

Biennial Report 2018–2019



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

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Institut für Grenzgebiete
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 realms, which are 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 scepticism towards these are the two poles between which the discourse about their appearances 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 our life horizon and the expansion of the understanding of the world we live in.

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 nearly seven 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. Since then, the Institute has been at the centre of controversial scientific discussions about these issues and has become very familiar with the ups and downs of the social dynamics with which these discussions are conducted. At the beginning of the research of the Institute, the available methods were largely those of 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 make are, they always take place in a social context and are anchored in the reality of life. This is what the social sciences 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 dis-



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

course 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 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 lead to misinterpretations when, for instance, no distinctions are 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 2018 and 2019. 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.

February 2020, 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-

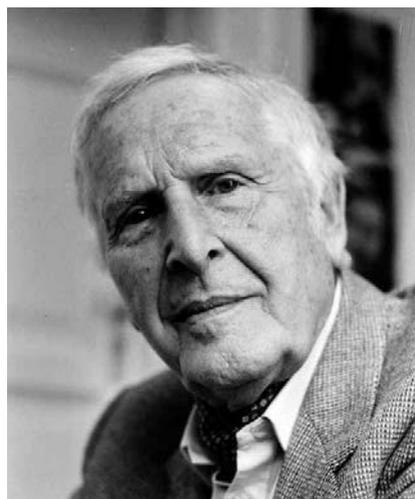


Fig. 2. Hans Bender, the founder of the IGPP around 1980.



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

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.

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



Fig. 5. Asta Holler around 1970.



Fig. 4. Fanny Moser around 1920.

will assets, which should allow time unlimited benefits (Fig. 5). 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 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 fifteen 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 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) 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. (5) 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, psychophysiology of subjective evidence (deception, lies, pseudomemories), 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 counselling and information offer 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 extramural research institute (from 2000 through 2012 research institute of the IGPP) exists at the University of Gießen, where studies on altered states of consciousness we conducted by magnetic resonance tomography (MRT).

2.1 Natural Sciences and Experimental Research

2.1.1 Dual Aspect Monism

Correlations between mental and material states are an intrinsic feature of mind-matter models which consider such states as dual aspects of an underlying reality that itself is neither mental nor material. An early version of such a model is due to Spinoza, and since then variants thereof have recurrently been formulated, mostly outside philosophical mainstream directions. Well-known names in the modern philosophical history of dual-aspect monism are Strawson, Nagel, and Chalmers. From the perspective of philosophically interested scientists, Wolfgang Pauli and C.G. Jung are to be mentioned (in addition, e.g., Bohm and d’Espagnat). In a series of publications, partly with a history-of-science flavor, we could systematically reconstruct the most significant characteristics of the ideas of Pauli and Jung. For this purpose, the comprehensive correspondence of Pauli, edited in eight volumes by Karl von Meyenn, was enormously helpful. We worked out how the apparently related position of neutral monism (Mach, James, Russell) deviates from the conception of Pauli and Jung. A key difference is that the psychophysically neutral reality in the Pauli-Jung conjecture is conceived holistically and can only be subject to decomposition. By contrast, neutral monism is based on psychophysically neutral elements whose composition decides whether mental or material properties arise.

Atmanspacher

Publications: Atmanspacher (2018, 2019);

Atmanspacher, Fach (2019)

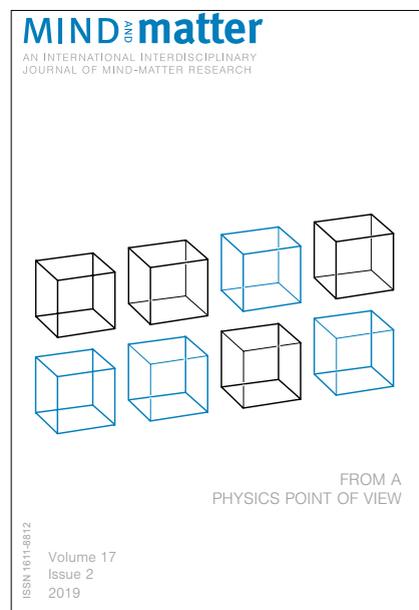


Fig. 6. Mind and Matter, From a Physics Point of View, (17/2), 2019.

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 2018 and 2019 issues so far were “Margins of the Mental” (16/1), “Metaphysics Matters” (16/2), “Repercussions of First-Person Experience” (17/1) and “From a Physics Point of View“ (17/2).

Atmanspacher, Moos

Publications: Atmanspacher, ed., Mind and Matter

2.1.2 Perception and Cognition

The information available by 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. The discrimination between reality and illusion is thus to a large degree based on the capability of our perceptual system. Moreover, how good at all such (epistemic) perceptual representations can reflect the ontological reality, is thereby unclear. Ambiguous figures are paradigmatic in this context. During the observation of an ambiguous figure our perceptual system becomes unstable and alternates repeatedly between possible interpretations, despite an unchanged sensory input. We use this phenomenon of perceptual instability to study the influence of sensory and cognitive factors during the construction of an endogenous perceptual world.

Perception and meta-perception

In recent studies we compared EEG correlates of the neural representations of ambiguous visual stimuli and disambiguated stimulus variants. We found large amplitude differences in two event-related potential (ERP) components 200 and 400 milliseconds after stimulus onset for disambiguated compared to ambiguous stimuli (so called “ERP Ambiguity Effects”). Interestingly, these effects generalized so far across different stimulus categories at lower (geometry, motion) and intermediate (Gestalt perception) levels.

The present study examined whether the ERP Ambiguity Effects also occur at higher levels of complexity, namely with ambiguity in emotion-expressing face stimuli. We thus compared ERP Ambiguity Effects in geometric cube stimuli and emotional faces.

ERP Ambiguity Effects were replicated for the geometric stimuli and very similar ERP Ambiguity Effects with large effect sizes were found for stimuli with emotional face expressions, but also for low-level stimuli, used as a control condition.

The ERP Ambiguity Effects thus generalize across fundamentally different stimulus categories. We postulate an evaluation instance that estimates the reliability of perceptual outcomes at a meta-perceptual processing level beyond and above sensory details. The

ERP Ambiguity Effects may reflect differences in evaluation results.

Joos and Kornmeier, together with Giersch, Hecker, Schipp and Tebartz van Elst

Common neural sources for ambiguity processing of different stimulus categories

Recent EEG studies found small amplitudes at two ERPs, an anterior P200, 200 milliseconds after stimulus onset and a posterior P400, 200 milliseconds later, when participants observed an ambiguous stimulus and much larger amplitudes in the case of disambiguated stimulus variants (“ERP Ambiguity Effects”). Interestingly, highly similar ERP Ambiguity Effects were found across very different types of ambiguous stimuli (e.g. ambiguity in geometry, motion, gestalt, and emotion), indicating ambiguity resolution at an abstract meta-perceptual level of processing.

In the present study, we investigated whether the highly similar distributions of the ERP Ambiguity Effects on the scalp originate from the same neural structures in the sensor and source space, applying an EEG inverse solution. Source analysis results concerning the P200 show a shared subset of neural generators in regions known to be involved in shape and object recognition (lateral occipital cortex, inferior temporal cortex). Sources of the later P400 were located in regions involved in executive functions in parietal and frontal regions and late sensory regions. We propose that sources of the earlier P200 ERP component reflect the difficulties in low-level feature extraction, both in specialized and general regions in the ventral visual pathway. Further, impaired low-level feature discrimination aggravates the subsequent perceptual decision, which is reflected in the P400.

Kornmeier, Joos and Hecker, together with Feige and Tebartz van Elst

Predicting the future affects the perceived present

Already von Helmholtz stated that the information available to our senses is a priori noisy, incomplete, and to varying degrees ambiguous. The brain solves this perceptual inference problem by integrating the given bottom-up sensory information with top-down memories of previous percepts. It further uses the top-down information to automatically generate predictions about the perceptual future.

In a modified version of our ERP Ambiguity Paradigm ambiguous visual stimuli and disambiguated stimulus variants were presented in order to test whether and how the process of generating predictions, based on regularities in the past, affects processing of the present. We investigated whether a highly regular temporal context of either ambiguous or disambiguated stimulus variants differently affects processing of one and the same current stimulus and/or the execution of a task, related to this stimulus. Second, we studied whether cognitive announcements about the immediate perceptual future can replace the past experience of regularities.

The amplitudes of two ERPs evoked by one and the same current stimulus and reaction time effects for one and the same related task varied as a function of the immediate perceptual history and the predicted perceptual future. No such effects were found when predicting the perceptual future was based on cognitive announcements instead of an

immediate perceptual history.

Our results indicate that predictions about the future automatically alter processing of the present, even if the predictions are irrelevant for the present percept and the related task. However, direct perceptual experiences of past regularities are necessary whereas cognitive information about the future is not sufficient.

Joos and Kornmeier, together with Giersch, Bhatia, Heinrich and Tebartz van Elst

Temporal aspects of perception and their relevance for precognition experiments

Theories about precognition postulate that precognition-talented persons possess information about the future already at a present moment, and that this knowledge about the future influences their present experiences, e.g. their present percepts. Previous experiments presented series of ambiguous and disambiguated visual stimuli and analyzed whether the perceptual interpretation of a currently presented ambiguous stimulus is influenced by the identity of the disambiguated stimulus variants presented in the im-

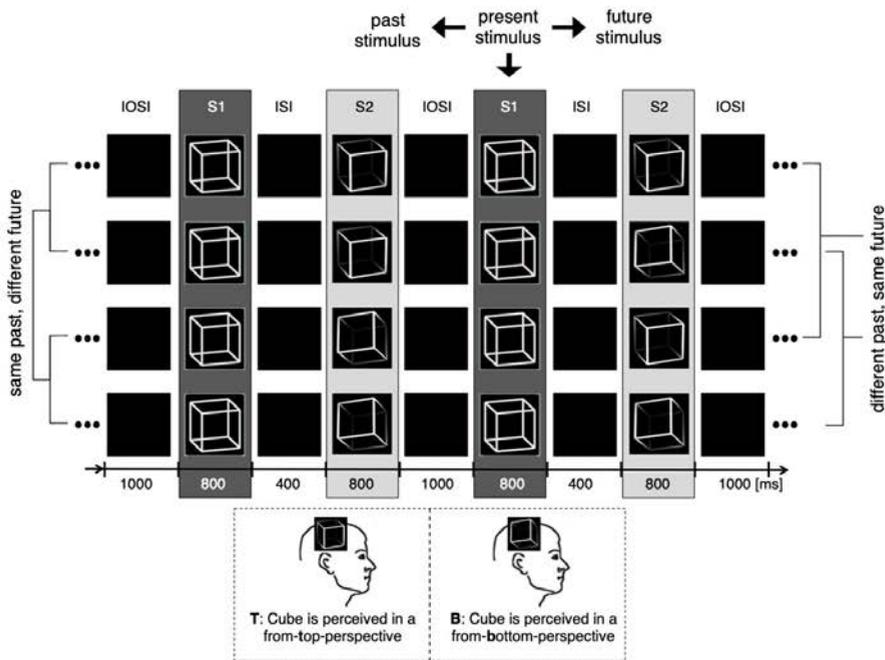


Fig. 7. Experimental Conditions. Presentation of the Necker cube (S1) was alternated with the presentation of disambiguated cube variants (S2). Participants indicated perception of S1 and reversal or stability of their percept from S1 to S2. We compared the probabilities of perceiving S1 in a certain perspective as a function of different preceding but same future stimuli S2 (Condition 1: different past, same future) – and as a function of same preceding but different future stimuli S2 (Condition 2: different past, same future). ISI: inter-stimulus interval; IOSI: inter-observation sequence interval; an observation sequence is the sequential presentation of S1 and S2.

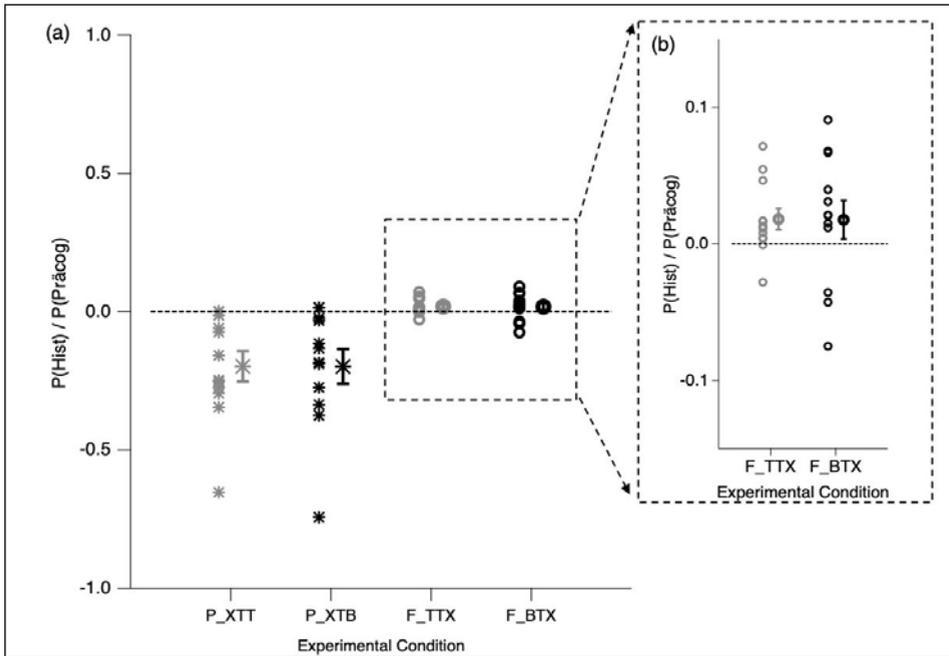


Fig. 8. Preliminary Results: (a) Difference between probabilities of perceiving the Necker cube in a certain 3D orientation as a function of different preceding but same future disambiguated cube variants (Condition 1; P_XTT and P_XTB; star icons) – and as a function of identical preceding but different future disambiguated cube variants (Condition 2; F_TTX and F_BTX; circular icons). Notice that any systematic deviation from the horizontal (dashed) zero line is evidence for the influence of the past (Condition 1) or the future (Condition 2) on the present percept. Small icons indicate data from individual participants, large icons indicate grand means (\pm SEM). (b) Results from Condition 2 enlarged. The immediate perceptual history has a strong and highly significant effect on the current percept (Condition 1). There is some but less obvious indication for pre-cognitive effects (Condition 2) on the current percept.

mediate future.

