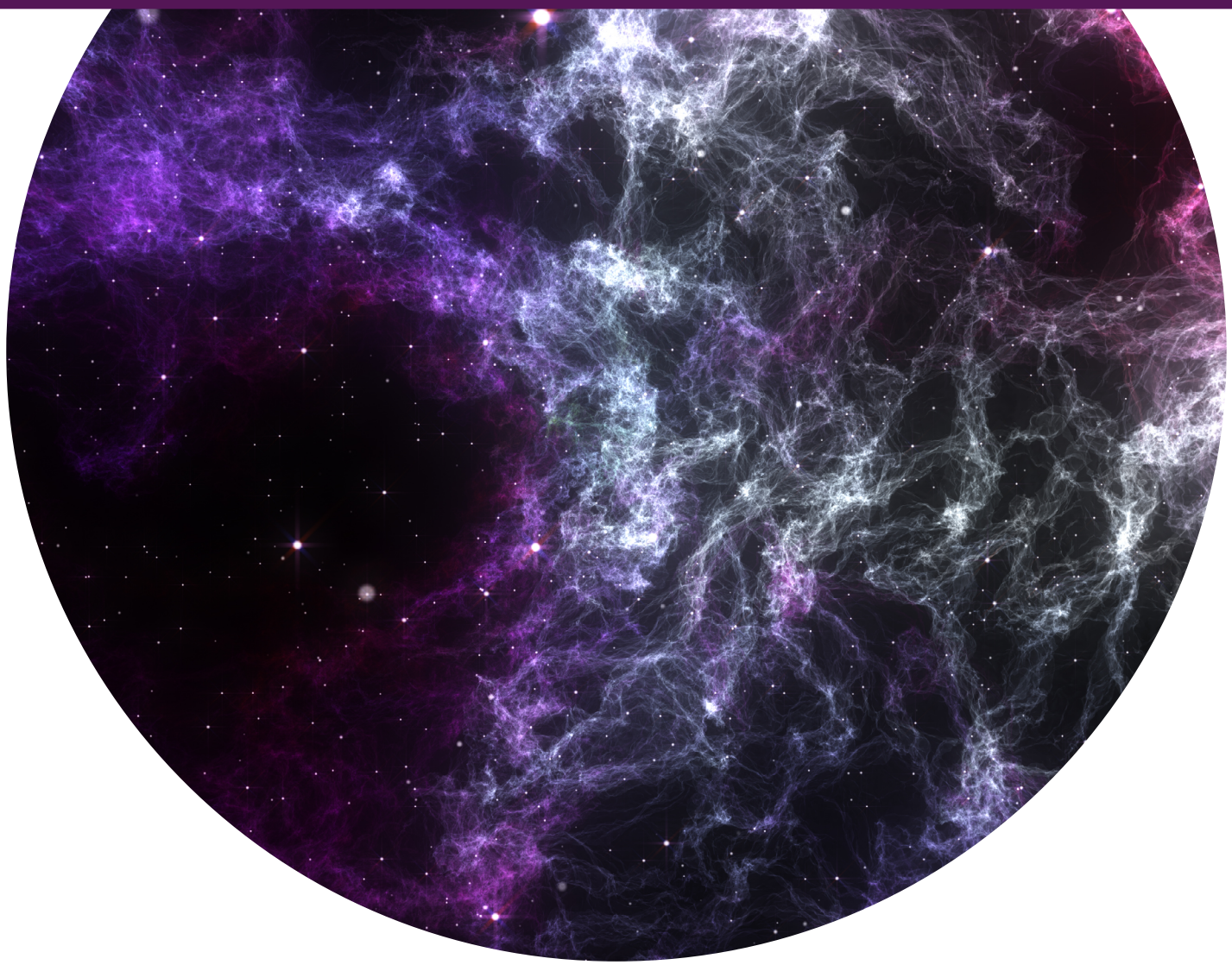

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Etzel Cardeña

In Memoriam Charles Theodore Tart (1937 –2025): The Hummingbird Takes Off[1]

