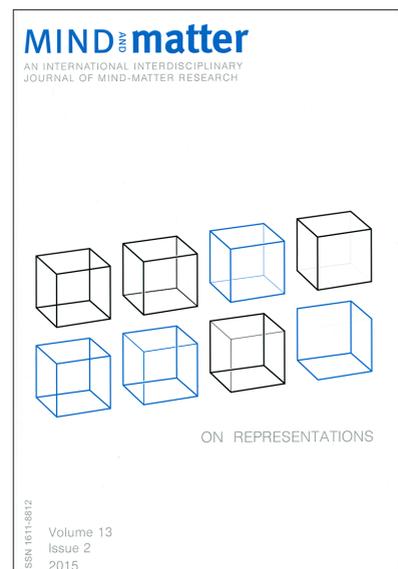


Fig. 6. Mind and Matter, On Representations, 13/2, 2015.

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 2014 and 2015 issues so far were “Complementarities” (12/1) “Naturalizing the Mind” (12/2), “From Intentionality to Locality” (13/1) and “On Representations” (13/2) (Fig. 6).

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 a varying degree 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.

EEG-Correlates of altered states of consciousness through meditation

During observation of ambiguous figures (e.g. the Necker cube), our perception is only temporarily stable and alternates spontaneously between different interpretations. We can volitionally control the dynamic of these perceptual alternations to some degree but we cannot prevent them entirely. Interestingly, experienced meditators can prolong their periods of stable percepts (“dwell times”) compared to non-meditators.

The recently presented Necker-Zeno-model of bistable perception, based on the Generalized Quantum Theory, predicts a correlation between prolonged dwell times and the modulation of two other basic time scales of cognitive relevance. In an EEG study on the perception of ambiguous figures with meditators and non-meditator we tested the model predictions.

Results: Longer dwell time in meditators, compared to controls, correlate with longer latencies in the event related potential. Our findings provide four-fold confirmation of the Necker-Zeno-model.

Kornmeier, Wittmann, with Atmanspacher, Friedel, and Schmidt

Ambiguity in visual and tactile apparent motion

In von Schiller’s Stroboscopic Alternative Motion (SAM) stimulus two visually presen-

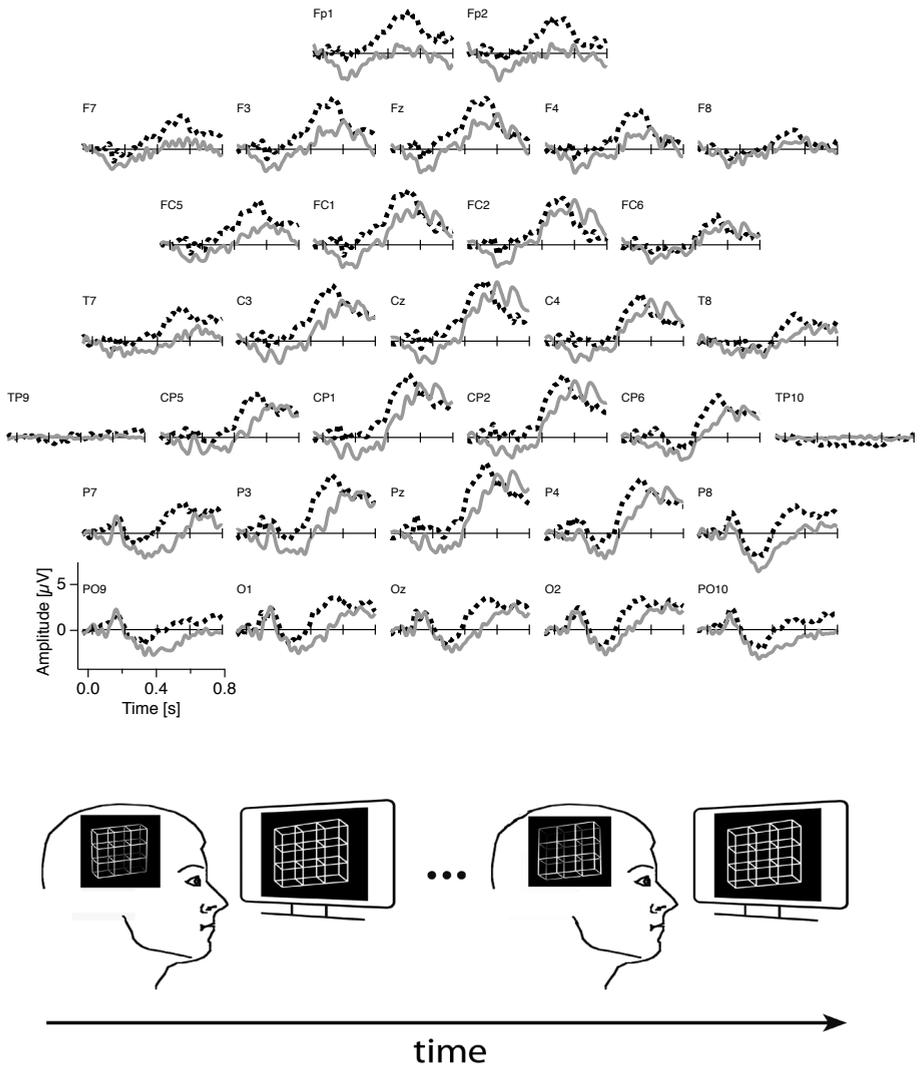


Fig. 7. Event-related potential (“ERP”, calculated from the EEG) to the perceptual reversal of an ambiguous Necker lattice. Individual graphs represent the ERP activity at single EEG electrode positions, which are arranged according to the location on the head. The traces represent the ERP while meditators (grey continuous traces) and non-meditating controls (black dashed traces) observe orientation reversals of the Necker lattice. Time point zero represents stimulus onset. A huge positive ERP deflection can be observed at about 0.4 seconds after stimulus onset. It occurs slightly later in meditators than in controls. This confirms predictions from the Necker-Zeno-Model.

ted diagonal pairs of dots located on the corners of an imaginary rectangle alternate with each other. Observers perceive either horizontal or vertical antiparallel motion of two

dots (“apparent motion”). In this project we compared the classical visual SAM stimulus and a tactile variant, with two vibration stimulators located at two points along the participants two forearms respectively. One specific focus of this project was the interaction of an exogenous world-centered with an endogenous body-centered reference system during the integration of the vibrotactile stimulations into a motion gestalt.

Results: Tactile and visual motion perception of SAM stimuli shows both similarities (e.g. the preference for vertical motion) and differences (e.g. tactile SAM perception is less stable than the visual). In particular, a configuration with crossed forearms revealed unexpected results, indicating high flexibility of the perceptual system.

Kornmeier, Liaci, together with Wörner, Bach, Tebartz van Elst, and Heinrich
Publication: Liaci, Bach, Tebartz van Elst, Kornmeier (2015)

EEG correlates to the processing of visual and auditory ambiguity

Tiny figural changes can disambiguate an ambiguous stimulus, thus stabilizing its percept and evoking two large event-related potentials (“ERPs”) of the human EEG. This “ERP-ambiguity-effect” was found with stimuli from very different visual categories (geometry: Necker cube; semantics: Old/Young Woman; motion: SAM) and probably correlates with the reliability of perceptual constructs (“perceptual evaluation”). In this project we presented ambiguous and disambiguated auditory stimuli (“verbal transformation effect”) in a variant of the visual EEG paradigm and studied ERP correlates of auditory perceptual evaluation.

Results: Psychophysical results from the auditory modality are very similar to those from the visual modality, however the EEG results differ: We found larger amplitudes in the EEG alpha frequency band for disambiguated compared to ambiguous auditory stimuli. However, no ERP signals comparable to the visual ERP-ambiguity-effect were found. The latter may be explainable by the larger complexity of the used auditory stimulus variants.

Kornmeier, Huber together with Stieglitz
Publication: Huber (2015)

Influence of task on stimulus-related ERP components

The ERP-ambiguity-effect (see above) shows smaller ERP amplitudes for ambiguous compared to disambiguated stimulus variants. Recent evidence indicated the influence of the experimental task on this stimulus-related ERP effect. We compared a go-nogo paradigm and a forced choice paradigm with ambiguous and disambiguated stimulus variants in order to test this systematically.

Results: We confirmed earlier results of larger amplitudes for disambiguated compared to ambiguous stimulus variants. This effect was modulated by the task with larger amplitudes in the forced-choice compared to the Go-NoGo task. Our results raise doubts on hierarchical sequential models of sensory and executive processing steps.

Kornmeier, Joos
Publication: Joos, Kornmeier (2015)

2.1.3 Time Perception and Time Consciousness

How do we perceive time? The research group on “Time Perception and Time Consciousness” investigates how the subjective experience of time is related to cognition, emotion, and body states. Findings on the relationship between affect and time, together with recent conceptualizations on self- and body processes have connected time perception with emotional and bodily states. Neural processes in the insular cortex, which are related to body signals, feeling states as well as to self-consciousness, are constitutive mechanisms for the creation of subjective time. We investigate the relation of the subjective experience of time with reason and affect, in altered states of consciousness such as in meditation or in drug-induced states, as well as in neurological and psychiatric conditions.

Altered states of consciousness and subjective time

In our theoretical work we discuss experiences and empirical research on altered states of consciousness, where an increased awareness of oneself coincides with an increased awareness of time and, conversely, a decreased awareness of the self is associated with diminished awareness of time. That is, if the experience of the self is intensified, the subjective feeling of time changes accordingly, experienced as expansion or as slowing down of the passage of time. Time consciousness and self-consciousness are most prominently modulated in altered states of consciousness. Such ego and time modulations, in extreme cases a joint dissolution of the notions of self, time and space, can be induced in meditation, through sensory deprivation, through hallucinogens, in rhythm-induced trance and musical experience. The joint modulation of the experience of self and of time provides us the opportunity to investigate the unsolved riddle of consciousness through the investigation of time consciousness. Researchers have begun to systematically study altered states of consciousness with different induction methods, as well as in psychiatric and neurological disorders, to understand the underlying dynamics of neural system states which provide the basis for the experience of time and the conscious self. Beginning on the phenomenal level, our future research will assess the psychological and neural mechanisms leading to altered time consciousness and we will thereby also understand more about consciousness.

Wittmann

Publication: Wittmann (2015a)

Subjective expansion of extended life spans and accuracy in time perception in experienced meditators

Experienced meditators typically report that they experience time slowing down in meditation practice as well as in everyday life. Conceptually this phenomenon can be understood through functional states induced through meditation, i.e., by attention modulation, body awareness, and emotion regulation. However, hardly any systematic empirical work exists regarding the experience of time in meditators of different meditation techniques. In two parallel cross-sectional studies, we investigated whether (1) 42 experi-

enced mindfulness meditation practitioners (on average 10 years of continuous practice) and (2) 20 similarly experienced practitioners in transcendental meditation showed differences in the perception of time as compared to matched controls, respectively. The perception of time was assessed with a battery of psychophysical tasks assessing the accuracy of prospective time judgments in duration discrimination, duration reproduction, and time estimation in the milliseconds to minutes range as well with several psychometric instruments related to subjective time such as the Zimbardo Time Perspective Inventory, the Barratt Impulsivity Scale and the Freiburg Mindfulness Inventory. In addition, subjective time judgments on the current passage of time and retrospective time ranges were assessed.

(1) Mindfulness meditation study: While subjective judgements of time were found to be significantly different between the two groups on several scales, no differences in duration estimates in the psychophysical tasks were detected. Regarding subjective time, mindfulness meditators experienced less time pressure, more time dilation, and a general slower passage of time. Moreover, they felt that the last week and the last month passed more slowly. Overall, although no intergroup differences in psychophysical tasks were detected, the reported findings demonstrate a close association between mindfulness meditation and the subjective feeling of the passage of time, that is, an expansion of duration and a slowing down of lived time, as captured by psychometric instruments.

(2) Transcendental meditation study: Results indicate that the transcendental meditators performed more consistently in the duration reproduction tasks in the multiple seconds' range and responded more accurately in the time estimation tasks in the minutes' range as well as in the duration discrimination task than controls. Self-rated mindfulness was also more pronounced in meditators. In conclusion, experts in transcendental meditation performed more accurately in psychophysical time perception tasks and showed higher mindfulness than non-meditating controls. Whether these differences are causally related to the practice of meditation should be investigated in future studies.