Current Bayesian probability and predictive coding models about visual perception assume that the perceptual system integrates detected regularities from the perceptual past with current sensory information in order to generate predictions about the immediate perceptual future. It is thus possible that the postulated precognitive influence of the future on the present is simply a footprint from the immediate perceptual past.

In the current project we picked up the basic idea of applying ambiguous stimuli and disambiguated stimulus variants to study precognition. We thereby designed an experiment that allows to disentangling the influences of possible retro-causal influences from the future and past influences on the perceptual presence. Preliminary results indicate strong perceptual history effects. Some weak indications of retro-causality, however, need further confirmation.

Kornmeier, together with Joos and Bhatia

Seeing the prediction rather than the visual stimulus – a rare visual illusion

A popular model for sensory processing, known as predictive coding, proposes that incoming signals are iteratively compared with top-down predictions along a hierarchical processing scheme. At each step, error signals arising from differences between bottom-up visual representations of sensory information and top-down prediction are forwarded and recurrently minimized by updating internal models to finally be “explained away”. However, the neuronal mechanisms underlying such computations and their limitations in processing speed are largely unknown. Further, it remains unclear at which step of cortical processing the prediction errors are explained away, if this happens at all.

In the present study, we revealed rarely but highly significantly, a direct visual perceptual correlate of a prediction error. Human participants briefly viewed the superposition of two orthogonally oriented gratings followed by abrupt removal of one orientation after either 33 or 200 milliseconds. Instead of strictly seeing the remaining orientation, observers occasionally reported an illusory percept of the arithmetic difference between previous and actual orientations.

Our findings indicate that even though the perceptual system tries to minimize prediction errors, the error information as such is not deleted. It rather stays within the perceptual system, occasionally crossing of a hypothesized awareness threshold. This results in illusory perception of this error instead of the actual present stimulus.

Kornmeier, together with Staadt, Philipp, Cremers and Jancke

2.1.3 Time Perception and Time Consciousness

How do we perceive time? How is the subjective experience of time 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. Next to fundamental research on the relationship between the experience of time with cognitive processes and affect, we study how the sense of time is modulated in altered states of consciousness such as in meditation, the ganzfeld, when playing dynamic video games, in psychedelic-induced states as well as under certain neurological and psychiatric conditions.

Two projects which are financed through external grants started in the year 2019:

VIRTUALTIMES: Exploring and modifying the sense of time in virtual environments

The sense of time co-constitutes our subjective experience and embodied self-consciousness. It refers to the dimensions of passage of time (time passing by) and structure of time (serial order of events). Both can be disturbed under psychopathological conditions and give rise to a variety of psychopathological symptoms. VIRTUALTIMES will for the first time (1) provide a personalized and neuroadaptive virtual reality (VR) technology enabling the systematic variation of time experience, based on (2) the rigorous study of

the sense of time in different psychopathological conditions including depression, schizophrenia and autism, and (3) neuroscientific measures that describe neural mechanisms which underlie our sense of time. For that purpose, VR scenarios and games will be developed from the starting point of the everyday scenario “waiting room”. We will systematically enrich the scenery both physically (objects) and socially (interaction partners). In the realm of time-based interventions this will allow us to manipulate passage of time (varying velocity of time flow) and structure of time (varying synchronicity of events). VIRTUALTIMES (1) will provide a diagnostic tool and innovative mental health technology that works in a highly individualized, easy-access, and easy-to-use application, (2) will work as a training tool for the amelioration of symptoms in individuals with a disturbed sense of time.

EU Call Horizon 2020 Topic FETPROACT-01-2018 with € 4.404,698.- (Freiburg lab: € 505.000.-); a multicentre study with Vogetley (U Cologne, Research Centre Jülich), Giersch (INSERM Strasbourg), Latoschik, Lugin (U Würzburg), Jacucci, Ravaja (U Helsinki), Palomer, Oromi (Psious Barcelona).

Wittmann, Khosnoud, Alvarez Igarzábal

Publication: Lugin, Unruh, Landeck, Lamour, Latoschik, Vogetley, Wittmann (2019)

Changes in the temporal width of the present moment after meditation

Based on conceptually understood effects of mindfulness meditation on self-consciousness, bodily processes, and the present moment we aim at experimentally measuring changes in the temporal extension of the subjective present with the metronome paradigm and correlated psychophysiological variables during meditation. We employed the metronome task to operationalize the extension of the present moment by measuring the duration of integrated beats of a perceptual gestalt (1-2, or 1-2-3, etc.) at different beat frequencies. Participants are individuals with at least 5 years of regular meditation experience of the mindfulness traditions and all having regular practice of at least 2 hours weekly of meditation practice for the last 2 months. A pre-post longitudinal study is conducted in which the performance in the metronome task is compared before and after two types of interventions lasting 20 minutes, a meditation and a control story-reading task. Psychophysiological recordings of the electrocardiogram (ECG) and breathing activity are conducted during the interventions to detect the embodied correlates of temporal integration.

Grant funded by FUNDAÇÃO Bial, Porto (50/2018) with € 39.000.-.

Linares Gutierrez, Wittmann, together with Schmidt, Meissner

Publication: Linares Gutierrez, Kübel, Giersch, Schmidt, Meissner, Wittmann (2019)

Individual differences in self-rated impulsivity modulate the estimation of time in a real waiting situation

In this study we investigated how individual differences regarding impulsivity and time perspective predict the experience of waiting during a time interval without distraction.

Each participant (N = 82) filled in self-report questionnaires on impulsiveness (Barratt Impulsiveness Scale; BIS) and time perspective (Zimbardo Time Perspective Inventory; ZTPI). Participants were individually shut into an empty room for exactly 7.5 minutes and afterwards asked to report their subjective feelings regarding the experience of time, self and affective reactions. Correlation analyses showed that being more relaxed and having a positive feeling was related to shorter duration estimates and a perceived faster passage of time. Individual traits of impulsivity, present-hedonistic and present-fatalistic time orientation were associated with relative overestimation of duration and a perceived slower passage of time; future orientation was related to an underestimation of duration and a perceived faster passage of time. Multiple regression models show that impulsivity alone predicts the variance related to time estimation during the waiting period. Multiple path analyses reveal that individuals who are more impulsive are less relaxed while waiting and accordingly overestimate duration and feel a slower passage of time. Negative affect and an impulsive present orientation are related to an overestimation of duration and the feeling of a slower passage of time while waiting.

Wittmann, together with Jokic, Zakay
Publication: Jokic, Zakay, Wittmann (2018)

Predicting the stock market. An Associative Remote Viewing study

The International Remote Viewing Association (IRVA), in partnership with IRIS-Psi & Applications (IRIS-PA), jointly sponsor “The Warcollier Prize”, a financial grant of \$ 3.000 USD in support of research in the field of remote viewing. In 2017, we won the price with a research proposal for a study, which we conducted during an internship of the two investigators Maximilian Müller and Laura Müller at the IGPP in Freiburg. The main research objectives were to determine the hit rate for predictions of the German market index DAX (Deutscher Aktienindex) with Associative Remote Viewing (ARV). Remote Viewing or “Anomalous Cognition” is the term for faculties which make use of

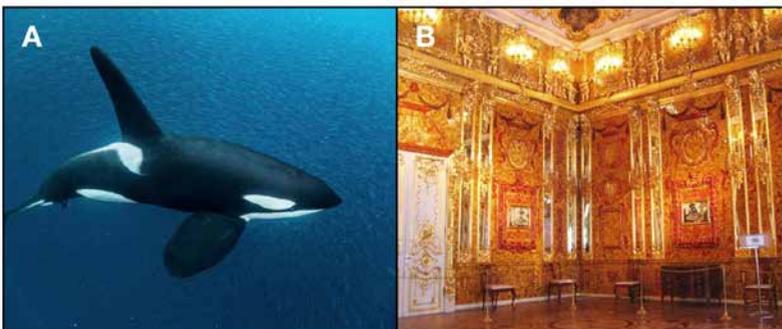


Fig. 9. Example target pair (Picture A: orca whale - associated with a rising DAX and Picture B: amber room - associated with a falling DAX). The targets differ in multiple categories: colors, shapes, smells, tastes, temperature, surrounding, meaning, etc.).



Fig. 10. Extract of the corresponding session transcript for the target pair in Fig. 9. Translated impressions are shown in bold and italics. The viewer unambiguously described Picture A (orca whale) which was associated with a rising DAX. This trial resulted in a correct prediction.

an anomalous information transfer generally referred to as Psi. Over the course of $n = 48$ valid trials we attempted to predict the binary (up vs. down) course of the German market index DAX with the Associative Remote Viewing (ARV) method. 38 out of 48 predictions were correct which amounts to a highly significant hit rate of 79.16% ($p = 2.3 \times 10^{-5}$, binomial distribution, $B_{48}(1/2)$; $z = 3.897$; $ES = 0.56$). A post-hoc analysis indicated that the session quality depended on the volatility of the market index: The viewer's perceptions were clearer and less ambivalent when the market index also had a larger point difference at the end of the prediction period. In Fig. 9 two photos are presented which are assigned to a rising and falling stock index, respectively, and which had to be described in the remote viewing session. Additionally, we tested the hypothesis whether feedback is a necessary requirement for predictions with ARV. Both conditions (feedback vs. no feedback) were independently significant and did not differ significantly from each other ($\chi^2 = 0.505$, $p = 0.477$). Therefore, we discuss potential features which might be necessary or limiting for successful predictions with ARV.

*Wittmann, together with Max Müller and Laura Müller
Publication: Müller, Müller, Wittmann (2019)*

2.2 Social and Cultural Research

2.2.1 Cultural Studies and Social Research

Fanny Moser: Between Science and Séance. A biography of a female scientist

Dr. Fanny Hoppe-Moser (1872-1953) had a doctorate in zoology, became later a parapsychologist and was finally the first sponsor of the IGPP, Freiburg. Moser's aim was to ensure that her lifework – the scientific investigation of occult phenomena, in particular haunting cases – would be continued within a permanent and academic framework.

The research project, which is located in biography research, women's and gender studies and the history of science, aims to reconstruct Moser's life course completely and systematically for the first time on the basis of extensive archive and source material (the scientific legacy is located in the IGPP archive), focusing in particular on family background, historical conditions and sociological aspects. Fanny Moser's academic career falls into a time when women had to fight for access to university education and an academic career. Fanny Moser overcomes these barriers, secures herself access to a university doctorate and research contracts and provides an interesting example of female participation and female success in the natural sciences in Wilhelmine Germany.

But then in 1914 an event shakes her scientific world view. During a spiritistic séance she witnessed an impressive table levitation – and her life was turned upside down. Fanny Moser decides to dedicate her scientific work to parapsychology and occultism, which was as popular as it was controversially discussed at the time, with the aim of scientifically investigating the ideologically contested status with regard to the authenticity of so-called parapsychic and occult phenomena. With private funds, she built up a valuable collection of parapsychological literature and, after decades of research and writing, she published two monographs which are nowadays considered to be major works of (German) parapsychology.

In addition to a critical reconstruction of these works and their evaluation with regard to the scientific and ideological dis-



Fig. 11. Fanny Moser with her mother, around 1888 (IGPP archive).

courses on occultism at the time, the family background of Fanny Moser also has to be discussed. Moser was the daughter of the rich and famous Swiss industry pioneer Heinrich Moser, her mother Fanny von Sulzer-Warth was his second wife and after his unexpected death she became the young sole heiress of an enormous fortune. (Fanny senior went down in history of psychiatry under the pseudonym Emmy v. N. in Freud's studies of hysteria.) Fanny Moser's younger sister Mentona also chose a remarkable life path: she became a women's rights activist and founding member of the Swiss Communist Party, lived temporarily in the USSR and spent her old age as a SED functionary in the GDR. Completely unknown, however, is the role of Jaroslav Hoppe, the Czech husband of Fanny Moser. Because he became very ill and was in need of care Fanny left Germany for a longer period of time and they lived together in the Moravian province. Despite Fanny Moser's remarkable intellectual output, her scientific and (not least) pecuniary commitment, there is as yet neither a sufficient appreciation nor contextualisation of her specific way of thinking and path of life from a scientific and socio-historical perspective. The research project aims to close this gap and to do so in the context of a monograph. The intended date of publication is 2022 on the occasion of Fanny Moser's 150th birthday.

Schmied-Knittel

Exosociology - Alien civilizations and the consequences of first contact

The first goal of the project was to use a futurological scenario analysis to analyse different variants of humanity's 'first contact' with an extraterrestrial civilization and, in particular, to assess its potential societal consequences. In order to obtain well-founded prognostic assumptions about the behavior of individuals, social subsystems or entire humanity in the face of a confrontation with an extraterrestrial civilization, various sociological, socio-psychological, anthropological as well as historical findings were used.

The corresponding analyses are in line with the research perspective of exosociology that was already outlined by the US-American sociologist Jan H. Mejer more than 30 years ago which, however, had generated almost no resonance in the scientific community and was therefore largely forgotten. The main aim of the book "Die Gesellschaft der Außerirdischen - Einführung in die Exosozioologie" [Alien Society - An Introduction into Exosociology] written by the project staff and published by the Springer-VS publishing company at the beginning of 2019 was therefore to take up the considerations on exosociology at that time, to think further and to add an empirical perspective by combining them with the results of the scenario analysis.