Etzel Cardeña

Lund University

Tart with his doctoral student Etzel Cardeña, circa 1987

A giant in many fields, Charles Tart, has passed away. The subtitle of this *In Memoriam* refers to an homage I wrote earlier comparing him to a hummingbird that rapidly pollinates many fields that had remained mostly barren since the times of William James and F. W. H. Myers (Cardeña, 2023). James was the peerless phrase-maker and philosophical thinker of states of consciousness. Tart supplemented him by being **the** experimentalist and systematizer of states of consciousness. He also made major contributions to other areas including parapsychology, the integration of reflective practices in everyday life, transpersonal psychology, and, central to him, the integration of spiritual beliefs and science, seeking to avoid dogmas from both sides.

To start at the beginning, Charles Theodore Tart (he only used the initial of his middle name) was born April 29, 1937, in Morrisville, Pennsylvania, but grew up in New

1 This obituary is partly based on: Cardeña, E. (in press). Charles Tart: A noetic pilgrim's progress. Foreword. in J. Mishlove (Ed.), ***A science of the soul: Seventy years of exploring consciousness and parapsychology. Conversations with Charles T. Tart.*** White Crow. Address correspondence to: Etzel Cardeña, Ph. D., Thorsen Professor of Psychology, Lund University, **etzel.cardena@psy.lu.se**

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Jersey. In his Introduction to an important series of interviews with him (Tart, in press), he talks of his Lutheran upbringing and the unconditional love he received from his religious grandmother, who died when he was eight. From an early age he had a great interest in chemistry and electricity, maintaining a lab in his family's basement. He always had a strong practical side (he secured a radiotelephony license), which he would use later to devise machines to test his learning theory of psi phenomena (Tart, 1976).

Tart started his university studies majoring in electrical engineering at the foremost institution for it, the Massachusetts Institute of Technology (MIT), where he was influenced by lectures on parapsychology and cofounded the MIT Psychic Research Society. He transferred to Duke University, where he was mentored by J. B. Rhine, the most influential parapsychologist of the mid-twentieth century, and got his doctorate in psychology in 1963, at the University of North Carolina. He worked as a postdoc in the Stanford University laboratory of Ernest Hilgard, one of history's foremost learning and hypnosis researchers (e.g., Tart & Hilgard, 1966). I suspect (and heard some comments from him about it) that the more conservative Hilgard found some of Tart's interests far-fetched, a reaction that Tart surely got throughout his career.

He became a professor at the University of California, Davis, where he taught for almost three decades. I can attest that he was a very popular teacher because I was his TA and last doctoral student there. His course on Altered States of Consciousness was always enrolled to capacity and students liked that he did not put on airs and called things as he saw them. One example is when, in what is still the best video on parapsychology, *The Case of ESP* (BBC, 1983), he stated that the fact that many scientists believe there is no scientific evidence for psi phenomena just shows that they are ignorant of the subject.

The photo I chose for this obituary shows him donning a Haitian hat I brought from field work. I chose it because it shows him smiling and playing, something characteristic of him. Here is one instance I recall. My studies at UCDavis were sponsored by Mexican official agencies, and when I would bring him letters from them in Spanish (which I would translate), asking him to report on my progress, he would fake that he could read them in Spanish and use the 5 or so words he knew, laughing all the way through. Tart also taught at other institutions, foremost at the Institute of Transpersonal Psychology, and was a seeker of different ways of enhancing human potentials, becoming a black belt in Aikido.

He did not initiate research teams at UCDavis (I suspect his shyness for that), but he supervised a foremost researcher in hypnosis, Helen Crawford, and me, enrichen-

ing my education by alerting me to various possibilities, including an extraordinary Summer Research Institute at the Foundation for the Research on the Nature of Man (renamed the Rhine Research Center in 1995), when it was still a professional and high caliber institution.