Wittmann, Sarikaya, Lehnen, together with Jo, Kohls, Schmidt, and Meissner
Publications: *Wittmann, Otten, Schötz, Sarikaya, Lehnen, Jo, Kohls, Schmidt, Meissner* (2015); *Schötz, Otten, Wittmann, Kohls, Schmidt, Meissner* (2015)

Changes in subjective time as indication of increased mindfulness after meditation

Related to conceptualizations of an intricate relationship between self-consciousness, mindfulness and the experience of the present moment, we are conducting a series of experiments probing for changes in the duration of the subjective present through mindfulness meditation experience. In the series of subsequent experimental meditation inductions, we are employing an implicit and explicit visual temporal asynchrony task assessing the 'functional moment' in the milliseconds range. Subjects have to tell whether two presented visual stimuli are synchronous or asynchronous and a detection threshold is measured. To assess the 'experienced moment', two tasks will be employed: the switching of a perceptually ambiguous figure, the Necker cube, and the hearing and temporal accentuation of metronome beats. Both of these tasks are concerned with the present



Fig. 8. Measurement of psychophysiological indices of heartbeat and breathing frequency during meditation.

moment of perception of around 2 to 3 seconds duration. In the series three experimental sessions per person are conducted with 72 subjects each (36 in the meditation group, 36 in control group), whereby all individuals have basic experience in mindfulness meditation. Each task is performed twice during a session, once before meditation (t1) (or before the control intervention) and once after meditation (t2) (or after the control intervention). The mindfulness meditation session is conducted by using a pre-recorded meditation instruction running 10 minutes. In the control session, individuals are listening to a pre-recorded story lasting

10 minutes. During these conditions heart rate and breathing rate are monitored and contrasted with a baseline measurement. Additionally, the subjective experience of self, time, and space during the 10 minutes session are assessed. We hypothesize that participants in the group with meditation induction will show relative higher accuracy in the sequencing task and they will have a prolonged present moment in the Necker-cube and the metronome tasks. This performance pattern will be visible at measurement t2 relative to measurement t1 in the meditation group and as measurement effect at t2 between the meditation and the control group. The study was funded by FUNDAÇÃO Bial, Porto, since June 2015.

Linares Gutierrez, Wittmann, together with Giersch, Schmidt, Meissner, and Kornmeier

Performance Workshop “Intersections - Performance time versus everyday time”

A two-week performance workshop was held between the 5.7. and 17.7.2015 with Liam Clancy (Associate Professor, Theatre and Dance Department, University of California, San Diego), Mary Reich (Expressive Arts Educator/Therapist, Expressive Arts Institute San Diego), Marion Mangelsdorf (Gender Studies, University of Freiburg), the philosopher Sean Enda Power (University of Cork), and the IGPP research group on “Time perception and Time consciousness” at the driving school Baas, Freiburg. The location was chosen because the driving school faced the pedestrian walkway, so the “laboratory” was visible to passersby and vice versa. The focus of interest was on the intersection/contrast of “everyday time” and “performance time”. “Everyday time” was defined as going to places, accomplishing things (but also waited, e.g. for the tram); an individual faces the known, there is a sense of routine and one may feel time contraction. “Performance time”

places value on going nowhere, on attention and experience, on re-orientating one's relationship to the environment; it is about the unknown, exploration, self-awareness. One may feel a sense of time expansion. These contrasting time experiences were investigated with academic talks and discussions, body-centered exercises and improvised performances leading to increased bodily awareness. Moreover, Vanessa Deinzer's master thesis project at the University Freiburg concerning psychological measures of audience reception to dance was part of experimental and conceptual investigation. The documentary film "Intersections of time" by the Cinematographer Ryzard Karcz captured this contrast artistically (2015).

Wittmann, Linares Gutierrez, Deinzer, Esch, together with Clancy, Reich, Power, and Mangelsdorf

2.1.4 Clinical and Physiological Psychology

The main topics of the research are the psychophysiology of true and false reports and the psychology of 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).

Socio-cognitive influences on the psychophysiological responses in the detection of concealed information

When extraordinary events and experiences are claimed, the correctness of the corresponding reports is frequently doubted. Closer examination reveals that the usually assumed dichotomy of "true" and "false" is often blurred. Studying this class of phenomena aims at obtaining a better understanding of various types of false reports, recall, and recognition, together with their psychological sub-processes and their physiological correlates.

In the classical Concealed Information Test (CIT, originally Guilty Knowledge Test) according to Lykken (1959), the physiological responses of different physiological response systems are captured during the concealment of information. Several previous studies used different variations of the CIT in order to identify mental sub-processes of information concealment and recognition. The current project aims at elaborating the theoretical foundations of the CIT. It was repeatedly shown experimentally that psychophysiological responses in the CIT depend on the emotional and motivational conditions under which the CIT is performed. This leads to conceive that the psychophysiological responses are also considerably dependent on the socio-cognitive influences effective during the CIT. Although concealing information is essentially social action, the effect of socio-cognitive

influences on the physiological responses in the CIT was barely investigated so far. Our preceding study showed that social stimuli presented during the CIT influenced physiological responding. Two follow-up studies aimed at identifying particular socio-cognitive components effective in the CIT.

A participant's awareness of being watched critically and evaluatively by the experimenter during the CIT was varied experimentally in a study with 63 participants. For this purpose, one group of participants was presented with a live video showing the experimenter, whereas for the other group a grey screen was presented instead of the video. In both groups, the typical physiological response differences in the CIT were observed in all measures; a group difference was not proven statistically. The results primarily suggest that – in the sense of a ceiling effect – the CIT procedure, per se, induces a strong feeling of being watched in an examinee, which can be enhanced by an additional camera at best slightly.

In a further study including 53 participants, we manipulated the examinees' degree of self-awareness. For this purpose, one group of participants was presented with the live video of their own person, together with their individual voice recordings, during the CIT; the other group underwent the CIT without these self-referencing stimuli. Again, the typical CIT effect was pronounced in both groups and with each measure. An enhancement of the typical physiological response differences, which was hypothesized as a consequence of enhanced self-awareness, was observed only for the phasic heart rate changes, not for the other measures. This pattern of results supports the assumption that particularly processes of attentional redirection, which were intensified by enhanced self-awareness in this study, are reflected in the phasic decelerations of heart rate in the CIT.

Ambach, together with Aßmann, Stark, and Wielandt; Ambach, together with Krieg, Kraut, and Heinrichs
Publication: Krieg (2015)

Physiological correlates of false memories

Memories of earlier events are known not to consist of identical copies of these events but to be the product of an active reconstruction taking place when the memory is recalled. Numerous studies focused on the fallability of memory. Since the 1970's, studies on the influence of additional misleading information on the recalled memory gathered particular attention. The phenomenon of "false memories" induced in the aftermath, with obtained broad scientific and public interest since the first studies by Loftus and colleagues (around 1975), yields open questions until today. In this innovative project, we concentrate on the physiological correlates of correct recall in comparison to "false" recall distorted by additional misleading information.

In a study with 41 participants, we combined the "misleading information" paradigm (Loftus et al., 1978) with the methods of the Concealed Information Test (CIT) in order to investigate the physiological correlates of true and false memories. One week after watching a deed video, the participants performed a text-based task which contained

misleading information referring to particular deed items known from the video. In the subsequent CIT, participants had to conceal their knowledge about the video. The results indicated that the distortion of the conscious memory of video details was successful to a considerable degree. Figure 9 depicts the mean level of confidence with which participants indicated that they were sure to have seen a particular item in the video or not to have seen it there, respectively; misleading information led to a reduction of correct remembrance and to a considerable degree of erroneous remembrance.

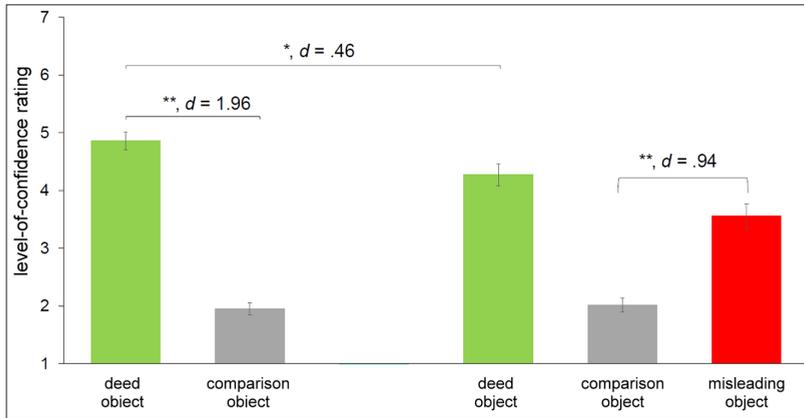


Fig. 9. Mean level-of-confidence ratings, reflecting the participants' judges whether a particular object (deed object / comparison object / misleading object) was known from the video. Left: Condition with misleading information; right: Condition without misleading information (* $p < .05$, ** $p < .01$).

The psychophysiological detection of concealed information in the CIT was very effective and accompanied by large effect sizes for those objects which were not followed by respective misleading information. For those objects, however, which were followed by misleading information, the detection of knowledge was not successful with any of the physiological measures. Figure 10 depicts, measure by measure, the CIT effect sizes for the physiological response differences between (video) deed items and unknown comparison items. The practical importance of the study concerns possible countermeasures against the detection of concealed information; theoretical implications refer to the psychology of memory as well as the psychophysiology of recognition.

Another study comprising 42 participants also employed the CIT in order to investigate psychophysiological correlates of correct and distorted memory. After knowledge was encoded in a mock crime, participants performed a series of distractor tasks among which one active recall task was inserted. For particular deed items, active recall of categorically related information was induced. According to Anderson et al. (1994), such a procedure, which originally was applied purely verbally, leads to so-called "retrieval-induced forgetting". One question of our study was, to which degree this kind of induced

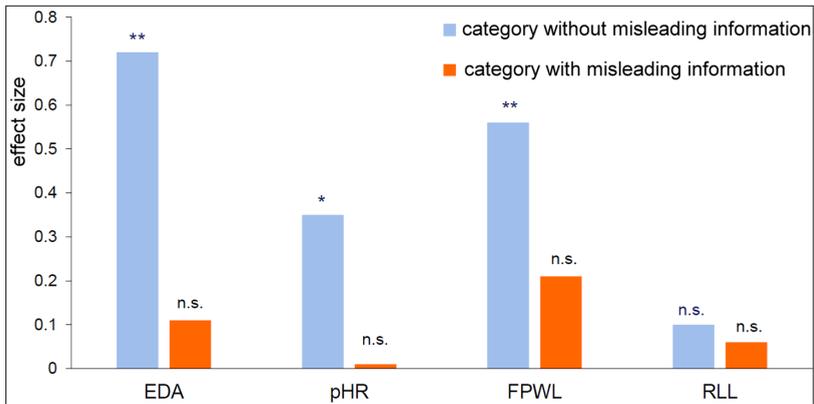


Fig. 10. Effect sizes for the physiological response difference between known deed item and unknown comparison items, separately for conditions with and without misleading information. (EDA: skin conductance response, pHR: phasic heart rate change, FPWL: finger pulse waveform length, RLL: respiration line length, n.s.: not significant, * $p < .05$, ** $p < .01$)

forgetting is also induced when knowledge is encoded in a mock crime action (instead of verbally) and the active recall procedure is performed visually (instead of verbally). The other research question was, to which degree the psychophysiology of recognition reflects conscious recollection, and to which degree it possibly deviates from it, thereby yielding incremental information about facts once encoded. Results tended to confirm, but did not prove statistically, a replication of retrieval-induced forgetting. For the second, psychophysiological research question, results remained statistically inconclusive.

Ambach, together with Bahr, Hugel, Heinrichs, and Salewski; Ambach, together with Lir, and Huff
Publications: Bahr (2015); Hugel (2015); Lir (2015)

Presentiment in the detection of concealed information

Studies regarding presentiment that have been published in recent years have led to high levels of attention in the scientific community as well as in the press. The newly reinforced controversy relates on the one hand to the compatibility of presentiment with the current scientific doctrine in perceptual psychology and on the other hand discusses sharply in how far these study results are a consequence of methodological errors. The scientific study of the phenomenon itself as well as the repeatedly renewed question aiming for a valid methodology gave the starting signal for the BIAL Foundation sponsored project with the English title: "Forefeeling guilty knowledge - An innovative approach in presentiment research".

Our first study comprised 154 participants. Several physiological measures were collected, which are related to different physiological systems. A mock crime scenario was combined with the CIT which allowed to manipulate subjective significance individually.

Statistically, a presentiment effect was not proven. Yet, a more complex analysis yielded evidence of physiological correlates reflecting participants' expectation about future items. Such physiological expectation effects were found only when the presented items were drawn without replacement. This underpins that the development of expectation within pseudorandomized experiments is a serious confound when presentiment effects are questioned.

In our second study with 80 participants, we focused on individual differences in the development of expectation and in physiological responding. Using the Tellegen Absorption Scale (TAS), we selected two extreme groups, low-scorers and high-scorers, for participation in the study. Furthermore, we administered the Australian Sheep-Goat Scale (ASGS) and the Paranormal Beliefs Questionnaire (PBS). From our first study, we adopted the presentation of items in fully randomized sequences, i.e. items were drawn with replacement. This method had turned out the least affected by participants' expectation. The remaining setup and procedure was identical to the first study. Again, we did not find statistical evidence of a presentiment effect. Moreover, no differences in differential physiological responding to stolen vs. not stolen items were found between TAS high-scorers and low-scorers. The correlations between the three questionnaire scores and physiological response differences were not statistically meaningful.