One of the main challenges of the book project was to bring together the considerations and findings of a wide range of scientific disciplines into a stringent overview. For example, one part of the project work consisted in the reconstruction of the current state of knowledge and discussion on the topics 'extraterrestrial life' and 'extraterrestrial intelligence' within the disciplines of astronomy, astrophysics and astrobiology, another in a social and cultural sciences-based discussion of the prerequisites for the radio astronomi-

cal search for extraterrestrial intelligence signals (SETI).

Accordingly, the main theses of the volume are multidisciplinary oriented:

1. According to current scientific findings, it now seems more likely than ever that the earth is not the only inhabited planet and humanity is not the only intelligent species in the universe.
2. The previous SETI research partly operates with questionable presumptions, which unnecessarily restrict the search strategy.
3. Contact with an extraterrestrial intelligence could happen in many different ways: it could be a remote contact via radio signals, through the discovery of an extraterrestrial artefact in our solar system or a direct contact with of an alien civilization.
4. The first contact could have serious consequences for the entire human race – in addition to scientific and ideological consequences, global political, economic and religious upheavals are to be expected.
5. These consequences could be so drastic because humanity is not well prepared for the contact with an extraterrestrial civilization.

The book publication generated a considerable response in the public media as well as in scientific contexts. This also includes the offer of the publisher Komplet-Media-Verlag to the project staff to publish a popular science work on exosociology. The volume will be published in March of this year under the title “Sie sind da. Wie der Erstkontakt mit Aliens unsere Gesellschaft verändern könnte - Ein Gedankenexperiment” [They are here. How first contact with aliens could change our society - A thought experiment].

The project will be continued with the aim of establishing the concept of exosociology in both, the public and scientific discourse, in order to give more legitimacy to related research questions and to stimulate further studies in this field.

Schetsche, Anton

Publications: Anton, Schetsche (2019a, b); Schetsche, Anton (2019a, b, c)

Publication project: N equals 1. Single Case Studies in Anomalistics

Single case studies have a long tradition in the field of parapsychology and anomalistics research. However, by their very nature, even thoroughly conducted case studies do not provide hard evidence for the existence of paranormal effects. For this reason, they have so far been treated in parapsychology and anomalistics mainly as illustrative or anecdotal. With the general increase in the acceptance of qualitative research methods, the value of individual case studies for gaining knowledge about anomalistic phenomena has been increasingly recognized in recent years. They offer a greater proximity to everyday life as well as a different view of the phenomena under investigation and thus complement the findings from laboratory research. This is particularly important in parapsychology and anomalistics, since paranormal effects in the laboratory are usually not very spectacular and may have little in common with phenomena and extraordinary experiences that are made and reported in the living world. The careful investigation of individual cases provides information about the contextual conditions of their occurrence and about their

dynamics. Furthermore, suggestions for improving experimental research and theory building can be gained.

The volume *N equals 1. Single Case Studies in Anomalistics* is intended to contribute to the appreciation of this type of research as an equal supplement to laboratory research. The case reports show methodological particularities of field studies in anomalistics. Based on historical and current case studies, specific psychosocial dynamics and problems in this interesting and challenging research area will be presented and discussed. In addition, contemporary and historical case material will be made available to English-speaking readers for the first time in this detailed form. Last but not least, the case studies and methodological considerations presented in this volume are intended to correct the publicly prevailing picture of scientific investigations of paranormal phenomena, which is largely shaped by media-mediated so-called “paranormal investigations” of amateur ghost hunter groups.

N Equals 1 is divided into four parts. Part I contains two chapters with general reflections on individual case studies and their place in anomalistics. The contributions in Part II deal with the specific forms and methodological features of individual case studies in this research field. Parts III and IV bring together historical and contemporary case studies, in which different methodological aspects are elaborated. The book contains 15 chapters written by different authors. Although the focus is on poltergeist cases, other fields of anomalistics are also addressed such as UFOs, cryptozoology, or allegedly photographic anomalies.

Mayer

Publication: Mayer (2019)

Intersociology – Foundations and challenges of interspecies communication

Within the social sciences, different areas of research have existed separately for many years, dealing with the interactions between human and non-human actors.

Human-Animal-Studies, for example, deal with the cohabitation of humans with domestic, farm or wild animals. Sociotics deals with the interactions between humans and artificial intelligences – both in incorporated (robots, androids, autonomous vehicles) and virtual forms (e.g. bots on the Internet). The staff members of the project have carried out various studies on the contact between humans and – at present still hypothetical – extraterrestrial intelligences under the keyword ‘exosociology’. In addition, there are studies in ethnology, religious studies and also scientific anomalistics to understand the interaction between humans and so-called supernatural beings (gods and spirits, angels and demons). All these research areas are confronted with the same fundamental problem of understanding foreign beings, more specifically other-awareness [“Problem des Fremdverstehens”]. It seems reasonable to encompass all these empirical studies and theoretical conceptualisations of different forms of interaction between humans and non-human actors in one field of research. As a term for this new perspective of research we suggest intersociology.

The first goal of the current intersociology project is to explore the possibilities of com-

munication between different species (in the broadest sense) from a multidisciplinary perspective in a theoretical-comparative way. In this sense, the project asks about the basic preconditions and difficulties of interaction between humans and different classes of non-human actors. For example:

1. How foreign is a counterpart allowed to be at most, so that we recognize it as an entity capable of communication and grant a subject status to it?
2. How can interaction between human and non-human actors be phenomenologically described and theoretically understood?
3. Which human attributions allow and which hinder communication with a non-human counterpart?
4. What are the specific characteristics of different types of non-human actors - and how can they be theoretically understood?
5. What ethical and legal conclusions can be drawn from the analysis of interactions between human and non-human actors?

In a first step, the answers given by the different research traditions to these and similar questions are summarized in a scientific anthology and theoretically related to each other. The corresponding volume entitled “Intersociologie” [Intersociology] will be published at the end of the year. The next step will be to establish the new research field of intersociology and to gain general insights into the interaction between humans and non-human actors.

Schetsche, Anton

2.2.2 Cultural and Historical Studies, Archives and Library

The scope of this research area includes the cultural and social history and the history of science of parapsychological research and other unorthodox fields (“Historical Parapsychology”). The focus is on the historical reception of spiritism, occultism, psychical research and parapsychology in Germany from the 19th century until today. Of particular interest is the reception of paranormal and “anomalous” phenomena with regard to established scientific disciplines such as 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 connection between occultism and visual arts; (5) the history of the IGPP and the biography of its founder Hans Bender. An integral part of these studies are the IGPP research library and the IGPP archives.

Historical and Biographical Studies

Publication project: Hans Bender’s habilitation thesis “Experimental Visions” (1941)

Hans Bender, the founder of the IGPP, habilitated in 1941 at the Faculty of Philosophy of the University of Bonn with a thesis on “Experimental Visions: A contribution to

the problem of illusions, reality awareness and the layers of personality". Owing to the circumstances of the time, this pioneering work remained essentially unpublished. Its main goal was, as the chairman of the habilitation committee, Erich Rothacker, wrote in his report of 25 October 1941, to build a bridge "between experimental psychology, psychopathology and psychiatry". Inspired by his Parisian teacher Pierre Janet, Bender used the old magical practice of the cobbler's ball to create experimentally induced "sensory illusions" in his 100 selected test subjects, the crystal visions with their history reaching back to antiquity. Bender wanted to demonstrate that in many cases these visions were visualized thought processes based on dissociated, intelligent psychic activity, a "lifting tube of the subconscious" or a "sensory automatism" in Janet's sense. The edition that is now in preparation is based on the 200-page typescript, which is part of the Hans Bender files in the Institute's archives. The foreword by the editors Eberhard Bauer and Torsten Passie outlines the biographical and scientific-historical context of the development of this work.

Bauer together with Passie

Piet Hein Hoebens, Hans Bender and the "Pirmasens case"

The publication of the collected essays on parapsychology by Piet Hein Hoebens (1948–1984) under the title "The Legitimacy of Unbelief" (2017) by Gerd H. Hövelmann (1956–2017) and Hans Michels is also of great importance for the history of the Freiburg Institute in terms of how to deal with external critics of parapsychological research. Hoebens was a polyglot Dutch journalist and "editorial writer" for the widely read conservative Dutch daily "De Telegraaf", who in the early 1980s became well-known as a commentator on popular parapsychological claims from a 'skeptical' point of view. Hoeben's first major contributions to parapsychological research topics were published in German translation in the "Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie", which led to his being perceived by the interested (expert) audience as a visible and serious skeptical "antagonist" to Prof. Hans Bender, at the time the most prominent representative of academic parapsychology in Germany. The public controversy focused on a so-called seat experiment in Pirmasens performed in 1953 with the Dutch sensitive (paragnost) Croiset. Personally, Bender was sufficiently convinced of the evidential value of this case to invite Hoebens to the Institute to inspect the archival documentation available there. The case played a central role in Hoebens' presentation of the skeptical "Hume Game" at the joint anniversary conference of the Society for Psychical Research (SPR) and the Parapsychological Association (PA) in Cambridge in August 1982. In summary, Hoebens played an active role as an intellectual "catalyst" in German parapsychological research and was responsible for the establishment of the so-called "Marburg Dialogue", which explored the possibility of a "dialogue" between parapsychological researchers and their external critics.

Bauer

Publication: Bauer (2019c)

Heino Gehrts, Fanny Moser and the “Kornitzky case”

The personal papers of the cultural historian Heino Gehrts (1913–1998) was handed over to the Freiburg Institute in 2005 in agreement with his widow Christine Gehrts. It contained an unpublished typescript “Pallas Hermetica” from 1958. Gehrts attempts to interpret the “Kornitzky case”, first published in 1950 in the well-known book “Spuk” by Fanny Moser, in which alleged poltergeist events in the Berlin apartment of the pharmacist A. K. in 1934 are described. At the time of writing, Gehrts was A. K. still unknown. The material relating to the “Kornitzky file” consists of correspondence between A. K. and Gehrts, which, with in part long interruptions – becoming increasingly friendly and personal towards the end – stretches from the period 1958 to 1990, as well as typewritten elaborations of the explorations carried out by Gehrts with Mrs. Kornitzky, mainly in spring and summer 1962. Gehrts’ biographical research made it possible to understand the apparent “absurdity” of the poltergeist phenomena in the context of A. K.’s difficult personal situation at the time in its symbolic meaning. The typescript has now been published in volume 7 of Gehrts’ “Gesammelte Schriften zur Märchen-, Mythen- und Sagenforschung” with an introduction describing its historical context.

Bauer

Publication: Bauer (2019b)

Award of Fanny Moser Prize

The Fanny Moser Prize, donated by the IGPP 2019, is awarded in memory of Dr. Fanny Moser (1872–1953), the first patron of the Freiburg Institute and author of two historically central works on German-language parapsychological research: “Okkultismus – Täuschung und Tatsachen” (1935, Reprint 1974); “Spuk – Irrglaube oder Wahrglaube. Eine Frage der Menschheit” (1950, Reprint 1977). The prize is awarded to a scientific published work that explicitly relates to the research topics dealt with by Fanny Moser in the field of paranormal and anomalistic experiences and phenomena. This can be empirical-experimental, theoretical-conceptual, clinical-therapeutic, natural-, art-, cultural-, social-scientific or historical. The prize will be awarded on the occasion of the 70th anniversary of the IGPP 2020.

Bauer, Schmied-Knittel

Contributions on the history of the IGPP

For a book project documenting the recent history of the IGPP on the occasion of the 70th anniversary of the Institute, several individual contributions were written with the following titles: Documentation of an unexpected development: The IGPP in the gap years 1991 to 1995; Upheaval and reorientation: The IGPP between 1996 and 2020 – a short overview; History of science in frontier areas of psychology; The research archive of the IGPP - development and holdings.

Schellinger, together with Vaitl

Exhibition “Freiburg collects: Memories for Tomorrow” of the Municipal Museums Freiburg

The IGPP participated conceptually, with guided tours and with selected documents and objects from its archives in a participatory exhibition project of the Freiburg Municipal Museums. In the exhibition “Freiburg Collects: Memories for Tomorrow”, which was showcased from March to September 2018 in the Museum of Town History, everything was dealing with the process of collecting and with connected memories and stories of Freiburg’s town history. It asked and documented how Freiburg citizens collect their town history, which stories are told by different Freiburg collections and which memories the citizens of Freiburg want to preserve for future times. The collections presented also raise the fundamental question of which objects and memories we want to preserve for tomorrow - and which items we want to give a place in the museum.

Schellinger



Fig. 12. Exhibiton unit „Freiburg – locus occultus?“ (Städtische Museen Freiburg).

Personal mediums and crime: The history of “criminal telepathy” in Germany (1880–1980)

This project investigates the historical trajectories of the practices and problems that defined “criminal telepathy” from 1880 through 1980. The focus is on the confrontation and cooperation of so called “psychic detectives” and other personal “mediums” with paranormal abilities with the law enforcement authorities in Germany. For this project, the following questions are of central interest: How were the tensions between ‘mediums’ and law enforcement agencies and how were important protagonists implicated? Which positive and negative consequences for involving a “psychic detective” and other

mediums in police investigations of spectacular cases can be identified? How has the interaction between law and enforcement agencies and “psychic detectives” changed in the 20th century, and how important were thereby criminal-policy decisions, particularly in the context of political system changes? How have the specific expectations of state agencies and general public changed and what factors were pivotal for approving and disapproving the assistance of “psychic detectives”?

Schellinger

Publication: Schellinger (2018)

Clairvoyants, mediums and miracle healers: Activities and the perception of paranormally-gifted individuals in regional contexts (Middle and South Baden in the 19th and 20th century)

In this project, with the focus on regional history, the biographies of individuals (from the 19th and 20th-century Middle and South Baden) with self-attributed or other-attributed “paranormal” abilities – such as clairvoyants, magicians, mediums, somnambules, spiritists, visionaries or miracle healers – are described and subjected to comparative analyses. By considering the biographies of and the actual practices employed by such queer characters, something may be learned about the processes of socialization and marginalization as well as about the contemporary social mindset. Of what kind were the real abilities as well as the social functions of those persons? How could their practical actions be described, which kind of methods did they apply? Were they in fact considered as marginal or were they regarded as a necessary part of the daily culture? How becomes a person to be known as a “clairvoyant” or a “miracle healer”? Were the careers of such persons lifelong or only short-time? How were the responses of the local environment, the authorities and the scientific community? In this project, consistently the biography of the so called “Miracle healer of Schutterwald” Josef Weber (1945–1991) comes to the fore. Particular attention attracted (for a TV-project) the “miracle healer of Schutterwald”, Josef Weber (1945–1991), and the so-called “Seer of the Kinzig Valley”, Bernhard Bischler (1884–1965).