Tart took early retirement from UC Davis, but continued teaching at the Institute of Noetic Sciences and writing books on practical uses of meditation and related practices, and trying to reconcile the conflict he saw between science and spirituality. Preceded by his beloved wife of decades, Judy, he passed away on March 5, 2025. He is survived by his daughter Lucinda and his son David.

There are many areas to which he is a foundational author, of which I will highlight three:

Altered States of Consciousness

The period of the 1960s and the 1970s brings to mind iconic events, among them Woodstock, Esalen, The Beatles, meditation, and even an academic book, Charles Tart's *Altered States of Consciousness* (1969). It was an anthology of articles on altered states in general, with specific chapters on the hypnagogic state, dreaming, hypnosis, psychedelic drug effects, and related psychophysiology. Anybody interested in the potential expansion of consciousness had now an authoritative tome to initiate an academic or personal search, and academic careers (mine included) were wholly or partly launched under its influence. While that is his most influential book, I think that his masterwork is a conceptual scaffolding of the study of states of consciousness from a systems approach (Tart, 1975), which should be consulted nowadays far more often than it is. Besides those books, Tart proposed state-specific sciences in a paper published by the august journal *Science* (Tart, 1972), and initiated or further developed the study of many altered states or related procedures, among them out-of-body experiences (Tart, 1998), marijuana intoxication (Tart, 1971), and hypnosis (Tart, 1970).

Transpersonal Psychology and Parapsychology

Transpersonal Psychology is a perspective that emphasizes alterations of consciousness and spiritual concerns. Expectably, Tart was one of its founders through his landmark anthology *Transpersonal Psychologies* (Tart, 1975b) and various empirical studies. In a celebratory piece, Cunningham (2023) discusses what he considers to be the most important contributions by Tart to transpersonal psychology: developing a

psychology of mind and spirit, undergirded by a critical view of mainstream reductive materialist psychology and its implications; adopting an empirical, non-dogmatic approach to religions as spiritual psychologies; creating state-specific sciences of extraordinary human experience; reinforcing the scientific bases for parapsychology; and developing a psychology to assist human growth.

Tart was also a major contributor to parapsychology through the empirical investigation of extraordinary claims related to alterations of consciousness such as out-of-body experiences (e.g., Tart, 1998). He also collaborated with Russell Targ and Harold Puthoff on developing *remote viewing* and publishing a symposium under the auspices of the Institute of Electrical and Electronics Engineers (IEEE) (Tart et al., 1979). He employed learning theory, particularly immediate feedback, to stabilize and even strengthen psi effects in controlled studies (Tart, 1976).

In addition to his experimental ingenuity (e.g., he tested the consensual replicability of perceptions of auras with the help of a doorway, see Tart & Palmer, 1979), he was very successful at publishing parapsychological and other "fringe" work in mainstream fora including *Science,* the University of Chicago Press, and the IEEE. He was not intimated by the bulwarks of mainstream science and worked to systematize and normalize "fringe fields." A justified normalization of such fields unfortunately happens too rarely, partly because of the bias against them but also by the fact that, as Tart recommended in a letter he sent to me when I expressed my interest to get a Ph. D. with him, a researcher needs to first establish one's competence and reputation in a mainstream area before trying to expand its limits. Even then, one should expect and be able to withstand unfair personal and professional persecution from dogmatic critics (see Cardeña, 2015, for various examples).

Charles Tart died on March 5, 2025. *In Memoriam*s of great scholars and people are unavoidably exercises in frustration, as the writer soon realizes how insufficient are one's skills when trying to convey their qualities and uniqueness. This one is no exception. I will just close by saying that besides his extraordinary talents, courage, and ingenuity, I will miss not seeing Charley smile again.