Siller, together with Ambach

Publication: Siller, Ambach, Vaitl (2015)

Special research topic of the online journals "Frontiers in Cognitive Science" and "Frontiers in Human Neuroscience"

Entitled "Basic and applied research on detection and its deception", a special research topic within the open access journals "Frontiers in Cognitive Science" and "Frontiers in Human Neuroscience" was edited in cooperation. Twenty-one papers referring to deception and its detection were edited, and the research topic, which reflects the current international research spectrum on this topic, is also available as e-book now.

Ambach, together with Gamer

Publication: Gamer, Ambach (2014)

2.2 Social and Cultural Research

2.2.1 Cultural Studies and Social Research

In the shadows of scientism: the handling of heterodox knowledge, experiences and practices in the GDR – a project funded by Deutsche Forschungsgemeinschaft (DFG)

Aim of the project: It is commonly agreed that the way paranormal experiences are dealt with in a particular society strongly interrelate with the cultural and scientific traditions (of that society). In a number of studies, past and present societies have been examined concerning this question. The GDR (1949-1990) is an exception (with no known details). There is no information on how experiences that could be described – in a wider sense – as parapsychological were either treated by the state nor how they were negotiated privately. The aim of the project, thus, is threefold: (1) to reconstruct paranormal knowledge, experiences and daily life practices and their protagonists and institutions, (2) to analyze the official and the public discourse, (3) to scrutinize the government's response and ask how social control of protagonists from the field took place.

Method of inquiry: In order to gather empirical findings, two major approaches were taken: a) interviews were held with protagonists from the field as well as protagonists of social control; b) a discourse analysis (regarding relevant topics) took place, in which statements from official (state) documents as well as public discourse in mass media were analyzed. Furthermore, sources from several archives have been collected. To the present point there are 180 documents and 22 interviews.

Preliminary results: With certainty, one can state that, in the eyes of the GDR administration, the paranormal was in juxtaposition to the ideological foundation of the Marxist-Leninist concept of „wissenschaftliche Weltanschauung“ (scientific world view). On these grounds the GDR not only based its antireligious politics but also legitimized its rejectionist stance against anything on the fringes of science. Thus, all occult, esoteric, parapsychological and alternative-religious topics were seen as an epitome of the „dark middle-ages“, and, consequently, were systematically discriminated against. Parapsychology and the phenomena investigated by it were described as unscientific and stood, according to the official voices, in opposition to the scientific world view of Marxism-Leninism. They formed a supposedly bourgeois, revanchist and politically dangerous ideology, which above all had an ideological proximity to Fascism.

Though, qualitative differences became apparent – at least if looking at the public discourse in a chronological perspective. So far, we could identify two phases: From the formation of the GDR (1949) to the mid-1960s, the prevalent fight against „superstition“ turned inwards – namely by tackling the historical „residua“ of superstitious, magical and paramedical practices, which allegedly held back the development of „socialist personality.“ In a second phase, lasting from the 1960s to the 1980s, an increasing ideological functionalization of the anti-para discourse (in an outward direction) took place. Overcoming what was perceived as „pseudoscience“ and superstition was a positive feature of

distinction in the lingering fight of the systems between East and West. Our empirical findings also reveal a marked discrepancy between the official ideology and real life experience of GDR citizens. Occult interest and practices were all but vanished and the Paranormal, indeed, could exist in the „shadows of scientism“, while, at the same time, a subtle force of suppression emerged against proponents in the field. Interviews and primary sources are currently being analyzed and results will be published in 2016.

Schmied-Knittel, Schetsche, Anton, and Schneider

Publications: Schneider, Anton (2014a, b); Anton (2014b); Anton, Schmied-Knittel (2015); Roth (2015)

Strategies of specialization („Besonderung“) with children: the example of „Indigo Children“

The term „indigo children“ which is familiar in the esoteric and new age scene is understood as a characterization of children who distinguish themselves – according to the proponents of this concept – by specific characteristics and talents. As strong the response to this phenomenon has been, firstly in the U.S.A. and then internationally too, as little it became a topic of serious (scientific) publications. For a long period, easily accessible information on “indigo children” was only available from religious or ideological organizations like advice centres for sects, ideological issues and world-view questions as well as from skeptics. The project’s aim is to give an overview on genesis as well as the common interpretations of the phenomenon from an ideologically neutral perspective. The overview is based on a few scientific studies of the concept of „indigo children“. Starting from this we compare it with further forms and strategies of specialization (of children) with regard to its social acceptance. One of the main results is that the concept of indigo children can be interpreted as a certainly not ideal but comprehensible and, in certain respects, justifiable reaction to the widespread use of psychotropic drugs.

Mayer, Brutler

Theoretical and empirical approaches to cultural objects

This project introduces a new theoretical category into knowledge sociology’s play whereby certain bodies of knowledge shall be identified and empirically traced back such as those being at odds with a culture’s reality order. Our cognitive point of origin is the term „abjection“ derived from depth psychology as drafted by linguist and psychoanalyst Julia Kristeva in 1980. Being first-time linked directly to today’s dominant paradigm of knowledge sociology, the „Social Construction of Reality“ (Berger/Luckmann 1966), „abjection“ contributes seminaly for modern societies’ understanding of social sciences. Applying Kristeva’s concept to the macro level of society, a specific class of potential segments of knowledge can be labeled by our novel approach: Those that cannot be integrated socially as they oppose to a culture’s structurally indispensable, fundamental certainties, the ontology of its reality order. As this specific knowledge – as well as its adjunct experiences and phenomena – *cannot be* in the understanding of a respective culture, and

if that reality order comes across as a normative one, *may not be*, this knowledge itself and its references in the ontic order are culturally invisible. Thus their scientific display requires greatest efforts.

During the first project stage we will determine this new category of knowledge sociology theoretically, demarcates it from related categories, and distinguish between different modes and mechanisms of abjection. The second stage then will be about various examples both present and past, being concerned with their empirical reconstruction by the new category and the evaluation of the new category's conceptualization. In addition the concept's potential of social reflection will become apparent. By this we expect to rationalize such discourses as having been or still being banned to the darkest corners of cultural awareness.

Schetsche, Biebert

Publication: Biebert, Schetsche (2015)

The influence of temporal, spatial, and social contextual factors on the perception and interpretation of mysterious objects in the photographs of a wild-life camera

An enthusiastic German huntswoman came up with pictures from a wildlife camera and showing two supposedly paranormal objects. (1) A strange humanoid-like object of about 10 cm size that seems to orient itself to the camera in a series of three succeeding pictures, and (2) on a further picture a radiant and blurred object. The puzzling appearance of these objects as well as a remarkable sudden absence of a sounder of wild boars, that previously had visited this place between 3 to 4 times a week over several months, triggered paranormal explanations.

After a close reexamination of the pictures we found a more plausible conventional explanation. Furthermore, we were able to detect a direct influence of an image published through mass media (depicting a ca. 12 cm sized humanoid mummy of yet unclarified origin) on the perception and interpretation of the objects which was conducive to a paranormal explanation.

This case study is remarkable in two respects: (1) as an interesting real-world example of our general perceptual problem, i.e. the sensory information available by our senses is a priori incomplete and ambiguous; we need to weight it with information from other sources (spatial context, perceptual memory) in order to construct stable and reliable percepts; and (2) as an example of the possible importance of media-mediated images for the interpretation of ambiguous objects of perception. If people perceive something which does not fit into their scientific model of the world, they try to use myths, stories, and media reports or fictions provide images and concepts to interpret and integrate the perceived.

Mayer, Kornmeier

Publications: Mayer, Kornmeier (2014); Kornmeier, Mayer (2014)

Publication Project: An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik [At the Frontiers of Knowledge. Handbook of Scientific Anomalistics]

The field of present-day anomalistics is dealing with a wide range of topics and specific questions which are controversial, or at least difficult to access, both due to theoretical and methodical reasons. Therefore, these topics are mostly excluded from mainstream science. They include extraordinary experiences of everyday life (e.g. near death experiences or crisis telepathy), altered states of consciousness (like ecstasy or religious trance), unexplained natural phenomena (e.g. ball lightning or mysterious Earth sounds), complex phenomena and other events of unclear or disputed origin (e.g. ghost apparitions, crop circles or UFO sightings) or even controversial cultural practices (ranging from astrology, alternative techniques of diagnosis and healing, to dowsing) – all in all phenomena and experiences at the borders of our seemingly well-grounded reality.

The purpose of the volume is to give a review of the research approaches, explanatory models, and methods of anomalistics, as well as a presentation of the most important fields of research with its particular issues in a concise manner. The underlying perspective of the book is based on the paradigm of reflexive anomalistics which can be characterized as follows: Being aware of (a) the epistemic features of the phenomena under research, (b) the methodological problems of scientific investigation related to these features as well as (c) the areas of tension between subjective evidence, scientific proof and social discourse (features which characterize this research field) and taking these factors systematically into account. The anthology is supposed (1) to fill the lack of a basic handbook regarding the topic of anomalistics in the German-language, and to give as well an overview of the most important anomalistic fields of work; (2) to raise thereby the public and scientific awareness for this research field in general; (3) to point out and to discuss the methodological and theoretical problems of anomalistics in a concise manner; (4) to set methodical standards for scientific anomalistics of future investigations.

The volume is aiming at a broad academic audience, and, furthermore, at lay people who are interested in the research fields and broader issues of anomalistics in general. It is



Abb. 11. G. Mayer, M. Schetsche, I. Schmieid-Knittel, D. Vaitl (Eds.), *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, Stuttgart: Schattauer 2015.

divided into three parts: (I) Historical development and theoretical debates (7 chapters); (II) Fields of Research (22 chapters); and (III) Methodology and Methods (6 chapters). In addition, it includes an introductory chapter as well as a subject index. The Handbook has 504 pages. In total, 33 authors from different disciplinary areas (psychology, psychotherapy, sociology, physics, medicine, neurosciences, biology, chemistry, philosophy, philosophy of science, ethnology, history, science of religion) have contributed to this volume. The Handbook covers fields of research like altered states of consciousness, astrology, crop circles, precognitive dreams, near-death experiences, medical anomalies, experimental psi research, poltergeist experiences, UFO sightings, among others.

Mayer, Schetsche, Schmied-Knittel, and Vail (and 29 co-authors)
Publication: Mayer, Schetsche, Schmied-Knittel, Vail (2015)

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 distressing and difficult experiences 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 and practice.

The reader will find relevant background knowledge concerning the historical developments, significant theoretical models, types of spiritual and religious problems, empirical findings as well as societal aspects of the topic. Furthermore psychotherapists, psychiatrists, counselors, pastoral workers and other persons supporting individuals in case of spiritual crises, are receiving practical support by the presentation of well-established and practice-tested approaches as well as by the provision of relevant contact points and resources.

The thematic field of „spiritual crisis“ is complex and therefore approached from the perspectives of different professional disciplines. Among the authors are renowned scientific



Fig. 12. L. Hofmann, P. Heise (Eds.), *Spiritualität und spirituelle Krisen*, Handbuch zur Theorie, Forschung und Praxis. Stuttgart: Schattauer (Book release in 2016).

and psychotherapeutic experts as well as representatives of a well-known spiritual center and of semi-professional networks. To take the local religio-cultural, societal and health-policy context into account, mainly experts from the German-speaking areas are represented. This first German-language handbook 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.

Hofmann, Heise (Date of publication: Early summer 2016)

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 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 library and the IGPP archives.

Historical and Biographical Studies

On the support, institutionalization and professionalization of parapsychological research in the 20th century

One of the most important impulses for the international research funding of parapsychology after World War II can be seen in the foundation of the “Parapsychology Foundation” (PF) in New York in 1951. Its main purpose was to support and to build the network of this type of research in an international framework – by giving research funds, supporting the scientific education of young researchers in this field as well as by the organization of scientific conferences (including the publication of its Proceedings). This foundation was initiated and funded by Eileen Garrett (1893–1970), who, born in Ireland, was well-known as a psychic star subject starting in England in the 1920s and later in USA and who became also a successful publisher and writer. Co-founder of the PF, and playing a decisive role in its long-term funding, was the Honorable Frances P. Bolton (1885–1977), also a long-term member of the US congress. Among the lasting merits of the PF are the organization and funding of international conferences whose proceedings, printed as books, are mirroring major research trends of the interdisciplinary parapsychological research over the last 50 years. During recent years, the PF was forced to reduce drastically its funding possibilities due the reduction of its financial means (www.parapsychology.org).