Schellinger

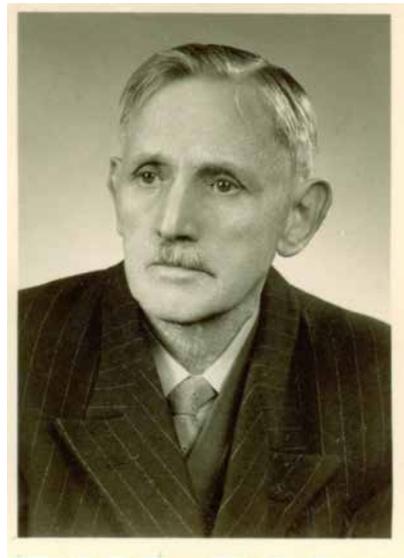


Fig. 13. Bernhard Bischler (1884–1965), the “Seer of the Kinzig Valley”.

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

On the basis of detailed case studies the question was asked 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?

Schellinger

Publication: Schellinger (2018)

Haunting phenomena in Freiburg from 900 years: A case and source collection

From 1950 to the present day, the IGPP has been investigating and documenting cases of 'spook' and 'ghostly apparitions' throughout Germany and Europe. Nevertheless, 'haunting' occurrences and 'apparitions of ghosts' that have occurred directly in Freiburg are only little known. For the city's anniversary "Freiburg 2020: 900 years young", such cases are therefore being compiled on the basis of various types of sources (e.g. literature on the history of the city, local legend traditions, specialist parapsychological literature, relevant archives, personal reports).



Fig. 14. Logo of the Freiburg city anniversary.

It can be assumed that the way of reporting cases has changed significantly over the centuries, so that the following questions arise: How did the literary forms of reporting change throughout the centuries? Which methods of documentation and interpretation of 'haunting' and 'ghostly apparitions' have been and are still applied? The aim of the project is, firstly, to compile a thematic collection of sources in book form, and secondly, to organize thematic readings on the subject of "Spook in Freiburg" in the second half of 2020.

Schellinger, together with Nabm

Hans Bender, Carl Gustav Jung and the phenomena of synchronicity

Hans Bender, German parapsychologist and professor at the Freiburg University, met with C.G. Jung, Swiss psychiatrist and analytic psychotherapist, on December 8, 1960. In connection with his mother's sudden death a few months ago, Hans Bender had had



Fig. 15. Tape with the recording of the conversation between Hans Bender and Carl Gustav Jung in 1960 (IGPP archive).

impressive synchronistic experiences which he wanted to discuss with the famous analyst and theorist of synchronistic phenomena. The discussion was recorded, and the transcribed version is available here for the first time. On the basis of archival sources, which have hitherto not been analyzed, we examine in this article the historical context of the discussion with the help of decades of written communication between the two scientists. A key aspect of our article is, therefore, a description of the phenomenon of synchronicity based on Hans Bender's concrete experiences during a trip through Switzerland to the Eranos Conference in Ascona and further on to the Côte d'Azur for a workshop of the Parapsychology Foundation. At the same time, in August 1960, his mother suffered a stroke, which caused her death shortly afterward. Bender was returning to Freiburg at the time when she died. He was familiar with the stages of his trip from earlier trips. He had intensely emotional experiences at certain places, which he, in retrospect, interpreted as synchronistic in connection with his mother's death. This was the objective of the conversation with C.G. Jung.

Schellinger, together with Wittmann und Anton
Publication: Schellinger, Wittmann, Anton (2019)

Empirical and theoretical aspects of research in anomalistics

Scientific parapsychology covers a quite heterogeneous spectrum of unusual or anomalistic phenomena. An examination of these topics often leads to the question whether these phenomena are – in the words of the first patron of the IGPP Fanny Moser – delusions or facts. If certain claims or claimed phenomena can be attributed a sufficient probability of existence, it is appropriate to explore the possible implications of these phenomena for

parapsychological theory. The present project dealt with these questions on different levels, thereby focusing on aspects of the interplay between body and mind. One objective, for example, addressed the frequently claimed “sudden whitening” of hair after emotional trauma. Although often declared impossible, it was possible to find 212 respective reports in the medical literature. Forty-six of these were first-hand accounts, and on the whole these cases appear to be sufficiently well documented to confirm the existence of a genuine anomaly. They thus empirically support the hypothesis that emotionally charged states of mind can express themselves on one’s own body or in the outside world by means of non-local entanglement correlations (Nahm 2018a). A further assertion, however, according to which “voices of ghosts” have been declared proven by means of the innovative use of electrotechnical devices and subsequent computer analyses, could be shown to be insufficiently grounded, and was rejected as false (Nahm 2018b). Furthermore, the process of uncovering a plagiarism in the medical literature concerning people with pronounced hydrocephalus syndrome was illustrated. This case highlights that even in professional medical circles, presentations of extraordinary case studies need to be regarded with caution (Nahm, Evrard 2019). In the context of other unusual brain-related findings, we contributed to the initiation of extensive research projects on terminal or paradoxical lucidity in people with advanced dementia in the USA via the National Institute on Aging. It can therefore be expected that in future, new medical knowledge will be gained regarding the question of why even people with advanced dementia can sometimes become completely lucid again for a short time (Mashour et al. 2019). With regard to the question of the interplay of body and mind, aspects of the “timing” of out-of-body experiences that occur in the context of near-death experiences were also analyzed. Using various lines of argumentation, it was shown that these experiences seem to occur in real time throughout, and that they are not, as is sometimes assumed, only reconstructed from subconsciously stored sensory impressions when consciousness is regained (Nahm, Weibel 2019). A knowledge that has seemingly remained intact for a certain period of time, but without consciousness, also plays a role in so-called reincarnation cases. Some of these cases are sufficiently well documented to justify the assumption that these occurrences represent factual anomalies. The resulting implications for biological theory were expounded in a book chapter (Nahm 2019a). Finally, also a more basic contribution to theory building in parapsychology was provided. It was shown why the spectrum of parapsychological phenomena can hardly be reduced to precognition, as postulated in the Multiphasic Model of Informational Psi (Nahm 2019b).

Nahm

Publications: Mashour et al. (2019); Nahm (2018a, 2018b, 2019a, 2019b); Nahm, Evrard (2019); Nahm, Weibel (2019)

Workshop: Exceptional Experiences Related to Death (15.11.2019, IGPP)

Within the framework of the French-German CIERA project Boundaries of Death (co-ordination: Renaud Evrard), a workshop on unusual phenomena near death was held at

the IGPP. One thematic focus lay on the phenomenon of terminal lucidity. The workshop was addressed to people who are actively engaged in research in this area. An important goal of the workshop was to network the participants, especially doctoral students. A total of six doctoral candidates from France, Germany and Switzerland took part in the workshop, three of whom presented their work in a presentation.

Nahm with Evrard

Historical aspects of anomalistic research

This project was concerned with the investigation of specific historical topics, the main focus of interest being the reliability of the available material as well as its significance for the following time up to the present. First, the comprehensive report of the poet-physician Justinus Kerner (1786-1862) about a massive German haunting case in a prison in the years 1835/36 was subjected to a detailed analysis. Its accompanying circumstances and the history of its reception were described as well. The case of this remarkable “prison spook” was presented to an English-speaking readership for the first time. It demonstrates the significant role that must be assigned to Kerner in the context of early studies into haunting (Nahm 2019c). In addition, a monumental work on physical mediumship that is practically unknown in the Western world was presented in summary, the work “Új látóhatárok felé” [Towards New Horizons] by Elemér Chengery Pap. This author examined chiefly the medium Lajos Pap (unrelated to him) with regard to his ability to produce apports, i.e. to materialize objects up to living animals in a séance room. He set up a “Metapsychical Laboratory” especially for this purpose. However, an in-depth analysis of the experimental set-ups and a comparison with studies performed by psychologist Nandor Fodor with Lajos Pap in 1935 urges caution. They suggest that at least a large part of the phenomena documented by Chengery Pap was not achieved by authentic means (Nahm 2019d). Furthermore, the reliability of central statements of Rudolf Steiner, the founder of Anthroposophy, was also analyzed. Steiner, for example, purported numerous “facts” about the history of the development of the earth, living beings and humanity. He claimed having gained these facts using his ability to obtain knowledge via applying “spiritual science”. He repeatedly called for these statements to be checked against scientifically accepted findings. However, such a check has been lacking up to now. The performed analysis shows that the knowledge Steiner acquired via his “spiritual science” is grossly wrong. It can be assumed that this applies mutatis mutandis to his claims about numerous other topics as well, especially regarding to the “spiritual worlds” (Nahm 2019e).

Nahm

Publications: Nahm (2019c, 2019d, 2019e)

The Occult in Art and Photography

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

The Occult in Contemporary Art and Exhibitions

Aesthetic practice often shows an influence of the occult which can be felt by numerous exhibitions during the last years, some of them were organized in cooperation with the IGPP. (For examples “Licht und Leinwand. Fotografie und Malerei im 19. Jahrhundert”, Germanisches Nationalmuseum Nürnberg und Staatliche Kunsthalle Karlsruhe, 2018/2019; “Gewächse der Seele. Pflanzenfantasien zwischen Symbolismus und Outsider Art”, Wilhelm Hack Museum Ludwigshafen. 2019). This relationship is documented in detail and discussed in regard to their different theoretical concepts, the priorities in regard to the chosen artists or topics, or possible changes in public reception, print media and academic circles. These works are part of an explorative project which examines the various forms of artistic approaches to the ‘occult’. One of the main topics of the last two years was an overview study on such exhibition projects which were organized in cooperation with the IGPP since the Mid 1990s. In this context also the ‘prehistory’ of such an involvement was examined, e.g. the relation of Hans Bender, the founder of the IGPP, to fine arts. Extracts of the first results were published in the anthology on the recent history of the IGPP, edited by Dieter Vaitl (*An den Grenzen unseres Wissens. Von der Faszination des Paranormalen*, Freiburg, Verlag Herder, 2020). Another topic which was taken into account was mediumistic art. For example, it was intensively treated while preparing the exhibition „L’Au-delà Incarné: Médiumnité, Art et Métapsychique“, which took place in the gallery „Art Absolument“ in Paris on the occasion of the 100th anniversary of the founding of the Institut Métapsychique International (IMI) in 2019. It included, among other exhibits, numerous automatic drawings by Fernand Desmoulin (1853–1914) which have never been shown before.

Fischer

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

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



Fig. 16. Leif Geiges, Hans Bender conducting a psychodiagnostic test during the investigation of a poltergeist case in Lauter, Bavaria, in 1949 (IGPP archive).

period. Furthermore, they represent a unique chapter in the long and voluminous history of the relationship between photography and occultism, which have been evaluated in detail both in academic studies and in numerous exhibitions during the last years. Since the exhibition, scheduled for October 2018 at the Augustinermuseum in Freiburg, had to be delayed due to technical reasons, the catalogue will now appear in an extended version including examples of most of the series of photographies which Geiges dedicated to the paranormal. The exhibition will now take place between March 6 and June 6 in 2021.

Fischer together with Moos and Vaitl

The paranormal in illustrations in press media

A database on published illustrations (graphics and photographs) covering the paranormal was build up. It was first designed as a research tool for the scientific preparation of the exhibition on Leif Geiges (see above). So far, the focus has been on illustrated, mainly photojournalistic magazines from the time of the Weimar Republic to the post-war period until 1970. Press reports on scientific parapsychology were a main research topic. In addition to archival holdings, mainly the press collections in the archives of the IGPP, holdings in libraries or digitised material accessible via the Internet were also evaluated. This has shown that the field, which has hardly been scientifically examined so far, represents a very promising source for a variety of research purposes like in cultural studies, social research or art history.

Fischer together with Moos

A contemporary photographer of the occult: Shannon Taggart

For almost tow decades the american photographer Shannon Taggart has been docu-



Fig. 17. Shannon Taggart: *Séance*, Fulgur Press, Lopen, 2019.

menting contemporary manifestations of spiritualism. Motivated by an exceptional experience of a cousin, she has been visiting communities like Lily Dale, experienced sittings with physical mediums and visited numerous locations like archives dedicated to the occult.

Her photographic work is not only most fascinating in regard the impactful and to some extend unique period which she spend as a professional photographer on the topic. But also in much more perspectives like from an aesthetical point of view. It's connected to many other artistic approaches to the occult. Also the focus that Taggart gives during her explorations to the entire scenario of todays spiritualism, makes the work most valuable. It showcases the spiritualist world as a social movement and gives it a compelling anthropological dimension. Another compelling aspect of Taggart's work consists of its temporal dimension by reflecting the photographic history of occultism. In this context it also examines the fundamental question if photographic images could create evidence in regard paranormal claims.

Fischer

Publication: Fischer 2019

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 psycho-

logy in general, and for the history of the Institute in particular. Since the foundation of the IGPP, the documentation and collection of relevant research material belong to its central tasks. Special archives with its own structure were established after the Institute has moved from the “Eichhalde” to the “Wilhelmstraße” in 1996. Due to its specific and unique profile, the IGPP archives are of a particular significance within German and European scientific culture. As a special and scientific collection, the IGPP archives are corporate member of the “Association of German Archivists” (VdA).