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In Memoriam: Peter Fenwick (1935 -2024)[1]

Bernard Carr

Queen Mary University of London

Peter Fenwick, who died at the age of 89 was a neuroscientist and leading authority on the phenomenon of near-death experiences (NDEs). He was most closely connected with the Scientific and Medical Network (SMN), and it was my privilege to succeed him as SMN President. However, he also made important contributions to psychical research, regarding psi as a link between science and spirituality. Many parapsychologists prefer to focus on experimental work and eschew any reference to mystical or transpersonal experience. However, there has been a shift of emphasis in recent years with a greater attention on topics like transpersonal psychology. A final theory of mind must surely accommodate its normal, paranormal, and transpersonal aspects and it is impossible to draw a sharp distinction between psychic and spiritual experience.

Peter was born and grew up in Kenya, where his father was a coffee farmer and his mother a surgeon – indeed the first woman to be admitted to the Australian College of Surgeons. She inspired Peter's ambition to go into medicine. At prep school in Kenya, he would always take on the role of doctor if somebody was hurt, doing the

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triage and then sending them to see the matron. He moved to UK and studied Natural Sciences at Trinity College, Cambridge. The Master of Trinity at the time was, appropriately, the Nobel Laureate neurophysiologist Lord Adrian, and one of his tutors was the Nobel Laureate physiologist Sir Andrew Huxley.

His initial ambition was to become a brain surgeon but he changed his mind after observing an operation during medical training and decided to become a neuropsychiatrist so that he could talk to people and "not have them unconscious while I looked into that deep, dark hole." (Brown, 2024). He became consultant neuropsychiatrist at the Maudsley, with a particular interest in the study of epilepsy, and was in charge of the Neuropsychiatric and Epilepsy Unit until his retirement in 1997. He was also co-Director of the Department of Neurophysiology at Broadmoor Hospital. From 2000 to 2009 he spent several months a year working at the RIKEN Neuroscience Institute in Japan, using magnetic field tomography to probe various psychological paradigms.

Peter had a long-standing interest in the problem of consciousness and published many papers on altered states. He also conducted some of the first studies of the effect of meditation on brain activity. One of his participants was George Harrison, who had begun meditating after meeting Maharishi Mahesh Yogi, and volunteered to have his brain waves analyzed. Peter noted wryly that his EEG record could have acted as his pension fund if he had kept it but it vanished, someone else having recognized the value of 50 meters of a Beatles' brain-wave!

His interest in NDEs was prompted by Raymond Moody's best-selling *Life after Life* in 1975. When he first read it, he dismissed it as "psychobabble" but a year later one of his patients vividly described having had such an experience and Peter changed his mind. He realized that this is a phenomenon for which science cannot provide a rational explanation. Thereafter the study of NDEs – and other studies of the dying process - would become an important part of his life's work.

He interviewed carers, medical staff, and chaplains and was the first scientist in the UK to broadcast on the subject. Then in 1987 he presented the TV program *Glimpses of Death*, which raised public awareness of the topic. He received over 2000 letters from the general public after it, which led to his comprehensive study of the characteristics of the experience. In 1985, with Margot Grey and David Lorimer, he founded and became President of The International Association for Near-Death Studies UK.

In 1995 he and his wife Elizabeth, a writer on health matters, coauthored *The Truth in the Light*, a book that gave personal accounts of NDEs reported to him by over 300 members of the public. In 2000, he began research in hospices and nursing homes in

the UK and Holland, examining the experiences reported by the dying and their carers around the time of death. He also stressed the importance of spiritual support in palliative care. He studied the phenomenon of bi-location, where patients report looking down on their prone bodies on the operating table. He placed cards with writing and pictures on the ceiling of the operating theatres in the hope they could be seen by patients leaving their bodies, although the results were inconclusive. In 2008, he and his wife Elizabeth published a second book, *The Art of Dying*, examining end-of-life experiences and the connections between the dying and their relatives at the time of death. In 2019, an account of his life-long exploration of consciousness was provided in his autobiography *Shining Light on Transcendence*: *The Unconventional Journey of a Neuroscientist.*