Fig. 13. Eileen Garrett during an experiment with an pendulum, around 1953. (Photo: Leif Geiges).

“The Parapsychological Association” (PA) (www.parapsych.org) can be seen as the international and interdisciplinary organization 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 organization of an annual conference covering all aspects of the interdisciplinary parapsychological (psi) research. A conspicuous feature of the PA is its broad multidisciplinary membership. Within the PA the parapsychological

community has created its own interdisciplinary forum that is characterized by a core set of methodological standards, definition of research questions, experimental viz. laboratory paradigms or the developments of conceptual models. There exists, however, among PA members no internal agreement regarding the interpretation of the psi phenomena under investigation. Quite to the contrary, a broad spectrum of partly quite divergent attitudes can be observed, e. g. regarding questions of the assessment viz. relevance of methodical approaches or (empirical) evidence in relation to the epistemological and ontological status of paranormal phenomena.

Bauer

Historical collections of parapsychology

From 12–14 June 2014 an International Conference on “Preserving the Historical Collections of Parapsychology” has taken place in Utrecht (the Netherlands), organized by Wim H. Kramer, managing director “Het Johan Borgman Fonds” (HJBF) in collaboration with Eberhard Bauer (IGPP) and the “Coalition for the Preservation of Extraordinary Human Experience Collections” (CPEHEC). More than 40 participants came from Canada, USA, the Netherlands, Switzerland, Norway, Germany and the UK. The purpose of the conference was to give an overview on historical collections, especially archival and library holdings, focussing on the history of Spiritualism, psychical research and parapsychology including ‘esoteric’ movements in broader sense. 13 lectures given by researchers, librarians and archivists were discussing questions dealing with the acquisition, long-term preserving



Fig. 14. Devices to communicate with "spirits": „ghost light“, around 1930 and a "trumpet". Objects from the „Spiritistic Museum“ at the Het Johan Borgman Fonds, presented at the conference “Preserving the Historical Collections of Parapsychology” in Utrecht, Netherlands, in June 2014.

and scientific investigations of relevant collections. The historical work of the IGPP was presented by Eberhard Bauer and Andreas Fischer.

A similar workshop on “Historical Collections including Digitalization Projects at Parapsychological Organizations in Europe” was organized by Eberhard Bauer (IGPP) at the Joint Society for Psychical Research and Parapsychological Association Conference at the University of Greenwich, London, 16–19 July 2015. Among the participants were Renaud Evrard (France), Gerd H. Hövelmann (Germany), Wim Kramer (the Netherlands), Michael Tremmel (Germany) and Sergii Vakal (Ukraine) who presented PSIHUB, a free search engine and bibliographic database of references and abstracts in English on parapsychological topics.

Bauer, Fischer

Publications: Bauer (2014b), Fischer (2014a)

Invited lecture “A View from the ‘Magic Hill’”

This lecture on behalf of the bestowal of the “PA Outstanding Career Award” at the Joint Society for Psychical Research and Parapsychological Association Conference at the University of Greenwich, London, 16–19 July 2015, presented an overview about the development and major phases of the Freiburg “Institut für Grenzgebiete der Psychologie e. V.” (IGPP), founded in 1950 by Professor Hans Bender, from the perspective of a long-standing IGPP collaborator.

Bauer

The “Occult Freiburg” in the 19th and 20th century - a topography

Only little was known about the situation and the spreading of the scientific and the popular occultism in the second half of the 19th and the first half of the 20th century in the city of Freiburg. A local historical research project in cooperation with the De-

partment of History at the University of Freiburg investigated relevant indications on special institutions, interesting events and remarkable protagonists and looked for more traces in that field. The basic sources for the research are the record groups and collections of the archive 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. The now created topography shows relevant places in the area of Freiburg, for example places of entertainment, lectures or experiments, habitations of well-known occultists, scientists or residences of important publishing-houses and book-shops. As results of the project historical city tours were drafted, which were presented with great echoes of audience in march and october 2014.

Schellinger, with Lux, Klugermann

Publication: Klugermann, Lux, Schellinger (2015)



Fig. 15. Historical city tour "Freiburg - locus occultus?", March 2014.

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

With detailed case studies the question shall 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. There are some first findings in respect to a special department in the German War

Navy (1942) as well as for the use of paranormal methods by the NS criminal police and the SS in 1943. These imply primarily scientific-pragmatic motivations rather than ideologies concerning the paranormal on the part of certain groups within the NS system.

Schellinger, with Anton, Schetsche, and Wittmann
Publication: Schellinger, Anton, Schetsche (2015)

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 was the area of potential conflict and cooperation between mediums and law enforcement agencies affected by the specific protagonists? 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 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”? Since 2011, the project is part of the Network Research Project “Societal 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 (2015b)

Heino Gehrts (1913–1998)

Concomitantly to the archival communication of the personal papers of the culture historian, culture scholar and author Dr. Heino Gehrts, the entire biography of Gehrts was reconstructed. The scholar, born in Hamburg, published in his creative time more than 70 publications. In the meantime, his work was largely forgotten. Crucial points of his research were the multiple aspects of shamanism as soon as the research on fairy tales and sagas. Furthermore he dealt intensively with the somnambulism in the first half of the 19th century and wrote important works on Justinus Kerner and his surroundings as soon as on the ‘possessed’ “Girl of Orlach” (1832/33). Gehrts can be considered as an example of a very productive private scholar, who searched on a self-reliant matter for forums and ways to circulate his scientific results. In particular, Gehrts’ correspondences promises informations on his strategies and the originated networks.

Schellinger
Publication: Schellinger, Gallinat (2015)

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 / Anna und Bernhard Blume and the Occult

Aesthetic practice often shows an influence of the 'occult' which can be felt by numerous exhibitors during the last years, some of them were organised in cooperation with the IGPP. (Examples for 2014 and 2015 are: *Pixels of Paradise: Image et Croyance*, 9e Biennale internationale de la Photographie et des Arts visuels de Liège, Lüttich, Belgien, 2014; *Kandinsky, Malewitsch, Mondrian – Der weiße Abgrund Unendlichkeit!*, Quadriennale Düsseldorf 2014, Kunstsammlung Nordrhein-Westfalen, 2014; *Evidence of Exstasy*, Galerie Susanne Zander, Berlin und Köln 2015; *Bare Wunder*, Galerie Sies und Höke, Düsseldorf, 2015; *Cosa Mentale*, Centre Pompidou Metz, 2015-2016). Such projects are

discussed with regard of their different theoretical and organisational backgrounds, priorities in regard the chosen artists or topics, or the development of their reception in the public, print media and academic circles. One of the goals is also to establish a typology of various forms of artistic approaches to the 'occult', which also includes interviews with relevant artists and curators. A collection of documents is being built up on „art and the occult“ covering information and material on relevant persons, exhibitions, literature, catalogues, press articles, flyers, correspondences etc.

During the last two years research has been focused on the the German artists couple Anna (*1937) and Bernhard Blume (1937-2011), international renowned as photographers and graphic artists. It could be shown - in collaboration with Anna Blume – that sources of inspiration from history of occultism played an important role in their artis-

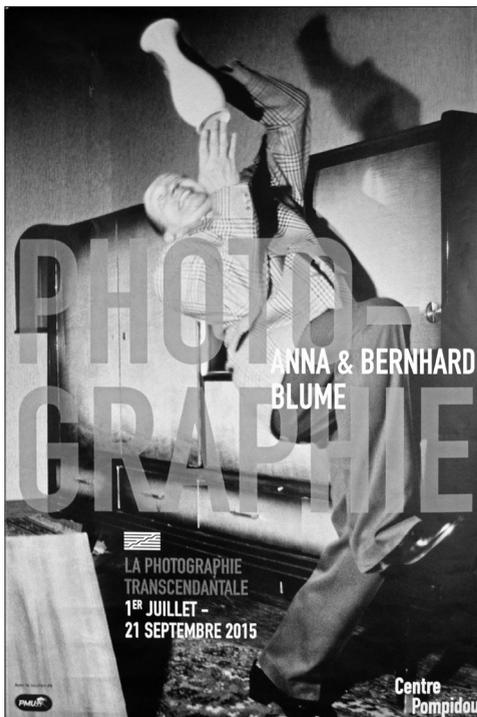


Fig. 16. Exhibition „Anna & Bernhard Blume, la photographie transcendante“ at the Centre Pompidou, Paris, in 2015.

tic work from the beginning at the end of the 1960s to their late works in the first decade of the 21st century. For example, young Bernhard Blume was inspired to develop a particular photographic concept or to establish a specific visual vocabulary, which has been productively used in many works over a long period of time. Subjects like ideoplastie, transcendental photography or Hans Bender's approach to RSPK-phenomena - the artists had visited Bender several times at the IGPP - were of great significance. The latter could for example be noticed in the series of large-format photographs like „Im Wahnzimmer“ (1984). The results of the research were among others presented in the exhibition „Anna und Bernhard Blume – la photographie transcendante“ at the Centre Pompidou in Paris (July - September 2015), which was curated in collaboration with Clément Chéroux, head of the department of photography of the institution (Fig.17). A catalogue accompanying the exhibition was published by Éditions Centre Pompidou and Éditions Xavier Barral in Paris. The study contributed to a better understanding of the significance of „occult“ sources in fine arts after 1950 and it represents a reference work for further research on other artistic positions from this period such as Sigmar Polke or Mike Kelley.

Fischer, Moos, together with Chéroux
Publications: Chéroux, Fischer (2015); Fischer (2015a)

Camille Flammarion and the History of the Martian Canals“

The IGPP collaborated with the exhibition „Outer Space – Faszination Weltraum“, which was presented at the „Bundeskunsthalle“, the art and exhibition hall of the Federal Republic of Germany in Bonn. (October 2014 – February 2015). The show presented the subject from a broad cultural historical perspective covering lots of different topics from art and science. Our scientific and organisational collaboration was focused on Camille Flammarion (1841-1925), who was one of the most popular astronomers in the world around 1900 and during his whole lifetime a supporter of „metapsychique“ (psychical research) in France. In particular, the history of the so-called „martian canals“ was reconstructed, its alleged discovery by the Italian astronomer Giovanni Schiaparelli (1835-1910), its (scientific) popularisation, the debates on its genuines and its disenchantment due to advanced technical means for the observation of the cosmos or its influence on popular culture such as science-fiction literature. The subject represents an exceptional example for the power of imagination with regard

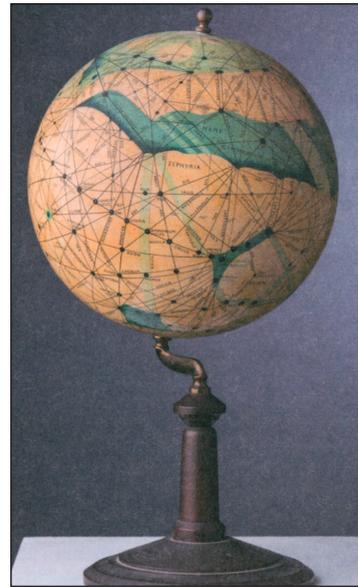


Fig. 17. Globe with martian channels depicted by Percival Lowell in 1909. Société astronomique de France, Fonds Camille Flammarion, Paris/ Juvisy s. Orge.

to observations near the perceptual threshold and also the permanent power of „old myths“.

Fischer

Publication: Fischer (2014b)

Photography and the occult

In the last years the history of „occult“ photography has been widely explored and discussed, with the participation of the IGPP. In 2014 and 2015 further research on the topic and archival or documentary work has been undertaken. It was focused mainly on case studies such as the work and life of Louis Darget (1847–1926), who belonged to the pioneers and key actor of so-called „fluid photography“. The subject gave rise to wide reaching debates even in academic circles and also influenced some contemporary artists. Darget’s photographic demonstrations – a great part of his photographs form part of the archives of the IGPP - are investigated in the context of history of „thought-photography“. An exhibition on the topic is envisaged in collaboration with Clément Chéroux. Further research was also undertaken on the (photographic) oeuvre of Albert von Schrenck-Notzing (1862–1929), a pioneer of „scientific occultism“ in Germany (his scientific papers including a collection of photographs are also at the archives of the IGPP). A main focus was the reception of Schrenck-Notzing’s photographs in art, for example by Paul Klee, Francis Bacon or many contemporary artists. In addition, the „parapsychological“ work of Freiburg photographer Leif Geiges (1915–1990) was examined, which represents an important visual source for the history of the IGPP and therefore for history of parapsychology in Germany.

Fischer

Publication: Fischer (2014c, 2015b)

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: photo-

graphs; 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 35 holdings) belonging to a variety of important researchers in psychical research and parapsychology, e.g. Albert von Schrenck-Notzing (1862-1929), Fanny Moser (1872-1953), Albert Hellwig (1880-1950) or Hans Bender (1907-1991). Finally, there are collections of relevant items, e.g. of academic theses, reports or publications as well as comprehensive press collections (currently: 44 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 17 acquisitions of various size and content. Particularly, beside single academic theses, there was a focus on the records of completed cultural studies and social research projects.