Record groups and collections

The IGPP archives consist of several major groups of records and collections: photographs, audio material, film material, objects, and completed databases. The main body consists of research files of the Institute when it was located at the “Eichhalde” (Freiburg) from 1950 to 1995, among them collections of reports of spontaneous phenomena, like precognitive dreams, or collections of RSPK case studies, as well as the research files of the Institute in the “Wilhelmstraße” (Freiburg) since 1996. Next in line are partial or complete collections of personal papers (currently 40 holdings) belonging to a variety of important researchers in the field of psychical research and parapsychology. Finally, there are collections of relevant items, e.g. of academic theses, reports or publications as well as comprehensive press collections (currently: 54 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 26 acquisitions of various size and content. Beside single academic theses and records of the IGPP work, the following larger acquisitions should be mentioned: the personal and scientific papers of the former IGPP chairman Inge Strauch (10/39), the personal and scientific papers of the Dutch journalist Piet Hein Hoebens (10/42), the personal and scientific papers of the Göttingen Ethnology professor Helmut Möller (10/38) as well as the materials of the “Deutsche Transpersonale Gesellschaft e.V.” (German Transpersonal Society) handed over to the IGPP (20/35).



Fig. 18. Piet Hein Hoebens (1948–1984).

Use of the Archives

Apart from the acquisition and securing of relevant material, the analysis and utilization for scientific projects is one of the major focus of archival work. Archival holdings are utilized by staff of the Institute as well as by external researchers whose research interests are approved by the IGPP. During the period under review, numerous publications utilizing archival material of the Archives were produced. The following topics should be mentioned: Clairvoyance for the State: Gerard Croiset and the search for Hanns Martin Schleyer (1977) (U. Schellinger); The Faces of Bélmez: A Historical Reconstruction on the Investigation of a supposedly strong RSPK case (G. Mayer); The authority strikes back. Considerations about the allegedly fraudulent “Chopper” poltergeist case (G. Mayer); Bruno Gröning as substitute priest (F. Mildenerger); Hans Bender and Carl Gustav Jung in a discussion on synchronicity (1960) (U. Schellinger, M. Wittmann & A. Anton).

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 2.000 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. For details see: <https://www.ub.uni-freiburg.de/grenzgebiete-der-psychologie-parapsychologie/>.

Profile of the library

The task of the library is a systematic and comprehensive collection of the whole spectrum of the domestic and international scientific literature dealing with parapsychology, psi research and anomalistics (including so called “grey” literature). This includes (1) spontaneous paranormal experiences like telepathy, clairvoyance, precognition, psycho-

kinesis, 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 or multiple personalities; (3) collecting the whole spectrum of “fringe sciences”, like occultism, spiritism, e. g. “occult techniques” such as pendulum, after life contacts, 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 complementary medicine; (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) conjuring magic 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.; (15) literary descriptions of ‘esoteric’, ‘occult’ and paranormal phenomena.

Holdings

With currently about 67.000 volumes, the Freiburg library is one of the largest of its kind in Europe. Every year it grows by about 600 volumes. It currently subscribes up to 140 journals and newsletters from all over the world. All international journals for parapsychological and anomalistic research are fully available. Its current stock of journals comprises about 2.200 references, more than half of which are unique, i.e. only available in the special library in Freiburg. This makes this library a unique source of information in Germany and Europe for all questions related to parapsychology and frontier areas of psychology. All holdings of the institute’s library are listed in the online catalogue of Freiburg University Library and can be borrowed directly from the UB Freiburg (www.ub.uni-freiburg.de/olix). In the years 2018 and 2019 about 10.000 loans (local and interlibrary loan) were received. In 2005 the IGPP started in cooperation with the University Library of Freiburg to digitize selected parts of the IGPP journal

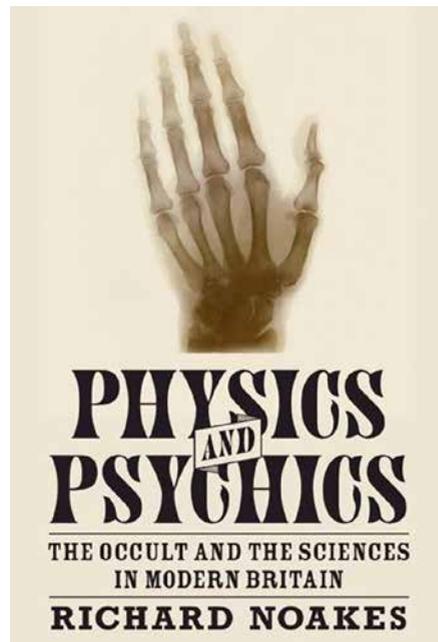


Fig. 19. Richard Noakes: *Physics and Psychics – The Occult and the Sciences in Modern Britain*, Cambridge University Press, 2019.

collection and to make them available on the Internet. Aspects of preservation (desintegration of paper) and their historical source value for the cultural, social, and scientific history of spiritualism, occultism, psychical research and parapsychology play a decisive role in their selection. Until 2015, nine 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); (9) *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* (1957–1968).

Bauer

2.3 Counseling and Information

History

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

Patterns of exceptional experiences (ExE)

Depending on the cultural tradition or ideological background ExE are described as *supernatural, supersensory, magical, paranormal, spiritual, transcendent, transpersonal* etc. Ever since, such experiences belong to the varieties of human experiences that are well-known across cultures. The varieties of ExE which are reported by IGPP clients can be grouped into six major categories: (1) As *extrasensory perception* 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) *internal presence and influence* manifest themselves in somatic symptoms, ego-dystonic feelings and thoughts or the hearing of inner voices, which are attributed to other persons, foreign powers, black magic, cursing etc.; (3) *mediumship and automatisms* include physical modes of behavior and expression that are experienced as alien to the self and beyond the control of the will, which occur spontaneously or self-induced in dealing with practices (e.g. pendulum, automatic wri-

ting, glossolalia, channeling) and are usually interpreted as inner occupation by ghosts or deceased persons; (4) *meaningful coincidences* are described as facts and events which, from the point of view of those affected, are connected or caused in an unusual way (e.g. an accumulation of misfortunes, the special role of a certain number in a person's life etc.); (5) *poltergeist and apparitions* encompass physical anomalies (the disappearance or appearance of objects or their movement without apparent forces), acoustic phenomena (e.g., steps, raps) and visual impressions (lights, shadows, shapes etc.); (6) *nightmare and sleep-paralysis* finally describe the feeling of an invisible presence and external influences on the body in states close to sleep and when waking up ("nightmare"). In particular, sensations of being touched, pressure on the body or sexual manipulation occur, accompanied by an inability to move the body (sleep paralysis).

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

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

Counseling and Care Activities

• *Documentation system*

With the help of the documentation system (DOKU), introduced at the IGPP in 1998 in accordance with current standards for basic documentation, about 4.600 people requesting for counseling concerning ExE were recorded and evaluated. The results reveal over the years quite similar patterns concerning the reported exceptional phenomena, the sociodemography of the advice-seeking people and the distribution of clinically significant variables.

• *Number of counseling cases*

In the years 2018 and 2019 around 130 people from all over Germany used the special counseling service for people reporting ExE and seeking help. A total of 21 % of the inquiries came from the county state of Baden-Württemberg, among them about 7 % from the Freiburg area. Approximately 57 % of all first counseling contacts were established by phone, 41 % by e-mail, and 2 % by letters. With an average of about 8 contacts, the counselling of all 130 clients required a total of about 1.000 contacts. In addition to the regular counseling contacts, there are more than 1.000 requests for information by telephone, letter and e-mail coming from journalists, students, people interested in science and the

general public regarding parapsychological research and anomalous phenomena.

• *Clients*

In the period between 2018 and 2019 almost 51 % of the clients were women, and the average age was 40 years. Almost 42 % of the clients are nondenominational. In accordance with the data from recent years, there is a high level of education: 52 % obtained a high school diploma (Abitur/Matura), 36% are graduates of a technical school or a university. The trend of social withdrawal was found to be without change: About 68 % of the clients are single, divorced or widowed, 48 % are without (marital) partner, and 37 % live on their own. At the moment of first contact, about 30 % were unemployed, unable to work, or retired. Around 90 % of the clients report social conflicts (divorces, financial difficulties, etc.), 74 % complain about psychological problems (stress, proneness to fear, depression, etc.) and 46 % about physical symptoms and diseases. Accordingly, 59 % of the clients feel distressed and burdened by their general living conditions even independent of ExE. Despite missing data in the majority of cases, it is quite certain

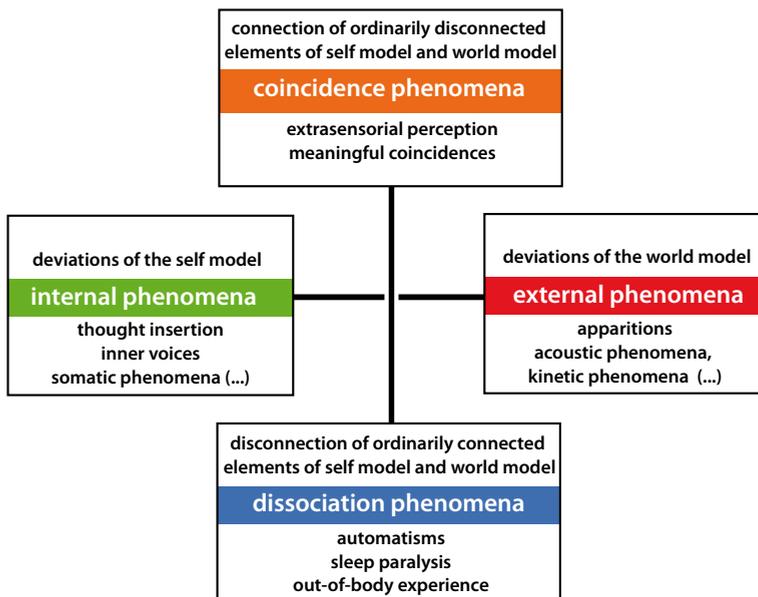


Fig. 20. The four phenomenon basic classes. Based on Metzinger’s postulate that the human model of reality is composed of two basic elements, the self-model and the world-model, four classes of phenomena as deviations in the reality-model are possible: Internal phenomena in the self-domain and external phenomena in the world-domain can be predicted. Concerning the dichotomy of self and world, coincidence phenomena as extraordinary connections of ordinarily disconnected elements, and also dissociation phenomena as extraordinary disconnections of ordinarily connected elements of both domains, can be expected. All phenomena that form the six described typical patterns of ExE, can be attributed to the four basic classes.

that 25 % 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 47 % of the clients reported and described symptoms which were assessed by the IGPP counseling staff as possible indications for the existence of mental disorders. About 60 % of all persons who had contacted the IGPP evaluate their ExE clearly negative and experience them as a burden, while the rest is mostly ambivalent. About 90 % of the reported ExE happened spontaneously. Only in a few cases they were induced by psycho techniques and other methods such as glass tilting or automatic writing. In few instances they were related to contacts with healers, psychics or suppliers from the esoteric market.

• *Frequencies of phenomenon basic classes*

ExE can be traced back to four basic classes of phenomena that are shown in Fig. 20. In the years 2018-2019 (n = 130) *coincidence phenomena* like extrasensory perception (clairvoyance, telepathy, precognition) and meaningful coincidences comprise 30 %. About 25 % are belonging to *external phenomena* like apparitions and poltergeist phenomena, especially kinetic and acoustical anomalies. *Internal phenomena*, associated with thought insertion, hearing voices or somatic phenomena, occurred with 31 %. *Dissociation phenomena* connected with sleep paralysis, nightmares, feeling of an invisible external presence or mediumship and automatisms are reported by 14 % of the clients.

Bauer, Fach, Zöhn, Zwickel

Networking

Fifth International Expert Meeting on Clinical Parapsychology in Nancy, France

The *Fifth International Expert Meeting on Clinical Parapsychology* was held in Nancy from 23 through 25 May 2019, organised by Marianna Drinoncz, Renaud Evrard, Wim Kramer, Maryne Mutis and Thomas Rabeyron. It was a continuation of the previous four expert meetings that took place in 2007 in Naarden (Netherlands), 2010 at the IGPP in Freiburg, 2012 at the IMI in Paris and 2017 at the University of Heidelberg. The topic of this meeting was *Exceptional Experiences and Integrative and Complementary Health Approaches*. The meeting was opened by the public lecture of Wolfgang Fach (IGPP) on *The Importance of Autonomy and Bonding as Basic Needs and Structural Dominants of Exceptional Experiences in Clinical Practice*. The eight lectures and the discussions with about 20 participants dealt with different facets of clinical, therapeutic and conceptual approaches to Exceptional Experiences. The lecture by Eberhard Bauer (IGPP Freiburg) on *The Concept of "Psychohygiene" (Mental Health)* as applied to Parapsychology reminded of the work of the physician and psychoanalyst Heinrich Meng (1887-1972), whose counseling concept of "Psychohygiene", as applied to "occult" and paranormal experiences, had been an inspiration for Hans Bender when he founded the IGPP in 1950.

Bauer, Fach

Research on Exceptional Experiences (ExE)

Autonomy and bonding in ExE

In systems theory, the term *autonomy* describes the ability of systems to self-organize and self-regulate. With *bonding* the environmental references of self-organizing systems can be described in terms of the exchange of energy, information and matter. Autonomy and bonding are complementary structural determinants of all living systems. Every living being must maintain its autonomy and regulate its bonding to the environment. Autonomy and bonding manifest themselves in humans as basic needs for self-determination and social relationships. The phenomenal experience of “I” and the perceived world can be understood as mental representations of its organismic autonomy and bonding.