His contention that NDEs provide evidence that consciousness can survive bodily death was criticized by some scientists, who argued that the phenomena resulted from the dying brain being starved of oxygen (anoxia). Peter dismissed this argument because trainee pilots in flight simulators were routinely subjected to loss of oxygen but never had NDEs. Anoxia leads to confusion and disorientation rather than the clarity which characterizes an NDE. This is most striking in the cases of people who experience a panoramic life review, where their life is played back, sometimes in its entirely, affording a view not only of their own thoughts and actions, but a realization of how those thoughts and actions affected others. He was particularly interested in the Buddhist teachings on death and dying. In many cases, NDE experiences resemble those recorded in *The Tibetan Book of the Dead*, which dates from the eighth century and was read to a dying person to guide them through the post-mortem experience.

Although I have stressed his interests in NDEs, this was part of his broader fascination in the question of whether consciousness is just brain activity – in which case when the brain dies, consciousness dies with it – or whether the brain acts as a filter to produce our conscious experience of the world, as argued by William James over a hundred years ago but still regarded as heretical today.

He was also interested in the link between consciousness and spirituality – his understanding being influenced by his personal meditation practice – and through his writings and lectures, became a pioneer in promoting this link as a legitimate area of scientific inquiry. He argued that the structure of the world just does not fit into a reductionist framework in which there is nothing beyond the brain. He also played a crucial role in bringing the spiritual dimension into psychiatry. His infectious enthusiasm, and his status as a scientist, was invaluable in helping establish the Spirituality and Psychiatry Special Interest Group of the Royal Group of Psychiatrists, now having a membership of more than five thousand, around one in four UK psychiatrists.

The sadness and sense of loss at Peter's passing is balanced by the knowledge that he himself was looking forward to his "promotion" and had no doubt that life does not end with the death of the body. "There is no death, I know that now," he told the *Telegraph* in an interview. "There is death of the body, but there is no death of the individual person. I don't fear it all. I'm looking forward to it" (Brown, 2024).

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A Forced-Choice Precognition Experiment with Selected Cohorts[1]

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Abstract: *Objective***.** We report a pre-registered forced-choice precognition study to test a novel collaborative platform for psi experimentation. The study compared a cohort of experienced meditators and a cohort selected merely for its interest in participating in the study. *Method***.** The Internet-based platform, Psi@Home, was developed to allow participants to contribute at-home experimental sessions using custom software. Each session comprised 20 forced-choice trials. Eighty sessions per cohort were collected for the pre-registered study and the hypotheses for each cohort were the increase relative to MCE of: 1) the variance of session hit rates, and of 2) the total hit rate. A third hypothesis predicted a higher variance of session hit rates for the meditator cohort. Hypothesis 1 was confirmatory and the others were exploratory. *Results***.** Only hypothesis 3 was confirmed (p = .03). However, 90 tryout sessions showed a markedly strong increase of session variance (p = .00003). *Conclusion***.** We successfully tested a novel platform for collaborative psi experiments. Two pre-registered cohort studies found no direct evidence for a psi effect. However, for tryout data whose collection was specified in pre-registration using the same participants and protocol, variance across sessions was highly significant. Differences in participant attitudes during the two periods of data collection may account for the discrepancy.

Keywords: psi, anomalous cognition, precognition, forced-choice, selected participants, meditation, psi-missing

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Highlights

- A novel platform for running psi experiments with selected cohorts was developed.
- The Internet-based Psi@Home platform is available to outside researchers.
- We completed a study of 160 sessions with 47 participants within a month.
- A strong variance anomaly was found in tryout data but not in the formal study, possibly because of uncontrolled psychological variables.
- The variance effect is consistent with a mixture of psi-hitting and psi-missing across sessions.