Archival securing and communication

In the period under review archival securing, communication and description of relevant holdings or documents were continued, using the approved archival database “Augias-Archiv”. Single communication projects were realized in practical courses, too, p.e. the processing of the comprehensive personal papers of the private scholar and esotericism researcher Willy Schrödter (1897–1971) of Bingen a.Rh. (by Anton Weber) (Fig.18), records concerning the clairvoyant Arthur Orlop (1912–1984) from Mannheim (by Larissa Schmidt) as well as single record groups of the Institute’s members talks, of alternative healing methods, and various occult practices (by Robert Schiller). Furthermore, a comprehensive corpus of 70 reports on spontaneous paranormal phenomena of the First World War was analyzed (by David Hilebrandt). Thus, the quantity of usable record groups and collections grows constantly.



Fig. 18. Willy Schrödter (1897–1971).

Use of the archives

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

for scientific projects is a 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 Institute were produced. The following subjects of academic theses, articles and books should be mentioned: Hans Bender, Professor of parapsychology, in the Freiburg press (ca. 1950-1991) (R. Wolf); A Messiah after Hitler, and his miracles: Bruno Gröning and postwar popular apocalypticism (M. Black); Anna & Bernhard Blume. Transcendental photography (C. Cheroux & A. Fischer); The Beginnings of institutionalization of parapsychology in Germany: Hans Bender and Freiburg i.Br. (D. Kaltenbrunn); The occult Freiburg. Occasions – characters – locations (G. Klugermann, A. Lux & U. Schellinger); Hitler’s supernatural sciences: astrology, anthroposophy, and World Ice Theory in the Third Reich (E. Kurlander); Charlatan and benefactor: the “miracle healer of Schutterwald“ in the focus of the public, justice and science (U. Schellinger); Pragmatic occultism in the military history of the Third Reich (U. Schellinger, A. Anton & M. Schetsche); Shamans, apparitions and magical fairy tales: the life and personal papers of the scientific border crosser Heino Gehrts (U. Schellinger & S. Gallinat); Soldiers of enlightenment: the “Deutsche Gesellschaft Schutz vor Aberglauben“ and its engagement against parapsychology and “occultism” (1953–1963) (M. Schneider); Tracing the roots as posthumously appreciation of Prof. George Meyer (1860–1923) (P. Vosswinckel). 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 biologist 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 64.200 volumes in the areas mentioned above, the IGPP has one of the most comprehensive libraries of its kind in Europe. The collection increases by about 700 volumes per year. The library has subscribed to approximately 225 international journals 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 2000, 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

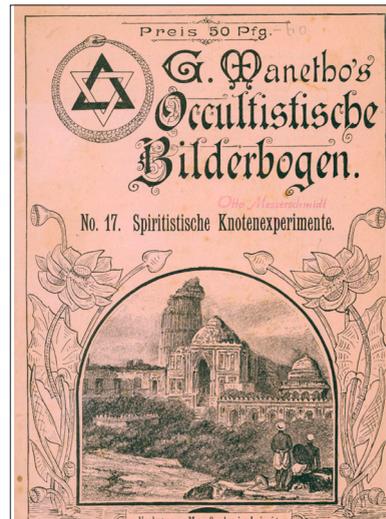


Abb. 19. Gustav Wilhelm Gessmann, G. Manetho's Occultistische Bilderbogen, Nr. 17. Spiritistische Knotenexperimente, Leipzig: Max Spohr, 1893. Library of the IGPP, University Library Freiburg i. Br.

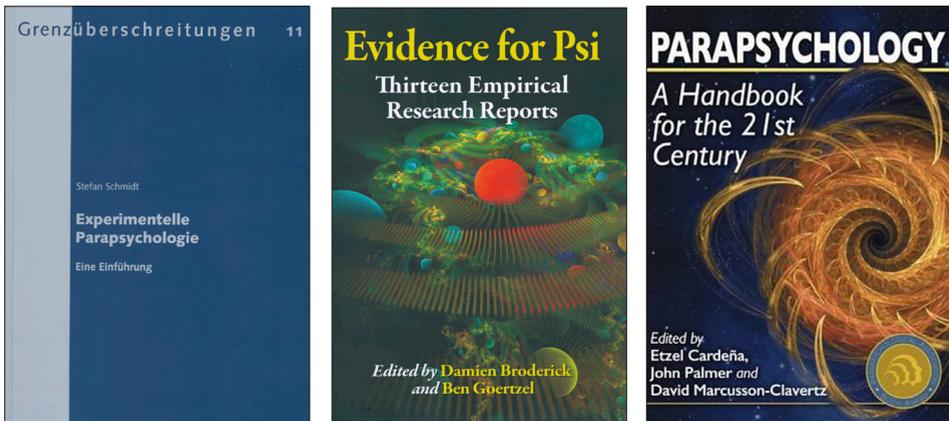


Fig. 20. Display for recently published scientific literature on parapsychology: S. Schmidt, Experimentelle Parapsychologie -Eine Einführung, Reihe Grenzüberschreitungen Bd. 11, ed. by E. Bauer and M. Schetsche, Ergon-Verlag, Würzburg, 2014; Evidence for psi : thirteen empirical research reports, ed. by D. Broderick and B. Goertzel, Jefferson, NC: McFarland, 2015; Parapsychology - A Handbook for the 21st Century, ed. by E.Cadeña, J. Palmer and D. Marcusson-Clavertz, Jefferson: McFarland, 2015.

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 38.000 requests were recorded in the years 2014 and 2015. 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

Publication: Bauer (2015b)

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, borderline 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 counseling program of the IGPP is designed to meet the individual needs of individuals who have to cope with “occult”, supernatural or paranormal experiences causing them and others emotional distress.

Patterns of exceptional experiences

Depending on their cultural tradition or ideological background, “exceptional experiences” (ExE) are described as supernatural, supersensory, magical, paranormal, spiritual, transcendent, transpersonal etc. For ages, such experiences belong to the varieties of human experiences that are well-known interculturally. 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 were often reported during the awakening accompanied with an inability to move one’s body (sleep paralysis) and frequently with sensations of pressure



Fig. 21. Demonstration of table tilting, around 1950 (Photo: Leif Geiges).

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 described which 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.).

Exceptional experiences are occurring mostly spontaneous, i. e. unexpected and without an apparent cause. They can be self-induced also 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 having experienced offerings of the esoteric scene. A lot of people can appreciate such experiences in a positive way and are able to integrate ExE in their world view without problems. Given specific circumstances however, ExE can also induce emotional distress and anxieties and the afflicted persons have problems to cope with them in an adequate way. They often are looking in vain for explanations and practical help in the existing psychosocial care institutions. The goal of our counseling work is to improve the situation for such persons who are looking for help. The offer for counseling is free of cost and open for 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, more than 4000 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 help-seeking people and the distribution of clinically significant variables.

• *Number of counseling cases*

From 2014 to 2015, except from more than 1000 general requests for information, about 250 persons from all over Germany make use of the special counseling service for people reporting ExE and seeking advice. An estimate based on the data from 2014 for both years shows that ca. 13% of all inquiries came from the county state of Baden-Württemberg, and among them about 4% from the Freiburg area. Approximately 56% of all first counseling contacts were established by phone, 36% by e-mail, 6% by letters, and 1% by unannounced visits at the IGPP. All 250 inquiries taken together required about 1300 counseling contacts, 43% of all contacts were realized by e-mail, also 43% by phone, 12% by letters, and 2% face to face at the IGPP or at home of the clients. In addition there are more than 1000 requests for information (by e-mail, telephone, and letters) coming from

the general population, including for example journalists, students, scientists and others regarding all possible aspects of parapsychological research and anomalous phenomena in general which are not recorded especially by the DOKU system.

• *Clients*

In the period 2014-2015 almost 61% of the clients were women, and the average age was 47 years. Almost 33% of the clients are nondenominational. In accordance with the data from recent years, there is a high educational level: 54% obtained a high school diploma (Abitur/Matura), 34% are graduates of a technical school or a university. A conspicuous trend to social withdrawal was also found to be without change: About 60% of the clients are singles, divorced or widowed. Approximately 53% is living without a (marital) partner, 51% 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.) and psychological problems (stress, proneness to fear, depression, etc.), 75% complain about physical symptoms and diseases. Accordingly, the majority of the clients feels 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 36% 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 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 stressful, 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 are induced by psychotechniques and other methods such as glass tilting or automatic writing. Yet less frequently they are related to contacts with healers, psychics and suppliers from the esoteric scene.

• *Frequencies of ExE patterns*

On average the phenomena reported by the clients are associated with one or two ExE-patterns. Unlike previous years, in which Coincidence-Phenomena were the most frequently, in the period 2014-2015 the pattern of Internal Presence and Influence, associated with somatic phenomena, thought insertion and hearing of voices, is the most common with 34%. Coincidence-Phenomena like Extrasensory Perception (clairvoyance, telepathy, precognition) or Meaningful Coincidences comprise 29%. About 28% are belonging to the ExE-pattern Poltergeist and Apparitions with external anomalies, especially kinetic and acoustical phenomena, and finally, 9% are Dissociation-Phenomena in which – often connected with sleep paralysis – an invisible External Presence and Nightmare or Automatism and Mediumship (e. g., automatic writing, channeling) are reported.

*Bauer, Fach, Schupp-Ihle, and Wiedemer
Publications: Belz, Fach (2015); Fach, Belz (2015)*

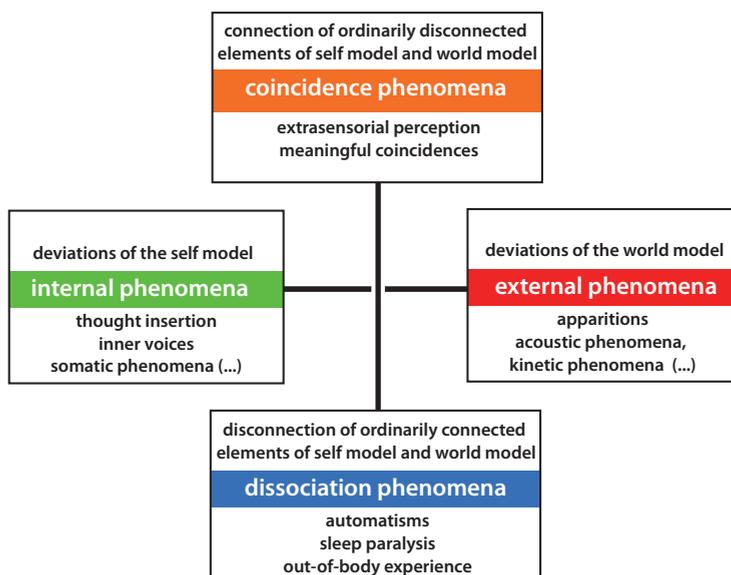


Fig. 22. The four basic classes of Exceptional Experiences (ExE). Based on Metzinger’s postulate that the human model of reality is composed of two basic elements, the self model and the world model, four classes of ExE as deviations in the reality model are possible: Internal phenomena in the self domain 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 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.

Development of a web-based counseling service

The immense popularity of the internet throughout many strata of the population also finds expression in the increasing amount of e-mail requests received by the IGPP counseling and information team. On this backdrop, a service will be developed within a special research project allowing users – in addition to the long established option of contact by e-mail – to access information and deal with exceptional experiences autonomously. This program is designed for persons who are reporting exceptional experiences which can be classified according to exceptional forms of knowledge. With the help of the questionnaire PAGE-R the participants will be selected accordingly. At a later time the scope of the program, after a process of revision and evaluation, will be broadened. This will be accomplished by the development of a special program which will enable the participants to rate their exceptional experiences by using this program and its individual questions/program steps. In the same way life events will be recorded. In a third step the participants will be asked about their satisfaction with life. The program will then present, graphically on a time bar, an overview of the relations between the exceptional

experiences, life events and satisfaction with life. Aided by this synoptic depiction of individual histories of phenomena and life events and supported by specific information cards produced by the program itself, this self-explorative process shall guide the client towards gaining novel insights and coping options regarding his or her exceptional experiences. The option of personal e-mail contacts with a counselor will persist.

Schupp-Ihle, together with Bauer, Fach, and Wiedemer

Contributions on ExE in recent handbooks of anomalistics and parapsychology

A German handbook “An den Grenzen der Erkenntnis” (2015), edited by staff members of the IGPP, contains several review articles dealing with the distribution, phenomenology, structure and explanatory models of major exceptional experiences, like “spontaneous reincarnation experiences”, “apparitions” and “poltergeist phenomena”. A special chapter is dealing with “Clinical approaches to anomalistics”. In a similar vein, the new international “Parapsychology: A Handbook for the 21st Century” (2015)(Fig. 20) is describing the foundations of the IGPP counseling work in a chapter called “Exceptional experiences (ExE) in clinical psychology”.