The above mentioned typical patterns of ExE have specific phenomenological constellations of autonomy and bonding. Fig. 21 shows the frequency of the ExE-patterns based on 2.356 counseling cases documented at IGPP between 1998 and 2014. Starting from the level of perception, two continua emerge, which reconnect at the level of behavioral control: Initially purely perceptual phenomena become intrusive internal bonding or external autonomy in the respective following patterns and, in extreme cases, occupy the inner self-experience or the perceived outer world. Internally, the phenomena begin with extrasensory perception and lead via internal presence and influence to mediumship and automatism, whereby the persons concerned lose their autonomy to forces experienced as alien to themselves and involuntary automatism. In the case of external phenomena,

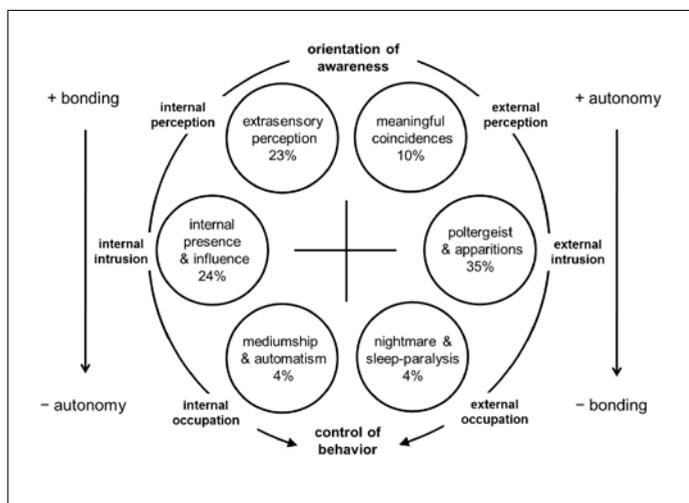


Fig. 21. ExE-patterns (n = 2.356) and phenomenological manifestations of autonomy and bonding. Frequency of the patterns in percent. Internal phenomena increasingly lead to a loss of mental autonomy and psychophysical behavior control (automatism). External phenomena increasingly lead to a loss of physical bonding and psychophysical behaviour control (paralysis).

the development proceeds from meaningful coincidences to poltergeist phenomena and apparitions to nightmare and sleep paralysis, which in extreme cases are accompanied by a loss of the psychophysical connection between self and body.

Statistical analyses show that people seeking advice differ significantly in terms of their social bonding or autonomy, depending on which ExE-pattern they are affected by. In addition to family status and housing situation, this applies in particular to the fact whether the persons concerned are in a stable partnership at the time of counselling. The ratio of partners and singles is approximately balanced in the patterns of coincidence phenomena. In the internal continuum, the proportion of people in partnership decreases from 55 % (extrasensory perception) to 41 % (internal presence and influence) and then increases to 61 % (mediumship and automatisms). In the external continuum, the proportion of people in partnership rises from 56 % (meaningful coincidences) to 61 % (poltergeist and apparitions) and then falls to 35 % (nightmare and sleep-paralysis). So the two continua run in opposite directions. Counseling practice shows that the ExE patterns are often linked to specific blockages in the adequate satisfaction of basic needs for social bonding or personal autonomy.

Fach

Revision and translation of the Questionnaire on the Phenomenology of ExE

The *Questionnaire on the Phenomenology of Exceptional Experiences* (PExE) developed at the IGPP has been used in a revised form (PExE-R) in counseling practice since 2011. It records ExE on the basis of the four basic phenomenon classes (Fig. 20). As a result of a validation study, the new PExE-R-II now comprises 20 randomized items that record ExE using the four scales of *internality*, *externality*, *coincidence* and *dissociation*. The reliability of the scales corresponds to the standards of psychometry and psychological tests. The English version of PExE-R, created years ago in cooperation with Christine Simonds-Moore (University of West Georgia), has been revised. In collaboration with Renaud Evrard (University of Lorraine), the PExE-R-II was translated into French and together with Patrizio Tressoldi (University of Padua) into Italian.

Fach, together with Evrard and Tressoldi

Correlations of personality traits and ExE

In a study, correlations between personality traits and ExE in students (N = 267) were investigated using PExE-R-II and the NEO-FFI, which records the so-called big five with 12 items each: *neuroticism*, *extraversion*, *openness to experience*, *agreeableness* and *conscientiousness*. The 60 items of the NEO-FFI were supplemented by 7 items of the subscale *fantasy* of the openness scale of the NEO-PI-R (long form of the NEO-FFI). There were significant correlations of all four phenomenon basic classes with neuroticism ($r = .19$ to $r = .34$; $p < .01$), whereby the correlation with internality is the highest. The finding is consistent with known positive correlations between schizotypy and ExE and schizotypy and neuroticism. A correlation between ExE and openness could only be found with

internality ($r = .18$; $p > .01$), while significant positive correlations ($p < .05$) with internality ($r = .13$) and coincidence ($r = .15$) were found for the openness subscale fantasy. With regard to extraversion, agreeableness and conscientiousness no significant correlation with ExE were found. Further studies are needed to make more precise statements about the correlations with the broad neuroticism construct. It can be assumed that less stable, emotionally responsive and sensitive people have a stronger ExE disposition than emotionally robust, balanced and resilient people.

*Krischke, together with Fach and Nußbeck
Publication: Krischke (2018)*

Autonomy and bonding related correlates of ExE and meaning in life

Clients seeking advice at the IGPP and the WGFP counselling service ($n = 177$) were interviewed in an online study using the PExE-R-II and the *Sources of Meaning and Meaning in Life Questionnaire* (SoMe). Empirical research on meaning describes specific areas of life to which people attach particular importance (*sources of meaning*). Out of 26 sources of meaning recorded by SoMe, 14 allow conclusions to be drawn about autonomy or bonding-related orientations. In accordance with theoretical considerations and previous empirical findings, those clients who frequently report on external phenomena should show a bonding-related tendency in the assessment of sources of meaning, and those who frequently report on internal phenomena should show an autonomy-related tendency. The results support these assumptions (Fig. 22). External phenomena correlate positively ($\rho = .26$; $p < .001$) with the importance of *love* (bonding), internal phenome-

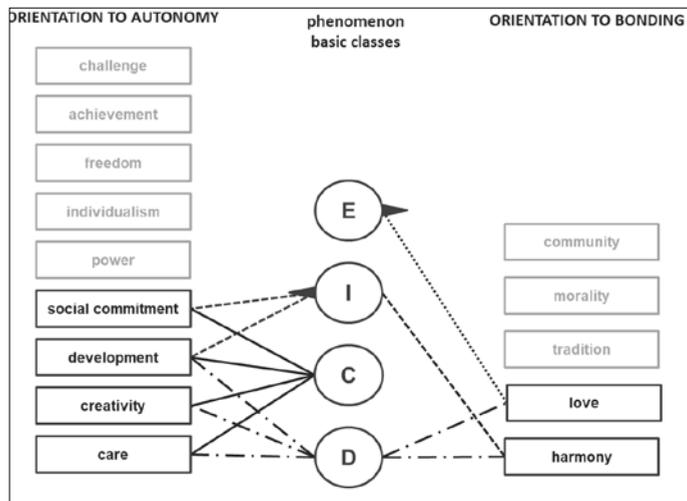


Fig. 22. Relationship of phenomenon basic classes external (E), internal (I), coincidence (C) and dissociation (D) to autonomy and bonding related sources of meaning in a sample of clients seeking advice ($n = 177$). The arrowheads at E, I indicate the direction of the postulated connection.

na correlate positively with the importance of *social commitment* ($\rho = .26$; $p < .001$) and *development* ($\rho = .34$; $p < .001$) (autonomy), and also with the importance of *harmony* ($\rho = .24$; $p = .001$) (bonding). Furthermore, increased coincidence phenomena are related to autonomy in the evaluation of sources of meaning, while more frequent dissociation phenomena show both autonomy and bonding related tendencies.

Overall, autonomy or bonding related tendencies were only be found in the stronger evaluation of a few sources of meaning among those seeking advice with ExE, whereby a systematic approach is discernible: Strongly ego-focused sources of meaning such as the search for challenge, emphasis on *individualism*, striving for *power*, *achievement* and personal *freedom* are not in the foreground for those seeking advice with an emphasis on autonomy. Rather they prefer sources of meaning which, in addition to autonomy, ensure a certain degree of bonding such as *social commitment* and *care*. Conversely, in the bonding related tendency of clients with external phenomena the focus on *love* alone, which is operationalized in SoMe as love in partnership, is evident. It is characterised by close, intimate bonding with pronounced closeness, while bonding in the sense of *community* (closeness to fellow human beings or friendship) or to cultural aspects (orientation towards *tradition* and *morality*) do not play a special role for those clients seeking advice. This corresponds to previous findings, where external phenomena are characterised above all by strong ties within the family system. According to available results, the emphasis on *creativity* and personal *development* can also be found in the counselling work at the IGPP, especially among those seeking advice with coincidence phenomena.

Zwikel, together with Fach and Schnell
Publikation: Zwikel (2019)

2.4 Bender Institute of Neuroimaging (BION)

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

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

Varieties of contemplative experience

This project is being conducted in close cooperation with Willoughby Britton and Jared Lindahl 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 102 semi-structured interviews that were transcribed and are being coded and further analyzed. Based on the analysis of the interview data, a questionnaire was developed that is to be applied in two subsequent surveys, with 500 meditators in a cross-sectional survey and 150 meditators in a longitudinal survey. 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 and Lindahl

Meditation and neurofeedback

This project investigates how biofeedback of electrical brain activity (neurofeedback) could facilitate meditative techniques of self-regulation. To this end, simultaneously recorded EEG and functional MRI data were analyzed in a first step to find correlations between the so-called default-mode network (DMN) in the brain and components of the EEG. The DMN is active during daydreaming and mind wandering and is inhibited by meditation. For the neurofeedback study a frontal mid-line theta EEG component was selected, the activity of which was correlated negatively with the activity of the DMN. During a training over two weeks with daily session of 30 minutes some participants were able to increase their theta EEG activity, indicating a successful inhibition of the DMN. However, not all participants succeeded in this regulation task, to some extent the quality of meditation suffered, and during a control session after the training without neurofeedback the effect could not be replicated.

Ott

Publications: Prestel et al. (2018, 2019)

Relaxation methods before psychotherapy sessions

Two relaxation methods were applied once before psychotherapy sessions in order to examine effects on symptoms and condition as well as their usability. Immediately before a psychotherapy session the patients were assigned to one of the following conditions: (1) progressive relaxation, (2) deep relaxation on an massage armchair, (3) reading control condition. Patients suffering from depression, anxiety or adjustment disorders were included in the study. The system for deep relaxation included besides the massage of the back the application of light flashes (via white light emitting diodes), which could influence brain rhythms (frequency following response, “optical driving”). Patients (N=68) of an outpatient clinic were randomly assigned to the three intervention groups. Deep relaxation system and progressive relaxation reduced depression and anxiety symptoms

significantly compared to the control group. The individual disposition for hypnotic and meditative states called absorption trait showed no significant influence on the effects. Usability of the system for deep relaxation received the highest ratings.

Ott

Effects of different yoga breathing techniques for self-regulation

In the course of the doctoral project of Janika Epe, healthy participants learnt four different yoga breathing techniques during an eight-week training (two weeks for each breathing technique). Training was supported with video instructions. After having learned each technique the participants filled in a questionnaire on wellbeing and perceived stress, conducted a attention computer test, and physiological measurements were taken (64-channel EEG, respiration, skin conductance, ECG) during a baseline condition and while practicing the breathing technique. The scientific foundation of the training program and its practical implementation were published in a book. The physiological data are be analyzed currently.

Ott and Epe

Publication: Ott and Epe (2018)

3. Personnel

3.1 Corporate Members

Dipl. Psych. Eberhard Bauer

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

Prof. Dr. Dr. Jürgen Bengel

Institute for Psychology, University of Freiburg i. Br.

Prof. Dr. Tobias Esch

Institute for Integrative Health Care, University of Witten-Herdecke

Prof. em. Dr. Alfons Hamm

Physiological, Clinical Psychology and Psychotherapy, University of Greifswald

Dr. Antje Kellersohn

University Library Freiburg i. Br.

Dipl.-Vw. Klaus Köbele, March-Hugstetten

Rainer Schaettgen, Freiburg i. Br.

Dr. med. Gerhard Schallenberg, Bronschhofen, Switzerland

Prof. Dr. Anne Schienle

Clinical Psychology, University of Graz, Austria

Prof. Dr. phil. Stefan Schmidt, Dipl.-Psych.

Endowed Professorship for Systemic Family Therapy, Medical Center, University of Freiburg i. Br.

Prof. em. Dr. Dr. Heinz Schott

Institute for the History of Medicine, University of Bonn

Prof. Dr. Rudolf Stark

Bender Institute of Neuroimaging, University of Gießen

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

Dr. Ulrich Timm, Freiburg i. Br.

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

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Honorary Member

Prof. em. Dr. Wolfgang Kehr,

University of Freiburg i. Br.

Dr. Christoph-Marc Pressler

Holler-Stiftung, Munich

3.2 Council

Dipl. Psych. Eberhard Bauer
Institute for Frontier Areas of Psychology and Mental Health, Freiburg i. Br.