In recent years, new meta-analytic studies have strengthened the evidence for psi effects from free-response protocols such as remote-viewing and the ganzfeld (Storm & Tressoldi, 2020; Tressoldi & Katz, 2022; Tressoldi & Storm, 2024). The evidence is further supported by simulations of meta-analyses that control for publication bias and other methodological issues such as multiple testing, which are known to compromise meta-analytic results (Bancel, 2018; Bierman et al., 2016). For experiments that use other protocols, such as forced-choice studies, in which participants register a choice among a predefined set of randomized alternatives (for example, guessing the outcome of a coin flip), the cumulative results are quite positive, given the very different procedures and effect sizes that these protocols entail (Bem et al., 2015; Storm & Tressoldi, 2023).

Despite the accumulated evidence, the challenge of replicability in parapsychology remains. The success of one-off experiments is far from guaranteed, even when studies are presumably well-powered. For example, recent attempts at registered, large-scale replications failed to produce an effect (Kekecs et al., 2023; Schlitz et al., 2021). This state of affairs is not new and the coexistence of strong evidence and replication uncertainty has been recognized in the psi literature for a long time, particularly for forced-choice and micro-PK protocols (Bem et al., 2015; Bosch et al., 2006). For many who are inclined to accept the evidence, these replication difficulties highlight the challenge in understanding and creating the necessary conditions for psi to occur. For others, these difficulties lead to an interpretation that psi is real, but somehow resistant to replication (Walach et al., 2022). In contrast, many in mainstream science who are skeptical of the psi hypothesis consider the assurance of ready replication to be a *sine qua non* to accept the reality of an effect. For these researchers, the

replication difficulties in psi research derail any consideration that the reported data anomalies represent real phenomena (e.g., Rouder & Morey, 2011).

There has been much effort, over the years, to find better methods to produce psi effects in the laboratory (Palmer, 2015). Among the successes are the aforementioned ganzfeld and remote viewing protocols. These rely on techniques to induce favorable psychological dispositions that are thought to produce psi-conducive mental states. However, notable drawbacks include the high cost in human resources and the considerable tacit knowledge required of experimenters. Even moderately well-powered ganzfeld experiments are quite onerous, so that any progress beyond adding to the evidence tends to be incremental, at best. Consequently, single one-off replications of high power are extremely resource intensive and are rarely attempted (for the report of a recent large, albeit modestly powered, study see Watt, 2024).

Other protocols, such as forced-choice ESP, micro-PK (typically with random sources such as hardware RNGs), and physiological presentiment have higher data rates and are often less time-consuming (Jahn et al., 2007; Radin & Pierce, 2015). They are also able to address a wider range of research questions, but the effects are less stable and success often relies on the efforts of skilled experimenters (Schlitz et al., 2006; Varvoglis & Bancel, 2015). This seems to preclude a recipe for general replication and even confounds the interpretation of data because it begs the question of whether psi is sourced in the participants, those running the experiments, or a combination of the two.

In summary, nearly a century of psi research has yielded a variety of methods that have produced an abundance of evidence, yet the methods are unsatisfactory because they are either resource intensive and thus ill-suited to process-oriented work (research into the conditions needed to stabilize or enhance psi effects), or they yield effects that are difficult to produce and investigate because of uncontrolled factors that increase variability. In consequence, trade-offs between effect size and data rate, reliability and design flexibility, and cost and replicability impede progress.

The experiment reported here is part of a long-term effort at our Institute to address these problems. The program focuses on developing effective induction techniques (meaning the induction of a psi-conducive mental state in participants) on the one hand, and data-collection methods that are faster and easier to implement, on the other, while maintaining overall flexibility in experimental designs. The strategy is to bring together the most fruitful elements of diverse psi protocols to mitigate the negative trade-offs and allow for experiments that are flexible, reliable, and more practical in terms of resources.

Our preferred framework for this program is the forced-choice approach because it allows for higher per session data rates and affords rich data structures for subsequent analyses. Of course, as we know, the potential disadvantage of this approach is the risk for much smaller and less stable effect sizes (Storm & Tressoldi, 2023). If one contrasts the "subject optimization" procedures of remote-viewing or ganzfeld trials with the repetitive task-feedback cycle of forced-choice protocols, it seems plausible that the latter can induce potentially psi-inhibitory conditions: boredom, loss of motivation, stress about trial outcomes, and so forth.