Bauer, Belz, and Fach

Publications: Bauer, Keil (2015); Belz, Fach (2015); Mayer, Bauer (2015a, b); Fach, Belz (2015)

Research on Exceptional Experiences

System-centered plan analysis for exceptional experiences

By using the method of Plan Analysis (F. Caspar), it is possible to deduce from human behavior conscious and unconscious motivational programs, so called plans. Starting from behavioral symptoms based on a most elementary level, it becomes possible to develop a hierarchical plan structure of means-end relations whose highest plans are aimed at the satisfaction and protection of basic human needs. By using plan analytical studies with clients reporting ExE, it could be shown that these persons often implement ExE in plans which help them to reduce inner tensions, to avoid stressful situations, and negative emotions. Because ExE can be considered as perceptions and not as instrumental behavior, they are generally integrated into a structure of only subjectively orientated and functional embedments, for example in a subplan “make ExE responsible for your personal problems” which helps to stabilize a superordinate plan called “protect your self-esteem”. To get a proper perspective at the development of ExE, a systemic orientated Plan Analysis is proposed which takes into account elements of Metzinger’s theory of mental representations. Because the survival of all biological systems is dependent primarily on the maintenance of their autonomy and the exchange with their surroundings, the claim is made that all higher developed and mentally represented human needs can be ascribed to strivings for autonomy and bonding. Deviant mental representations which may induce ExE can be interpreted as an instrumental activity of the psychophysical system considered as a whole and it is suggested that their purpose is to integrate the needs

for autonomy and bonding, dissociated from the self model, into consciousness again. In such a view, ExE fulfill an organismic meta-plan aimed at a psychophysical consistency.

Fach

Studies with the questionnaire for assessing the phenomenology of exceptional experiences (PAGE-R)

The PAGE-R, developed and implemented by the IGPP counseling group in 2011, is used routinely in addition to the data collected by the counseling staff with the documentation system (DOKU) to collect further information about ExE by self-assessments of the clients. As part of a research project at the Psychiatric University Hospital Zurich, in which an online survey of the Swiss general population (N=1580) was carried out, K. Landolt et al. investigated in the help-seeking behavior of people reporting ExE by using the PAGE-R. The results show that help-seeking was more frequent when ExE were of negative valence. Persons with a self-reported diagnosis of a mental disorder call much more often for help (35%) than persons without a diagnosis (9%) and preferred seeing a mental health professional. In contrast, especially women with low education, who described themselves as believing and also having had more impressive ExE, revealed a preference for healers and psychics. C. Simmonds-Moore (University of West Georgia) prepared an English translation of the PAGE-R and carried out a cross-cultural comparative study about the distribution of ExE in different local areas of the USA. The data have yet to be evaluated. U. Ott (BION) has compiled an online-version of the English PAGE-R which will be used by doctoral student M. Singh for a study with meditators in India. A further collaboration has been established with S. Schmidt and M. Wittmann, who will use the German PAGE-R also in a study with meditators.

Fach, together with Landolt, Ott, and Wittmann

Publication: Landolt et al. (2014)

ExE and psychophysical correlations

Following W. Pauli and C. G. Jung who conjectured a dual-aspect monism, ExE appear as acausal mind-matter correlations arising from the splitting of a psychophysically neutral domain. As deviations from structural mind-matter correlations that are persistent and reproducible, like correlations of neuronal and mental states or psychosomatic correlations, they can be induced by psychosocial and psychodynamic processes and manifest as elusive and non-reproducible exceptional phenomena. Case studies on this background show that induced mind-matter correlations are accompanied by unconscious conflicts concerning basic human needs, especially bonding and autonomy. The systematic investigation of complementary aspects in the phenomenology and psychodynamics of ExE permits specific intervention strategies and has a strong potential for the future development of counseling and therapy concerning clients afflicted by ExE.

Fach, together with Atmanspacher

Publications: Atmanspacher, Fach (2015); Fach (2014)

2.4 Bender Institute of Neuroimaging (BION)

Ten research groups of different divisions of the Department of Psychology and Sports Science at the University of Gießen are currently working at the BION. 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 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

Induction of gamma activity in the EEG

An EEG laboratory was installed on the upper floor of the BION building, equipped with a modern forty channel amplifier. In an ongoing series of experiments different auditory and visual stimuli are used to increase gamma EEG activity (> 30 Hz) experimentally. Sounds used to pace respiration are presented as binaural beats, amplitude modulated with 10 and 40 Hz as well as combined with 40 Hz click trains. A ganzfeld stroboscope is employed to present light stimuli ranging from 1 to 50 Hz. During simultaneous audiovisual stimulation the participants indicate with a button press when they experience a fusion of both modalities. Furthermore, it is planned to develop a neurofeedback training to increase gamma EEG activity and to combine this with different types of meditation and audiovisual stimulation in order to experimentally induce experiences of unity.

Ott

Meditation and brain activity

Data of a functional MRI study were analyzed in several bachelor theses in order to investigate connectivity and dynamics of different networks in the brain during meditation and daydreaming. In contrast to daydreaming, the connectivity within the default-mode network and within attention networks increased during meditation whereas anti-correlation increased between these networks. Additionally, in a feasibility study, two bachelor theses investigated electrical brain activity and attention performance of participants of a yoga teacher training in India. In this field study the participants themselves conducted EEG measurements with a headset and attention tests on a laptop during a period of

several months, with the aim of identifying potential problems of such measurements in retreat settings and to overcome them in planned future studies.

Ott



Abb.23. A subject is moved into the tube of the new magnetic resonance imaging unit of the BION. The device provides images of the activity and structure of the brain.

Clarifying basic terms of parapsychology and related disciplines

The meaning of key terms and concepts of parapsychology and related disciplines was reviewed in a series of papers and comments in order to contribute to clearer and more incisive definitions. The relationship between anomalistics, anomalistic psychology, parapsychology, and clinical parapsychology was explicated. The terms used were analyzed and examined in the context of the respective disciplines, among others: *psychic*, *parapsychological*, *paranormal*, *psi*, *anomalous*, and *exceptional experiences*. Differences in the usage of terms manifested themselves in the discussions, which may be interpreted as instrumentalization serving to obscure connections to parapsychology or to avoid the engagement with ontological questions.

Publications: Tremmel (2014a, 2014b, 2014c, 2015a, 2015b)

3. Personnel

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Prof. Dr. Dr. Jürgen Bengel

Institute for Psychology, University of Freiburg i. Br.

Prof. Dr. Alfons Hamm

Physiological, Clinical Psychology and Psychotherapy, University of Greifswald

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Prof. Dr. med. Dr. phil. Heinz Schott

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Honorary Members

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University of Freiburg i. Br.

Prof. em. Dr. phil. Inge Strauch

University of Zurich, Switzerland

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Dipl. Psych. Eberhard Bauer

Institute for Frontier Areas of Psychology and Mental Health, Freiburg i. Br.

Prof. Dr. med. Dr. phil. Heinz Schott

Institute for the History of Medicine, University of Bonn

Prof. em. Dr. Dieter Vaitl

Bender Institute of Neuroimaging, University of Gießen

Institute for Frontier Areas of Psychology and Mental Health, Freiburg i. Br.

3.3 Management

Prof. em. Dr. Dieter Vaitl, director

3.4 Administration

Beate Baumgartner, secretary

3.5 Service

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Karin Moos, M.A., secretary, assistant

Oliver Osburg, M.A., systemmanagement

Christian Scheer, M.A., systemmanagement

Uwe Schellinger, M.A., archivist

Dr. Frauke Schmitz-Gropengießer, secretary, assistant

3.6 Research

Natural sciences and experimental research

Dr. Wolfgang Ambach, research staff (Coordinator: Clinical and physiological psychology)

PD Dr. Harald Atmanspacher, research staff

Sophia Braunstein, stud. assistant (since December 2015)

Anne Esch, stud. assistant (Juni - Juli 2015)

Henrike Fiedler, stud. assistant (August - October 2015)

Willhelm Gros, stud. assistant (since November 2015)

PD Dr. Jürgen Kornmeier, research staff (Coordinator: Perception and cognition)

Dr. Monica Intaite, postdoc (since May 2015)

Hanna Lehnen, stud. assistant (until February 2014)

Emanuela Liaci, PhD student (since Mai 2014)

Damisela Linares Gutierrez, PhD student (since June 2015)

Rahel Nicolet, stud. assistant (August - September 2015)

Dr. Sebastian Phillip, postdoc (since December 2015)

Anna Sarikaya, stud. assistant (until April 2014)

Alexander Siller, PhD student (since March 2013)

Blanda Wielandt, scientific assistant (until August 2015)

PD Dr. Marc Wittmann, research staff (Coordinator: Time perception and time consciousness)

Trainees: Lisa-Marie Bahr, Caroline Hechmann, Fides Hügel, Alexander Kraut, Sebastian Kübel, Anna Lir, Magdalena Schmidt-Ott, Kerstin Spanhel, Niklas Wirth

Social and cultural research

Andreas Anton, M.A., PhD student

Luana Arena, stud. assistant (since June 2015)

Dipl.-Psych. Eberhard Bauer, research staff (Coordinator: Cultural and Historical Studies, Archives and Library)

Martina F. Biebert, stud. assistant (April 2014 - March 2015), scientific assistant (since June 2015)

Andreas Fischer, research staff

Christoph Henseling, stud. assistant (until May 2015)

Dr. Liane Hofmann, research staff

Johann Kalvelage, stud. assistant (since November 2015)

Dr. Gerhard Mayer, research staff

Nikola Roth, stud. assistant (since December 2014)

Janina Ruhnau, stud. assistant (until September 2015)

Uwe Schellinger, M.A., research staff

Prof. (apl.) Dr. Michael Schetsche, research staff (Coordinator: Cultural Studies and Social Research)

Dr. Ina Schmied-Knittel, research staff

Martin Schneider, scientific assistant (since May 2015)

Trainees: Jonathan Haid, David Hildebrandt, Larissa Schmidt, Robert Schiller, Anton Weber

Psychological counseling research

Dipl.-Psych. Eberhard Bauer, research staff (Coordinator)

Dipl.-Psych. Wolfgang Fach, research staff

Dipl.-Psych. Cäcilia Schupp-Ihle, research staff

Dipl.-Psych. Annette Wiedemer, research staff

Bender Institute of Neuroimaging (BION)

Dr. Carlo Blecker, research staff

Dr. Tim Gard, PhD student (until March 2015)

Moritz Herzberg, PhD student (since January 2015)

Freya von Hohnhorst, PhD student (since July 2014)

Dr. Bertram Walter, research staff

Dr. Ulrich Ott, research staff

Prof. Dr. Rudolf Stark, Director

Philipp Rumpf, PhD student (since June 2015)

Mona Singh, PhD student (since August 2015)

Michael Tremmel, PhD student

3.7 Advisory Boards

Natural sciences and experimental research

Prof. Dr. Dr. h.c. Jürgen Kurths
Potsdam Institute for Climate Impact Research, Potsdam

Prof. Dr. Nikos K. Logothetis
Max-Planck-Institute for Biological Cybernetics, Tübingen

Prof. Dr. Günther Mahler
Institute for Theoretical Physics, University of Stuttgart

Prof. Dr. Wolfgang Skrandies
Physiological Institute, University of Gießen

Prof. Dr. Herbert Witte
Institute of Medical Statistics, Computer Sciences and Documentation, University of Jena

Social and cultural research

Prof. Dr. Michael Charlton
Institute for Psychology, University of Freiburg i. Br.

Prof. Dr. Ronald Hitzler
Institute for Sociology, University of Dortmund

Prof. Dr. Robert Jütte
Institute for the History of Medicine, Robert-Bosch-Stiftung, Stuttgart

Prof. Dr. Hubert Knoblauch
Institute for Sociology, Technische Universität Berlin

Prof. Dr. Helmut E. Lück
Institute for Psychology, FernUniversität Hagen

Psychological counseling research

Prof. em. Dr. Wilfried Belschner
Institute for Psychology, University of Oldenburg

Prof. Dr. Franz Caspar
Institute for Clinical Psychology und Psychotherapy, University of Bern, Switzerland

Prof. Dr. Gudrun Sartory (†)
Institute for Clinical Psychology und Psychotherapy, University of Wuppertal

4. Appendix

4.1 Publications

Refereed Publications

Anton A. & Schetsche M. (2015): Anthropozentrische Transterrestrik. Zur Kritik naturwissenschaftlich orientierter SETI-Programme. *Zeitschrift für Anomalistik* 15(1+2), 21-46.