Prof. em. Dr. Dr. Heinz Schott
Institute for the History of Medicine, University of Bonn

Prof. em. Dr. Dieter Vaitl
Institute for Frontier Areas of Psychology and Mental Health, Freiburg i. Br.,
Bender Institute of Neuroimaging, University of Gießen

3.3 Management

Prof. em. Dr. Dieter Vaitl, director

3.4 Administration

Beate Baumgartner, secretary

3.5 Service

Micaela Brunner, Dipl. Bibl., library (until Januar 2018)

Kirsten Krebber, M.A, editor

Karin Moos, M.A., secretary, assistant

Oliver Osburg, system management

Uwe Schellinger, M.A., archive

Dr. Frauke Schmitz-Gropengießer, secretary, assistant

3.6 Research

Natural sciences and experimental research

Dr. Federico Alvarez Igarzábal, Postdoc (since March 2019)

Dr. Wolfgang Ambach, research staff (Coordinator: Clinical and Physiological Psychology)

Natascha Anka, Master student (until August 2018)

PD Dr. Harald Atmanspacher, research staff

Kriti Bhatia, Master student (since October 2018)

Jana Bilenka, stud. assistant (August 2019 until September 2019)

Julika Feldmann, stud. assistant (October 2018 until April 2019)

Lukas Hecker, Master student (since November 2017)

Ellen Joos, PhD student (since May 2017)

Dr. Shiva Khoshnoud, Postdoc (since April 2019)
PD Dr. Jürgen Kornmeier, research staff (Coordinator: Perception and Cognition)
Sebastian Kübel, stud. assistant (until August 2019), research staff (since September 2019)
Emanuela Liaci, PhD student (until January 2018)
Eva Sophie Rummler, Bachelor student (April until September 2018)
Felix Scheck, stud. assistant (since August 2019)
Dr. Katja Volz, PhD student (until August 2019), research staff (since September 2019)
Joanna Witowska, M.A., research visit (April 2018 until August 2018)
PD Dr. Marc Wittmann, research staff (Coordinator: Time Perception and Time Consciousness)
Trainees: Eva Beiner, Leonard Brauch, Jessica Knötzele, Nicole Rüttgers, Julia Schipp, Vedartham Srinivasan Vandana Shree

Social and cultural research

Dr. Andreas Anton, research staff
Luana Arena, stud. assistant (until November 2018)
Dipl.-Psych. Eberhard Bauer, research staff (Coordinator: Cultural and Historical Studies, Archives and Library)
Fabian Bornemann, stud. assistant (until April 2018)
Andreas Fischer, research staff
Nadine Heintz, stud. assistant (since October 2018)
Dr. Liane Hofmann, research staff
Dr. Gerhard Mayer, research staff
Dr. Michael Nahm, research staff (since May 2018)
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

Psychological counseling research

Dipl.-Psych. Eberhard Bauer, research staff
Dipl.-Psych. Wolfgang Fach, research staff (Coordinator)
Helene Lock, stud. assistant (since January 2019)
M.Sc. Ricarda Zöhn, research staff
M.Sc. Annette Zwickel, research staff (since June 2019)

Bender Institute of Neuroimaging (BION)

Dr. Carlo Blecker, research staff

Janika Epe, PhD student (since October 2016)
Helge Gebhardt, research staff
Freya von Hohnhorst, PhD student (since July 2014)
Dr. Ulrich Ott, research staff
Dr. Axel Schäfer, research staff
Prof. Dr. Rudolf Stark, Director
Michael Tremmel, PhD student (since November 2012)
Dr. Bertram Walter, research staff

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. 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. em. Dr. Franz Caspar
Institute for Clinical Psychology and Psychotherapy, University of Bern, Switzerland

4. Appendix

4.1 Publications

Refereed Publications

- Ambach W., Assmann B., Wielandt B. & Vaitl D. (2019): Evaluative observation in a concealed information test. *Frontiers in Psychiatry* 10.
- Atmanspacher H. (2018): Dual-aspect monism according to the Pauli-Jung conjecture. *Revista Simbio-Logias* 10(14), 60–78.
- Atmanspacher H. (2019): The Pauli-Jung conjecture and (some of) its implications. *Revue de Psychologie Analytique* 8, 25–40. La conjecture de Pauli-Jung et certaines de ses implications, 41–57.
- Atmanspacher H. & Fach W. (2019): Exceptional experiences of stable and unstable mental states, understood from a dual-aspect point of view. *Philosophies* 4(1), 7.
- Jokic T., Zakay D. & Wittmann M. (2018): Individual differences in self-rated impulsivity modulate the estimation of time in a real waiting situation. *Timing & Time Perception* 6, 71–89.
- Irrmischer M., Houtman S. J., Mansvelter H.D., Tremmel M., Ott U. & Linkenkaer-Hansen K. (2018): Controlling the temporal structure of brain oscillations by focused attention meditation. *Human Brain Mapping* 39, 1825–1838.
- Kersemackers W., Rupperecht S., Wittmann M., Tamdjidi C., Falke P., Donders R., Speckens A. & Kohls N. (2018): A workplace mindfulness intervention may be associated with improved psychological well-being and productivity. A preliminary field study in a company setting. *Frontiers in Psychology* 9(195).
- Kohls N., Esch T., Gerber L., Adrian L. & Wittmann M. (2019): Mindfulness meditation and fantasy relaxation in a group setting leads to a diminished sense of self and an increased present orientation. *Behavioral Sciences* 9(8), 87.
- Kornmeier J., Friedel E., Hecker L., Schmidt S. & Wittmann M. (2019): What happens in the brain of meditators when perception changes but not the stimulus? *PLoS ONE* 14(10), e0223843.
- Liaci E., Fischer A., Atmanspacher H., Heinrichs M., Tebartz van Elst L. & Kornmeier J. (2018): Positive and negative hysteresis effects for the perception of geometric and emotional ambiguities. *PLoS ONE* 13(9), e0202398.
- Linares Gutiérrez D., Kübel S., Giersch A., Schmidt S., Meissner K. & Wittmann M. (2019): Meditation-induced states, vagal tone, and breathing activity are related to changes in auditory temporal integration. *Behavioral Sciences* 9(5), 51.
- Linares Gutiérrez D., Pfeifer E., Schmidt S. & Wittmann M. (2019): Meditation experience and mindfulness are associated with reduced self-reported mind-wandering in meditators – a German version of the daydreaming frequency scale. *Psych* 1, 193–206.
- Mashour G., Frank L., Batthyany A., Kolanowski A.M., Nahm M., Schulman-Green D., Greyson B., Pakhomov S., Karlawish J. & Shah R. J. (2019): Paradoxical lucidity: A potential paradigm shift for the neurobiology and treatment of advanced dementias. *Alzheimer's & Dementia* 15(8), 1107–1114.
- Mayer G. (2018): Die Gesichter von Bélmez: Eine historische Rekonstruktion zu den Untersuchungen eines vermeintlich starken RSPK-Falles. *Zeitschrift für Anomalistik* 18 (1+2), 104–132.
- Mayer G. & Ramiro de Pano P. (2018): Gesichter ohne Ende ... Materialanalysen zu den „Gesichtern von Bélmez“ sowie einige Anmerkungen zu weiteren Entwicklungen. *Zeitschrift für Anomalistik* 18 (3), 304–319.
- Müller M., Müller L. & Wittmann M. (2019): Predicting the stock market. An Associative Remote Viewing study. *Zeitschrift für Anomalistik* 19(3), 326–346.

- Nahm M. (2018a): Plötzliches und ungewöhnlich rasches Weißwerden von Haaren: Eine Übersicht über 212 Fallberichte aus der medizinischen Literatur der letzten 200 Jahre. *Zeitschrift für Anomalistik* 18(3), 248–276.
- Nahm M. (2018b): Investigating „physical mediums“ via audio signal processing: A comment on a recent approach. *Journal of Scientific Exploration* 32(3), 579–595.
- Nahm M. (2019b): Assessing the problem space of precognition: Can it be the only form of psi? A commentary on the Multiphasic Model of Informational Psi. *Zeitschrift für Anomalistik* 19(1+2), 57–67.
- Nahm M. (2019d): Out of thin air? Apport studies performed between 1928 and 1938 by Elemér Chengery Pap. *Journal for Scientific Exploration* 33(4), 661–705.
- Nahm M. (2019e): „Ich sehe was, was du nicht siehst“ oder: Wie erlangt man (keine) Erkenntnisse der höheren Welten? Ein Exkurs über Rudolf Steiners „Geisteswissenschaft“. *Zeitschrift für Anomalistik* 19(1+2), 189–212.
- Nahm M. & Evrard R. (2019): Findings along the way in psychical research: A non-existent hydrocephalus patient. *Journal of the Society for Psychological Research* 83(1), 31–35.
- Nahm M. & Weibel A. (2019): Die Bedeutung der Selbstschau (Autoskopie) als Zeitmarker für das Auftreten von Nahtod-Erfahrungen. *Zeitschrift für Anomalistik* 19(1+2), 151–171.
- Paasche C., Weibel S., Wittmann M. & Lalanne L. (2019): Time perception and impulsivity: A proposed relationship in addictive disorders. *Neuroscience & Biobehavioral Reviews* 116, 182–201.
- Pfeifer E., Fiedler H. & Wittmann M. (2019): Enhanced relaxation in students after combined depth relaxation music therapy and silence in a natural setting. *The Arts in Psychotherapy* 63, 68–76.
- Pfeifer E., Geyer N., Storch F. & Wittmann M. (2019): „Just Think“ Students feel significantly more relaxed, less aroused, and in a better mood after a period of silence alone in a room. *Psych* 1, 343–352.
- Prestel M., Steinfath T. P., Tremmel M., Stark R. & Ott U. (2018): Frequency specific BOLD correlates of EEG independent components: Spatial correspondence with the default mode network. *Frontiers in Human Neuroscience* 12, 478.
- Prestel M., Riedel R., Stark R. & Ott U. (2019): Enhancing mindfulness by combining neurofeedback with meditation. *Journal of Consciousness Studies* 27, 268–293.
- Röhrich J., Jo H.-G., Wittmann M. & Schmidt S. (2018): Exploring the maximum duration of the contingent negative variation. *International Journal of Psychophysiology* 158, 52–61.
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- Schellinger U. (2018): Hellsehen für den Staat: Gerard Croiset und die Suche nach Hanns Martin Schleyer (1977). *Zeitschrift für Anomalistik* 18 (1+2), 76–103.
- Schellinger U., Wittmann M. & Anton A. (2019): „Das ist alles so eigentümlich verschachtelt“ Hans Bender und Carl Gustav Jung im Gespräch über Synchronizität (1960). *Zeitschrift für Anomalistik* 19, 420–467.
- Schmidt S., Jo H.-G., Wittmann M., Ambach W. & Kübel S. (2019): Remote meditation support – a multimodal distant intention experiment. *Explore* 15, 334–339.
- Sosic-Vasic Z., Hille K., Kröner J., Spitzer M. & Kornmeier J. (2018): When learning disturbs memory – temporal profile of retroactive interference of learning on memory formation. *Frontiers in Psychology* 9, 82.
- Sparby T. & Ott U. (2018): A qualitative study of motivations for meditation in anthroposophic practitioners. *PLoS ONE* 13, e0203184.
- Volz K., Stark R., Vaitl D. & Ambach W. (2019): Event-related potentials differ between true and false memories in the misinformation paradigm. *International Journal of Psychophysiology* 135, 95–105.
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Schetsche M. & Schmied-Knittel I., eds. (2018): *Heterodoxie. Konzepte, Traditionen, Figuren der Abweichung*. Herbert von Halem, Köln.

Wittmann M. (2018): *Altered states of consciousness. Experiences out of time and self*. MIT Press, Cambridge, MA.

Journals

Mind and Matter, Atmanspacher H., ed. (2018): Margins of the Mental, (16/1); Atmanspacher H., ed. (2018): Metaphysics Matters, (16/2); Atmanspacher H., ed. (2019): Repercussions of First-Person Experience, (17/1); Atmanspacher H., ed. (2019): From a Physics Point of View, (17/2).

PsyCh Journal, Wittmann M., Giersch A., Berkovich-Ohana A., eds. (2019): Altered States of Consciousness, Band 8 (1).

Bewusstseinswissenschaften. Transpersonale Psychologie und Psychotherapie, Hinterberger T. & Hofmann L., eds. (2018): 1/2018.

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Zeitschrift für Anomalistik, Mayer G., ed. (2018): Band 18 (1+2); Band 18 (3).

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Other Publications

Ivarez Igarzábal F. (2019): En el laberinto del tiempo. El videojuego y la evolución de la narrativa (Im Zeitlabyrinth. Videospiele und die Entwicklung der Erzählung). In *Cuadernos del Centro de Estudios de Diseño y Comunicación de la Universidad de Palermo* 98, 37-51.

Alvarez Igarzábal F. (2019): How to open a time portal. *Maize Magazine*, Herbst 2019, 140–144.

Anton A. (2019): UFO Research. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, Lit-Verlag, Hamburg, 133–150.

Anton A. & Schetsche M. (2019a): Exosozioologie. Szenarien für den Erstkontakt mit außerirdischer Intelligenz. *Aus Politik und Zeitgeschichte* 69 (29–30), 40–46.

Anton A. & Schetsche M. (2019b): Exosozioologie. Außerirdische Intelligenzen und die Folgen eines Erstkontaktes. *jufof – Journal für UFO-Forschung* 40 (246), 166–171.

Anton A. & Schink A. (2019): Rezension zu Michael Butter (2018). „Nichts ist, wie es scheint.“ Über Verschwörungstheorien. *Zeitschrift für Anomalistik* 19, 471–486.

Anton A., Schmied-Knittel I. & Schetsche M. (2018): Der Szientismus und sein Aberglaube. Zum Verhältnis von Orthodoxie und Heterodoxie in der Wissensordnung der DDR. In *Heterodoxie. Konzepte, Traditionen, Figuren der Abweichung*, ed. by M. Schetsche & I. Schmied-Knittel, Herbert von Halem,

Köln, 180–199.

Bauer E. (2018): Rezension zu Romeo Grünfelder (ed.) (2016), Ted Serios – Serien. *Zeitschrift für Anomalistik*, 18 (3), 360–366.

Bauer E. (2019a): Parapsychologie [Stichwort]. In *Dorsch – Lexikon der Psychologie*, 19. Aufl., ed. by M. A. Wirtz, Hogrefe, Göttingen, 1224–1225.

Bauer E. (2019b): Heino Gehrts, Fanny Moser und der „Fall Kornitzky“. In *Schriften zur Märchen-, Mythen- und Sagenforschung, Gesammelte Aufsätze 7*, ed. by H. Fritz, Igel Verlag, Hamburg, 6–28.

Bauer E. (2019c): Rezension zu Gerd H. Hövelmann & Hans Michels, (eds.) (2017) Legitimacy of Unbelief. The Collected Papers of Piet Hein Hoebens. *Zeitschrift für Anomalistik*, 19 (3), 523–532.

Fischer A. (2019): Shannon Taggart's photographic journey into the realm of spiritualism. In Shannon Taggart: *Séance*. Fulgur Press, Lopen, 29–39.

Lugrin J.L., Unruh F., Landeck M., Latoschik M.E., Vogeley K. & Wittmann M. (2019): Experiencing waiting time in virtual reality. *25th ACM Symposium on Virtual Reality Software and Technology*, 69.

Mayer G. (2018): Blick vorwärts und über den Tellerrand hinaus. Konferenzbericht zur 61st Annual Convention of the Parapsychological Association. *Zeitschrift für Anomalistik* 18 (3), 329–340.

Mayer G. (2018): Warum kann man sich beim Aufwachen manchmal nicht bewegen? *Gehirn & Geist* 08/2018, 64–65.

Mayer G. (2018): Editorial: Zeitgeist. *Zeitschrift für Anomalistik* 18 (1+2), 6–8.

Mayer G. (2018): Der „Problem-Wolf“ – und ein Fall von Koinzidenz. Kommentar zu Meret Fehlmann: „Metamorphosen der Bête du Gévaudan – oder vom Reiz des Ungewöhnlichen und Unbekannten“. *Zeitschrift für Anomalistik* 18 (1+2), 33–66.

Mayer G. (2018): Buchrezension zu Jack Hunter, (ed.) (2016). Damned Facts. Fortean essays on religion, folklore and the paranormal. *Zeitschrift für Anomalistik* 18 (3), 347–349.

Mayer G. (2018): Buchrezension zu Roger D. Nelson & Georg Kindel (2018). Der Welt-Geist. Wie wir alle miteinander verbunden sind. *Zeitschrift für Anomalistik* 18 (3), 354–356.

Mayer G. (2018): A walk through the manifold world of coincidences. A review of The many faces of coincidence, by Laurence Browne (2017). *Journal of Parapsychology* 82 (2), 204–207.

Mayer G. (2018): Book review of Dennis Waskul with Michele Waskul (2016). Ghostly encounters: The hauntings of everyday life. <https://www.spr.ac.uk/book-review/book-review-ghostly-encounters-hauntings-everyday-life-dennis-waskul-michele-waskul>.

Mayer G. (2018): Book review of Henry Bauer (2017). Science is not what you think: How it has changed, why we can't trust it, how it can be fixed. *Journal of Scientific Exploration* 32 (2), 454–457.

Mayer G. (2018): Rezension zu Laurence Browne (2017). The many faces of coincidence. *Zeitschrift für Anomalistik* 18 (1+2), 161–165.

Mayer G. (2018): Rezension zu Dennis Waskul with Michele Waskul (2016). Ghostly encounters: The hauntings of everyday life. *Zeitschrift für Anomalistik* 18 (1+2), 170–174.

Mayer G. (2018): Book review of Roger D. Nelson & Georg Kindel (2018). Der Welt-Geist: Wie wir alle miteinander verbunden sind. <https://www.spr.ac.uk/book-review/der-weltgeist-wie-wir-alle-miteinander-verbunden-sind-roger-d-nelson-and-georg-kindel>.

Mayer G. (2018): Book review of Anna Lux & Sylvia Paletschek, eds. (2016). Okkultismus im Gehäuse. Institutionalisierungen der Parapsychologie im 20. Jahrhundert im internationalen Vergleich. *Journal of the Society for Psychological Research* 82.3, 177–181.

Mayer G. (2019): Editorial: Zum Kern der Sache – Carl Gustav Jung, Synchronizität und das Ringen mit empirischen Daten. *Zeitschrift für Anomalistik* 19 (3), 284–299.

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- Mayer G. (2019): Editorial: Förderung von Austausch und Diskussion / Promoting exchange and discussion. *Zeitschrift für Anomalistik* 19 (1+2), 6–11.
- Mayer G. (2019): Buchrezension zu Samantha Hurn, (ed.) (2017). Anthropology and Cryptozoology. Exploring encounters with mysterious creatures. *Zeitschrift für Anomalistik* 19 (3), 513–519.
- Mayer G. (2019): Buchrezension zu Jack Hunter, (ed.) (2016). Damned Facts: Fortean Essays on Religion, Folklore and the Paranormal. *Journal of Parapsychology* 83 (2), 277–278.
- Mayer G. (2019). Buchrezension zu Imants Baruss & Julia Mossbridge (2017): Transcendent mind: Rethinking the science of consciousness. *Zeitschrift für Anomalistik* 19 (1+2), 223–230.
- Mayer G. (2019): The Bélmez faces: An investigation of a supposedly strong case. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 233–259.
- Mayer G. (2019): Case report of the investigation of a strange photographic anomaly. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 279–296.
- Mayer G. (2019): The „Castle Hotel“ case - becoming a haunting myth and a „lost place“: An investigation report. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 313–350.
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- Mayer G. & Schetsche M. (2019): Cryptozoology & crop circle research: Two further fields of investigation at a glance. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 125–131.
- Mayer G. & Schetsche M. (2019): Introduction: Research logic, models, and particularities. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 11–41.
- Mayer G. & Schetsche M. (2019): Introduction: Single case studies in anomalistics. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 81–85.
- Mayer G. & Schetsche M. (2019): RSPK investigations. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, LIT, Zürich, 87–123.
- Nahm M. (2018c): Rezension zu Adrian Owen: Zwischenwelten. *Zeitschrift für Anomalistik* 18(1), 165–169.
- Nahm M. (2018d): Rezension zu Diethard Sawicki: Leben mit den Toten. Online-Artikel für die Webseite der Society for Psychical Research. <https://www.spr.ac.uk/book-review/leben-mit-den-toten-geisterglauben-und-die-entstehung-des-spiritismus-deutschland>.
- Nahm M. (2019a): Implications of reincarnation cases for biology. In *Signs of Reincarnation* von J. G. Matlock, Lanham, MD, Rowman & Littlefield, 273–287.
- Nahm M. (2019c): Historical perspective: Justinus Kerner's case study into the „prison spook“ in Weinsberg and spooky actions at a distance in 1835-1836. In *N equals 1: Single case studies in anomalistics*, ed. by G. Mayer, Zürich, LIT Verlag, 153–200.
- Nahm M. (2019f): Rezension zu Heiner Schwenke, ed. Jenseits des Vertrauten: Facetten transzendenter Erfahrungen. *Zeitschrift für Anomalistik* 19(1+2), 218–223.
- Nahm M. (2019g): Rezension zu Melvyn Willin: The Enfield poltergeist tapes. *Journal for Scientific Exploration* 33, 713–715.
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- Schetsche M. & Schmidt R.-B. (2018): Ekstase in der modernen Gesellschaft. In *Ekstase in Kunst, Musik und Tanz*, ed. by U. Groos u. a., Prester, München, 30–32.

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- Schetsche M. & Schmied-Knittel I. (2018): Wissenssoziologische Drogenforschung. In *Handbuch Drogen in kulturwissenschaftlicher und soziologischer Perspektive*, ed. by R. Feustel, H. Schmidt-Semisch & U. Bröckling, Springer VS, Wiesbaden, 279–292.
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- Tremmel M. (2019): Michael Tremmel [Interview]. *Mindfield* 11 (3), 144–145.
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- Wittmann M. & Meissner K. (2018): The embodiment of time: How interoception shapes the perception of time. In *The Interoceptive Mind-From Homeostasis to Awareness*, ed. by M. Tsakiris & H. de Preester, Oxford University Press, Oxford, 63–79.

4.2 Doctoral, Master and Bachelor Theses

Doctoral Theses

- Anton A. (2018): Das Paranormale im Sozialismus. Zum Umgang mit heterodoxen Wissensbeständen, Erfahrungen und Praktiken in der DDR. Doctoral thesis, Albert-Ludwigs-Universität Freiburg.
- Liaci E. (2018): Hysteresis effect in ambiguous perception. Doctoral thesis, Albert-Ludwigs-Universität Freiburg.
- Volz K. (2019): Physiological correlates of memory in the misinformation paradigm. Doctoral thesis, Justus-Liebig-Universität Gießen.

Master Theses

- Anka N. (2018): Einfluss des Eigenständigen Vernehmungsprotokolls für Augenzeugen (EVA) auf den Falschinformationseffekt – eine psychophysiologische Studie. Master thesis, Albert-Ludwigs-Universität Freiburg.
- Bornemann F. (2018): Verletzen, Terrorisieren, Töten. Fremdheit und Gewalt spätmoderner Horrorfiguren als unheimliche und erschreckende Wirkung. Master thesis, Albert-Ludwigs-Universität Freiburg.
- Fröhlich S. (2018): Zur Anthropologie des Unheimlichen in modernen Horrorfilmen. Master thesis, Albert-Ludwigs-Universität Freiburg.
- Krischke R. (2018): Zusammenhänge zwischen Persönlichkeitseigenschaften und Außergewöhnlichen Erfahrungen. Master thesis, Universität Bielefeld.
- Meyer R. (2018): Entspannungsverfahren vor psychotherapeutischen Sitzungen. Bewusstseinsveränderungen sowie Einfluss der Absorptionsfähigkeit und der Benutzerfreundlichkeit. Master thesis, Justus-Liebig-Universität Gießen.
- Müller D. (2018): Der begrenzte Mensch. Mensch und künstliche Intelligenz in Science-Fiction-Filmen und -Serien. Master thesis, Albert-Ludwigs-Universität Freiburg.
- Müller M. (2019): Remote Viewing: Erfassung, Auswertung und Evaluation qualitativer Psi-Daten im Kontext der Zeit. Master thesis, Helmut Schmidt Universität / Universität der Bundeswehr Hamburg.
- Müller-Heckelmann J. (2019): Absorptionserfahrungen und ihr Einfluss auf das Wohlbefinden von Menschen mit hoher Absorptionsneigung: Eine explorative Interviewstudie. Master thesis, FernUniversität Hagen.
- Riedl R.D.A. (2018): Frontale Theta-Aktivität mit Neurofeedback steigern: Meditation als unterstützende Strategie. Master thesis, Justus-Liebig-Universität Gießen.
- Schaudel S. (2018): Berichterstattung über Verschwörungstheorien in den Massenmedien. Die wissenssoziologische Rekonstruktion des Deutungsmusters ‚Verschwörungstheorie‘. Master thesis, Albert-Ludwigs-Universität Freiburg.
- Süssner L. (2019): Absorptionserfahrungen und ihre langfristigen Auswirkungen bei Menschen mit hoher Absorptionsneigung: Eine qualitative Interviewstudie. Master thesis, Justus-Liebig-Universität Gießen.
- Worms M.-C. (2019): Wirksamkeit eines Tiefenentspannungssystems mit audio-visueller Stimulation oder progressiver Muskelrelaxation auf die Symptomatik von Angst- und Depressionspatienten. Master thesis, Justus-Liebig-Universität Gießen.
- Zwicker A. (2019): Außergewöhnliche Erfahrung und Sinnerfahrung. Exploration psychodynamischer Korrelate. Master thesis, Leopold-Franzens-Universität Innsbruck.

Bachelor Theses

- Kromm M. S. (2018): Effekte der Atemverlängerung auf die Respiratorische Sinusarrhythmie: Einfluss der Absorptionsfähigkeit. Bachelor thesis, Justus-Liebig-Universität Gießen.
- Müller L. (2018): Associative Remote Viewing: Proof of Principle. Bachelor thesis, Helmut Schmidt Universität / Universität der Bundeswehr Hamburg.
- Rummler E. (2018): Bewegungswahrnehmung: Nehmen wir bewusst wahr, was wir unterbewusst sehen? Bachelor thesis, Albert-Ludwigs-Universität Freiburg.
- Szkotnicki N. (2018): Zusammenhang zwischen der Absorptionsfähigkeit und verwandten Persönlichkeitsmerkmalen. Bachelor thesis, Justus-Liebig-Universität Gießen.
- Werning M. L. (2019): Der Einfluss der Ujjayi-Atmung auf den Entspannungszustand. Bachelor thesis, Justus-Liebig-Universität Gießen.

4.3 Fund Raising

9/2019: Hecker L. & Kornmeier J.: NVIDIA GPU Grant Graphikkarte. NVIDIA Corporation, (€ 3.500,-).

6/2018: Joos E. & Kornmeier J.: Finanzielle Unterstützung der Dissertation durch die Deutsch-Französische Hochschule Saarbrücken, (€ 5.000,-).

8/2018-8/2019: Kornmeier J.: Reisezuschüsse der Freunde der Albert-Ludwigs Universität Freiburg, der Heinrich-Kirchner-Stiftung und der Dr. Lingl Stiftung, (€ 2.150,-).

5/2018: Kornmeier J.: Neurex Doctoral Fellowship, (€ 59.320,-).

9/2018-10/2019: Kornmeier J.: Funding Program Open Access Publishing, Deutsche Forschungsgemeinschaft (DFG) und Universität Freiburg, (€ 2.800,-).

2/2018: Kornmeier J.: Publikationsfinanzierung Universitätsklinikum Ulm, (€ 2.800,-).

4/2018 - 3/2019: Ott U.: „Risiken und negative Wirkungen von Meditation“. Deutsche Forschungsgemeinschaft (DFG), (€ 51.200,-).

2019: Schellinger U. & Nahm M.: Projektmittel zum Stadtjubiläum „Freiburg 2020“, (€ 1.000,-).

12/2019-3/2021: Schmidt S., Wittmann M. & Jo H.-G.: „Meditation as a first-person method in the neuroscience of consciousness: A comparison of the informativeness and reliability of first person data collected from meditators and non-meditators in a novel Libet paradigm.“ FUNDAÇÃO Bial, (€ 39.000,-).

1/2019-12/2023: Vogeley K., Wittmann M., Giersch A., Latoschik M., Lugin J.-L., Jacucci G., Ravaja N., Palomer X. & Oromi X.: „VIRTUALTIMES - Exploring and modifying the sense of time in virtual environments.“ EU Call Horizon 2020 Topic FETPROACT-01-2018 with €4.404.698,-, (Freiburg: € 505.000,-).

07/2019-10/2020: Wittmann M., Schmidt S. & Meissner K.: „Changes in the temporal width of the present moment after meditation.“ FUNDAÇÃO Bial, (€ 39.000,-).