Atmanspacher H. (2014): Psychophysical correlations, synchronicity, and meaning. *Journal of Analytical Psychology* 59, 181-188.

Atmanspacher H. (2014): Notes on psychophysical phenomena. In *The Pauli-Jung Conjecture and Its Impact Today*, ed. by H. Atmanspacher & C.A. Fuchs, Imprint Academic, Exeter 2014, 181-199.

Atmanspacher H. (2014): Levels of unconsciousness and their formal structure. *Journal of Analytical Psychology* 59, 386-391.

Atmanspacher H. (2014): Roles of causation and meaning for interpreting correlations. *Journal of Analytical Psychology* 59, 429-443.

Atmanspacher H. (2014): 20th century variants of dual-aspect thinking (with commentaries and replies). *Mind and Matter* 12(2), 245-288.

Atmanspacher H. & Fach W. (2015): Mind-matter correlations in dual-aspect monism according to Pauli and Jung. In *Beyond Physicalism*, ed. by E. Kelly, A. Crabtree & P. Marshal, Rowman and Littlefield, Lanham, 195-226.

Belz M. & Fach W. (2015): Exceptional experiences (ExE) in clinical psychology. In *Parapsychology. A Handbook for the 21st Century*, ed. by E. Cardeña, J. Palmer & D. Marcusson-Clavertz, McFarland, Jefferson, 364-379.

Dorato M. & Wittmann M. (2015): The now and the passage of time. From physics to psychology. *Kronoscope* 15, 191-213.

Fach W. (2014): Complementary aspects of mind-matter correlations in exceptional human experiences. In *The Pauli-Jung Conjecture and Its Impact Today*, ed. by von H. Atmanspacher & C. A. Fuchs, Imprint Academic, Exeter, 255-73.

Gamer M. & Ambach W. (2014): Deception research today. *Frontiers in Psychology* 5 (256).

Giersch A., Herzog M., Kornmeier J. & van Wassenhove V. (2014): About exact temporal precision and slow information integration. *Procedia-Social and Behavioral Sciences* 126, 29-33.

Gowin J.L., Ball T.M., Wittmann M., Tapert S. & Paulus M. (2015): Individualized relapse prediction: personality measures and striatal and insular activity during reward-processing robustly predict relapse. *Drug and Alcohol Dependence* 152, 93-101.

Gowin J.L., Stewart J.L., May A.C., Ball T.M., Wittmann M., Tapert S.F. & Paulus M.P. (2014): Altered cingulate and insular cortex activation during risk-taking in methamphetamine dependence: losses lose impact. *Addiction* 109, 237-247.

Jo H.-G., Hinterberger T., Wittmann M. & Schmidt S. (2015): Do meditators have higher awareness of their intentions to act? *Cortex* 65, 149-158.

Jo H.-G., Wittmann M., Borghardt T.L., Hinterberger T. & Schmidt S. (2014): First-person approaches in neuroscience of consciousness: brain dynamics correlate with the intention to act. *Consciousness and Cognition* 26, 105-116.

Jo H.-G., Wittmann M., Hinterberger T. & Schmidt S. (2014): The readiness potential reflects intentional binding. *Frontiers in Human Neuroscience* 8 (421).

Hermann A., Bieber A., Keck T., Vaitl D. & Stark R. (2014): Brain structural basis of cognitive reappraisal and expressive suppression. *Social Cognitive and Affective Neuroscience* 9, 1435-1442.

- Kagerer S., Wehrum S., Klucken T., Walter B., Vaitl D. & Stark R. (2014): Sex attracts: investigating individual differences in attentional bias to sexual stimuli. *PLOS ONE* 9, e107795.
- Kornmeier J. & Bach M. (2014): EEG correlates to perceptual reversals of Boring's ambiguous Old/Young Woman. *Perception* 43, 950-962.
- Kornmeier J. & Mayer G. (2014): The alien in the forest OR when temporal context dominates perception. *Perception* 43(11), 1270-1274.
- Kornmeier J., Spitzer M. & Sosic-Vasic Z. (2014): Very similar spacing-effect patterns in very different learning/practice domains. *PLOS ONE* 9(3), e90656.
- Kornmeier J., Wörner R., Riedel A., Bach M. & Tebartz van Elst L. (2014): A different view on the checkerboard? Alterations in early and late visually evoked EEG potentials in Asperger observers. *PLOS ONE* 9(3), e90993.
- Kornmeier J. & Bach M. (2015): Die Wahrnehmung kippt, obwohl das gesehene Bild unverändert bleibt. *Zeitschrift für praktische Augenheilkunde* 36: 499.
- Landolt K., Wittwer A., Wyss T., Unterassner L., Fach W., Krummenacher P., Brugger P., Haker H., Kawohl W., Schubiger P.A., Folkers G. & Rössler W. (2014): Help-seeking in people with exceptional experiences: results from a general population sample. *Frontiers in Public Health* 2:51.
- Lorey B., Naumann T., Pilgramm S., Petermann C., Bischoff M., Zentgraf D., Stark R., Vaitl D. & Munzert J. (2014): Neural simulation of actions: effector-versus action-specific motor maps within the human premotor and posterior parietal area? *Human Brain Mapping* 35(4), 1212-1225.
- Maniadakis M., Wittmann M., Droit-Volet S. & Choe Y. (2014): Towards embodied artificial cognition: TIME is on my side. *Frontiers in Neurorobotics* 8 (25).
- Martin B., Wittmann M., Franck N., Cermolacce M., Berna F. & Giersch A. (2014): Temporal structure of consciousness and minimal self in schizophrenia. *Frontiers in Psychology* 5 (1175).
- Mayer G. (2014): A remarkable photographic anomaly and the social dynamics of its interpretation. *Journal of the Society for Psychological Research* 78.1(914), 25-38.
- Mayer G. & Kornmeier J. (2014): Rätselhafte Objekte auf den Bildern einer Wildkamera oder: die Tücken der Wahrnehmung. *Zeitschrift für Anomalistik* 14(1), 7-24.
- Montemayor C. & Wittmann M. (2014): The varieties of presence: hierarchical levels of temporal integration. *Timing & Time Perception* 2, 325-338.
- Otten S., Schötz E., Wittmann M., Kohls N., Schmidt S. & Meissner K. (2015): Psychophysiology of duration estimation in experienced mindfulness meditators and matched controls. *Frontiers in Psychology* 6 (1215).
- Pollatos O., Laubrock J. & Wittmann M. (2014): Interoceptive focus shapes the experience of time. *PLOS ONE* 9(1), e86934.
- Schellinger U., Anton A. & Schetsche M. (2015): Pragmatic occultism in the military history of the 'Third Reich'. In *Revisiting the Nazi Occult: Histories. Realities. Legacies*, ed. by E. Kurlander & M. Black, Camden House, Rochester (NY), 157-180.
- Schneider M. & Anton A. (2014): Politische Ideologie vs. parapsychologische Forschung. Zum Spannungsverhältnis von Marxismus-Leninismus und Parapsychologie am Beispiel von DDR und UdSSR. *Zeitschrift für Anomalistik* 14(2+3), 159-188.
- Siller A., Ambach W. & Vaitl D. (2015): Investigating expectation effects using multiple physiological measures. *Frontiers in Psychology* 6, (1553).
- Stark R., Kagerer S., Walter B., Vaitl D., Klucken T. & Wehrum-Osinsky S. (2015): Trait sexual motivation questionnaire: concept and validation. *Journal of Sexual Medicine* 12, 1080-1091.
- Stewart J.L., Connolly C.G., May A.C., Tapert S.F., Wittmann M. & Paulus M.P. (2014): Cocaine dependent individuals with attenuated striatal activation during reinforcement learning are more susceptible to relapse. *Psychiatry Research: Neuroimaging* 223, 129-139.

Stewart J., Connolly C.G., May A.C., Tapert S.F., Wittmann M. & Paulus M.P. (2014): Striatum and insula dysfunction during reinforcement learning differentiates abstinent and relapsed methamphetamine dependent individuals. *Addiction* 109, 460–471.

Tremmel M. (2014a): Clarification of terms and concepts defining parapsychology and related disciplines: comments on Mathijssen (2009, 2013), Abrassart (2013), and Evrard (2013). *Journal of Exceptional Experiences and Psychology* 2(1), 21-40.

Tremmel M. (2014b): Parapsychologie – nomen est omen. *Zeitschrift für Anomalistik* 14, 306-316.

Tremmel M. (2014c): Zur Klärung grundlegender Begriffe und Konzepte der Parapsychologie und verwandter Disziplinen. *Zeitschrift für Anomalistik* 14, 248-291.

Tremmel M. (2015a): Clarification of terms and concepts defining parapsychology and related disciplines: reply to Evrard (2014) and update. *Journal of Exceptional Experiences and Psychology* 3(1), 30-40.

Tremmel M. (2015b): Parapsychische oder Psi-Phänomene, Parapsychologie oder Paraphysik? *Zeitschrift für Anomalistik* 15, 150-152.

Wackermann J., Meissner K., Tankersley D. & Wittmann M. (2014): Effects of emotional valence and arousal on acoustic duration reproduction assessed via the 'dual klepsydra model'. *Frontiers in Neurorobotics* 8 (11).

Wackermann J., Pacer J. & Wittmann M. (2014): Perception of acoustically presented time series with varied intervals. *Acta Psychologica* 147, 105–110.

Wernery J., Atmanspacher H., Kornmeier J., Candia V., Folkers G., Wittmann M. (2015): Perceptual bias and temporal processing in bistable perception. *Perception* 44(2), 157-168.

Wittmann M. (2015a): Modulations of the experience of self and time. *Consciousness and Cognition* 38, 172–181.

Wittmann M., Peter J., Gutina O., Otten S., Kohls N. & Meissner K. (2014): Individual differences in self-attributed mindfulness levels are related to the experience of time and cognitive self-control. *Personality and Individual Differences* 64, 41–45.

Wittmann M. & Schmidt S. (2014): Mindfulness Meditation and the Experience of Time. In *Meditation- Neuroscientific Approaches and Philosophical Implications, Studies in Neuroscience, Consciousness and Spirituality* 2, ed. by S. Schmidt & H. Walach, Springer, 199–210.

Wittmann M., Otten S., Schötz E., Sarikaya A., Lehnen H., Jo H.-G., Kohls N., Schmidt S. & Meissner K. (2015): Subjective expansion of extended time-spans in experienced meditators. *Frontiers in Psychology* 5 (1586).

Wittmann M., Rudolph T., Linares Gutierrez D. & Winkler I. (2015): Time perspective and emotion regulation as predictors of age-related subjective passage of time. *International Journal of Environmental Research and Public Health* 12, 16027-16042.

Books

Atmanspacher H. & Fuchs C.A., eds. (2014): *The Pauli-Jung Conjecture and Its Impact Today*. Imprint Academic, Exeter.

Chéroux C. & Fischer A., eds. (2015): *Anna & Bernhard Blume. La photographie transcendante*. Éditions Centre Pompidou, Éditions Xavier Barral, Paris.

Klugermann G., Lux A. & Schellinger U., eds. (2015): *Okkultes Freiburg. Ereignisse – Perspektiven – Schauplätze*. Herkules, Kassel.

Mayer G., Schetsche M., Schmied-Knittel I. & Vaitl D., eds. (2015): *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*. Schattauer, Stuttgart.

Petermann F. & Vaitl D., eds. (2014): *Entspannungsverfahren. Das Praxishandbuch*. 5. überarbeitete Auflage. Beltz, Weinheim.

Schetsche M., ed. (2014): *Interspezies-Kommunikation. Voraussetzungen und Grenzen*. Logos, Berlin.

Schetsche M. & Schmidt R.-B., eds. (2014): *Fremdkontrolle. Ängste–Mythen–Praktiken*. Springer VS, Wiesbaden.

Wittmann M. (2015): *Wenn die Zeit stehen bleibt: Kleine Psychologie der Grenzerfahrungen*. C.H. Beck, München.

Wittmann M. (2015): *Il tempo siamo noi*. Carocci, Roma.

Journals

Frontiers in Neurobotics, Maniadakis M., Wittmann M., Droit-Volet S. & Choe Y., eds. (2014): Towards embodied artificial cognition: TIME is on my side.

Frontiers in Psychology, Chen L., Bao Y. & Wittmann M., eds. (2015): Sub- and supra-second timing: brain, learning and development.

Mind & Matter, Atmanspacher H., ed. (2014): Complementarities, 12(1); Atmanspacher H. & Bishop R., eds. (2014): Naturalizing the Mind, 12(2); Atmanspacher H., ed. (2015): From Intentionality to Nonlocality, 13(1); Atmanspacher H., ed. (2015): On Representations, 13(2).

Other Publications

Ambach W. (2015): Laborexperimente in der Anomalistik. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 405–416.

Anton A. (2014a): Mind-Control-Experimente in der Nachkriegszeit. In *Fremdkontrolle. Ängste, Mythen, Praktiken*, ed. by M. Schetsche & R.-B. Schmidt, Springer VS, Wiesbaden, 59–74.

Anton A. (2014b): Review: Mark Benecke (2013). Seziert. Das Leben von Otto Prokop. *Zeitschrift für Anomalistik* 14(1), 107–117.

Anton A. & Schetsche M. (2014): Im Spiegelkabinett. Anthropozentrische Fallstricke beim Nachdenken über die Kommunikation mit Außerirdischen. In *Interspezies-Kommunikation. Voraussetzungen und Grenzen*, ed. by M. Schetsche, Logos, Berlin, 125–150.

Anton A. & Zorn S. (2014): Fremdkontrolle durch Computerchips. Erkundungen zwischen technischen Möglichkeiten und menschlichen Ängsten. In *Fremdkontrolle. Ängste, Mythen, Praktiken*, ed. by M. Schetsche & R.-B. Schmidt, Springer VS, Wiesbaden, 247–263.

Anton A. (2015): Review: Stefan Schmidt (2014). Experimentelle Parapsychologie – Eine Einführung. *Zeitschrift für Anomalistik* 15(1+2), 179–185.

Anton A. & Ammon D. (2015): UFO-Sichtungen. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 332–345.

Anton A. & Schetsche M. (2015): Auf der Suche nach uns selbst? Zur kulturwissenschaftlichen Kritik am traditionellen SETI-Paradigma. *Raumfahrt Concret* 86(1), 22–25.

Anton A. & Schetsche M. (2015): Konspirative ‚Wirklichkeiten‘. Zur Wissenssoziologie von Verschwörungstheorien. *INDES – Zeitschrift für Politik und Gesellschaft* 4, 33–42.

Anton A. & Schmied-Knittel I. (2015): Wie ‚okkult‘ war die DDR? *Skeptiker* 1, 28–31.

Bauer E. (2014a): Parapsychologie. In *Dorsch Lexikon der Psychologie*, 17. Aufl., ed. by M. A. Wirtz unter Mitarbeit von J. Strohmeyer, Huber, Bern, 1224–1225.

Bauer E. (2014b): Patrolling the borders: an overview of the library holdings and archival collections of the Institute for Border Areas of Psychology and Mental Health. *Paranormal Review* 72, October, 18–19.

Bauer E. (2015a): Bender, Hans. In *Deutschesprachige Psychologinnen und Psychologen 1933–1945. Ein Personenlexikon, ergänzt um einen Text von Erich Stern*, ed. by U. Wolfradt, E. Billmann-Mahecha & A. Stock, Springer Fachmedien, Wiesbaden, 31–33.

Bauer E. (2015b): Die Bibliothek auf dem „Magischen Hügel“. In *OCTAGON. Die Suche nach Vollkom-*

menheit im Spiegel einer religionswissenschaftlichen, philosophischen und im besonderen Maße esoterischen Bibliothek (Esoterische Forschungen in deutscher Sprache – Band 1), ed. by H. T. Hakl, scientia nova, Gagenau, 79–94.

Bauer E. (2015c): Workshop: Historical collections including digitalization projects at parapsychological organizations in Europe (chair). *Journal of Parapsychology* 79, 178–180

Bauer E. (2015d): PA invited addresses: for the 2013 outstanding career award: a view from the “Magic Hill”. *Journal of Parapsychology* 79, 180–181

Bauer E. & Keil J. (2015): Spontane Reinkarnationserfahrungen. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 177–187.

Biebert M. F. & Schetsche M. (2015): Geisterspiele. Homosexualität im Profifußball als kulturelles Abjekt. In *Die andere Fakultät. Theorie – Geschichte – Gesellschaft*, ed. by F. Mildener, Männerschwarm Verlag, Berlin, 56–76.

Fach W. & Belz M. (2015): Klinische Zugänge zur Anomalistik. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmid-Knittel & D. Vaitl, Schattauer, Stuttgart, 466–479.

Fischer A. (2014a): Archives & Exhibitions. *Paranormal Review* 72, October, 20–21.

Fischer A. (2014b): Ich sehe was, was du nicht siehst: Camille Flammarion und die Marskanäle. In *Outer Space - Faszination Weltraum*, ed. by Kunst- und Ausstellungshalle der Bundesrepublik Deutschland, Bonn, 84–87.

Fischer A. (2014c): Louis Darget. Photographie de la pensée. In *Manifeste! Eine andere Geschichte der Fotografie*, ed. by Museum Folkwang, Essen and Fotomuseum Winterthur, Steidl, Göttingen, 382.

Fischer A. (2015a): Le théâtre photographique transcendantal d’Anna et Bernhard Blume face à l’occulte. In *Anna & Bernhard Blume. La photographie transcendante*, ed. by Chéroux & Fischer, Éditions Centre Pompidou, Éditions Xabier Barral, Paris, 29–39.

Fischer A. (2015b): Exteriorisierte Bilder. In *Bare Wunder. Sigmar Polke. 100 years of mediumistic and phantasmagorical photography*, ed. by Sies & Höke, Düsseldorf, Kicken, Berlin, 16–21.

Joos E. & Kornmeier J. (2015): Effects of stimulus ambiguity on task-related ERP components. *Perception* 44(1, suppl.).

Lucadou W. v. & Mayer G. (2015): Physikalische Anomalien. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 301–314.

Mayer G. (2014): Heilung mit Geistern. Ethische Fragen im Kontext neoschamanischer Praktiken. In *Spirituelle Lebenshilfe. EZW-Texte* 229, ed. by M. Utsch, 29–43.

Mayer G. (2014): Forschungstradition und der Blick auf den fernen Rivalen. Commentary to zu Martin Schneider & Andreas Anton: „Politische Ideologie vs. parapsychologische Forschung“. *Zeitschrift für Anomalistik* 14(2+3), 210–213.

Mayer G. (2014): Review: Marjorie T. Johnson: Seeing Fairies. From the Lost Archives of the Fairy Investigation Society: Authentic Reports of Fairies in Modern Times. *Zeitschrift für Anomalistik* 14(2+3), 327–330.

Mayer G. (2014): Review: Karin Riedl: Künstlerschamanen. Zur Aneignung des Schamanenkonzepts bei Jim Morrison und Joseph Beuys. *Zeitschrift für Anomalistik* 14(2+3), 334–337.

Mayer G. (2014): Review: William S. Sax, Johannes Quack & Jan Weinhold (eds.). The Problem of Ritual Efficacy. *Zeitschrift für Anomalistik* 14(1), 94–99.

Mayer G. (2014): Review: Dean Radin: Supernormal: Science, Yoga, and the Evidence for Extraordinary Psychic Abilities. *Journal of Scientific Exploration* 28(2), 403–408.

Mayer G. (2015): Fotografien in der Anomalistik. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer,

Stuttgart, 451–465.

Mayer G. (2015): To the editor: a possible — but not very convincing — non-paranormal explanation. *Journal of the Society for Psychical Research* 79.1(918), 59–61.

Mayer, G. (2015): Review: Bernd Stiegler: Spuren, Elfen und andere Erscheinungen. Conan Doyle und die Photographie. *Zeitschrift für Anomalistik* 15(1+2), 185–190.

Mayer G. (2015): Review: Stefan Schmidt: Experimentelle Parapsychologie. *Journal of Scientific Exploration* 29(2), 417–421.

Mayer G. (2015): Zufriedenheit verpflichtet. Ergebnisse der GfA-Mitgliederumfrage 2015. *Zeitschrift für Anomalistik* 15(3), 260–269.

Mayer G. (2015): „Building links between communities“. Eindrücke von und Gedanken zur gemeinsamen Jahreskonferenz der PA und der SPR in Greenwich 2015. *Zeitschrift für Anomalistik* 15(3), 350–357.

Mayer G. (2015): Der Schamane als moderner Mythos und als Chiffre der Transzendenz – Aspekte der Faszination und Attraktivität der Figur des Schamanen in der säkularisierten Moderne. In *Schamanismus als Herausforderung. Dokumentation des Symposiums 2015 in Bad Alexandersbad*, ed. by H. Fugmann, BoD, Norderstedt, 49–89.

Mayer G. (2015): Review: Brian A. Sharpless & Karl Doghramji: Sleep Paralysis. *Zeitschrift für Anomalistik* 15(3), 416–419.

Mayer G. (2015): Review: Jack Hunter & David Luke (eds.). Talking with the Spirits. Ethnographies from Between the Worlds. *Zeitschrift für Anomalistik* 15(3), 401–406.

Mayer G. (2015): Review: Lars Robert Krautschick: Gespenster der Technokratie. Medienreflexion im Horrorfilm. *Zeitschrift für Anomalistik* 15(3), 393–397.

Mayer G. & Bauer E. (2015): Erscheinungen. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 188–201.

Mayer G. & Bauer E. (2015): Spukphänomene. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 202–214.

Mayer G., Gründer R. & Schetsche M. (2015): Feldforschung und anomalistische Einzelfallstudien. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 439–450.

Mayer G., Schetsche M., Schmied-Knittel I. & Vaitl D. (2015): Wissenschaftliche Anomalistik: eine Einführung. In *An den Grenzen der Erkenntnis. Handbuch der wissenschaftlichen Anomalistik*, ed. by G. Mayer, M. Schetsche, I. Schmied-Knittel & D. Vaitl, Schattauer, Stuttgart, 1–11.

Ott U. (2014): Meditation. In *Entspannungsverfahren. Das Praxishandbuch* (5. Auflage), ed. by F. Petermann & D. Vaitl, Beltz, Weinheim, 145–153.

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4.2 Doctoral, Master and Bachelor Theses

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Drehmann A. (2014): Ein Jahr Meditationstraining: Wie verändert sich die neuronale Selbstregulation? Bachelor Thesis, Justus Liebig Universität Gießen.

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Gard T. (2015): The Neural and Psychological Mechanisms of Yoga and Mindfulness Meditation. Doctoral Thesis, Maastricht University, the Netherlands.

Gerber L. (2015): Meditation und Zeitwahrnehmung. Master Thesis, Albert Ludwigs Universität Freiburg.

Holzhauser H. (2015): Kriminalistische Serendipity – Ermittlungserfolge im Spannungsfeld zwischen Berufserfahrung, kriminalistischem Spürsinn und Zufallsentdeckungen. Doctoral Thesis, Albert Ludwigs Universität Freiburg.

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Krieg B. (2015): Self-awareness und die Aufdeckung verheimlichten Wissens. Master Thesis, Albert Ludwigs Universität Freiburg.

Kurz B. (2015): Als die Maschinen anfangen zu fühlen ... Eine Untersuchung zur Sozialbeziehung zwischen Mensch und Maschine. Master Thesis, Albert Ludwigs Universität Freiburg.

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Lir A. (2015): Retrieval-induced Forgetting in Kombination mit Concealed Information Test. Master Thesis, Eberhard Karls Universität Tübingen.

Matuschek A. (2015): Eine Pilotstudie zur subjektiven Zeitwahrnehmung bei Sportlern im Vergleich zu Nicht-Sportlern. Master Thesis, Albert Ludwigs Universität Freiburg.

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4.3 Raising of External Funds

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05/2014 - 04/2017: Kornmeier J.: “Neural processing of sensory ambiguity in healthy subjects and patients with Asperger Autism”. Deutsche Forschungsgemeinschaft (DFG), (200.000 €,-).

05/2015 -12/2017: Kornmeier J.: “EEG Effects of attentional load on the perceptual processing of ambiguous and disambiguated visual stimuli”. Fundação para a Ciência e a Tecnologia BIAL, Portugal, (54.000€,-).

6/2015-5/2017: Wittmann M., Schmidt S., Meissner K.: “Changes in subjective time as indication of increased mindfulness after meditation.” Fundação para a Ciência e a Tecnologia BIAL, Portugal, (38.900€,-).

6/2015-11/2016: Schmidt S., Jo H.-G., Wittmann M., Hinterberger T.: “Remote meditation support – a multimodal distant intention experiment”. Fundação para a Ciência e a Tecnologia BIAL, Portugal, (49.500.-€).

1/2014–12/2014: Giersch A., Wittmann M.: “How temporal expectancy translates motivation into effort.” Tri-national Neuroscience Network NEUREX, (63.372.-€).

5/2013–12/2014: Schmidt S., Jo H.-G., Wittmann M.: „Libet revisited - the effects of mindfulness meditation training on voluntary action and on time perception: a controlled study with experienced meditators.” Fundação para a Ciência e a Tecnologia BIAL, Portugal, Bial, (49.500.-€).

09/2014-08/2015: Sparby T.: „Varieties of contemplative experience: anthroposophy“, Mind and Life Institute, Varela Award, (13.840.- €)