Although plausible, this understanding of the low effect sizes in forced-choice experiments lacks unequivocal empirical support. To assess its validity, we need protocols that can efficiently collect large amounts of data while systematically modulating appropriate psychological variables. A key objective of our research program is to study this question by providing researchers with a flexible yet powerful tool to test hypotheses concerning psi correlates and moderators.

In short, then, the overall aim of our program is to explore how to integrate psi-conducive factors into data-efficient forced-choice protocols. The practical objective here is to develop reliable protocols that will not only speed progress but also render psi research more accessible to outside researchers.

A more theoretical objective is to resolve the tension between views that consider psi's elusiveness to be merely circumstantial versus those that treat it as fundamental. In particular, a current proposal considers psi effects to be inherently elusive and by their nature resistant to replication (Lucadou et al., 2007). In this view, attempts to develop reliable protocols are likely to fail (Walach et al., 2022). Our working assumption is that this view is incorrect, or at least too categorical and our hope is that the protocols we are developing will provide clarification on this issue.

Two factors that we focus on are experientially immersive psi tasks and the selection of volunteers. Although these have been studied previously, we make some innovations and employ a design that attempts to optimize both in a forced-choice protocol. The immersive presentation we use is based on prior development work in our laboratory (Bancel, 2019; Varvoglis et al., 2013). It has been adopted for the current experiment and is described in the Methods section. Selecting participants for their potential to produce psi effects has a long history in parapsychology. Instances of gifted volunteers who have performed well under a variety of circumstances are well-documented (e.g., May & Marwaha, 2018). However, an obstacle to replication with gifted volunteers is that they are rare and often unable (or unwilling) to produce

effects on demand. Selecting persons by traits that favor psi performance is another avenue that has been studied. Although there are indications that selection by traits may enhance results (Baptista et al., 2015; Zdrenka & Wilson, 2017), to our knowledge no inventory or survey reliably predicts psi performance.

For the present experiment we selected two volunteer cohorts based on life experiences and attitudes thought to be associated with psi performance. The two criteria are extensive experience in meditation, and interest in psi phenomena. The practice of meditation has long been associated with psychic abilities, dating back at least to the writings of Patanjali (Woods, 1927). Parapsychological studies with meditators have given indications of enhanced performance, but there is as yet no conclusive evidence that meditators outperform the general population (Roney-Dougal, 2015). One difficulty that arises in parapsychological studies with meditators is assessing people's meditation experience. An approach to this problem is presented in the Methods section. The second cohort we study is a group of persons selected for having interest or openness to psi phenomena. Within parapsychology, a generally accepted notion is that people who consider psi effects to be real, or at least a sensible possibility, will perform better on psi tasks than those who are opposed or resistant to the idea. Although meta-analytic support is not firmly conclusive (Lawrence, 1993; Storm & Tressoldi, 2017; Zdrenka & Wilson, 2017), evidence for this distinction is encountered widely in the literature. We are guided by this hypothetical distinction in setting a broad criterion for the second "Open" cohort

Finally, the study takes into consideration that misdirection of psi effects can contribute to the variability of results. In forced-choice experiments, true psi effects may produce data that deviate opposite to the intended target direction. There is considerable evidence for "psi-missing," as it is called (Carpenter, 2004; Rhine, 1969; Storm & Ertel, 2001), and its presence can weaken the statistical power of directional tests. Therefore, our psi hypotheses include tests of variance that have been devised to optimize statistical power under models of psi-missing.

Method

We developed and tested a platform for running home-based studies with selected cohorts that employs a modular approach to experimental design. By modular we mean that the platform allows for the independent design and configuration of three essential experimental elements: a cohort, the research team, and an experimental task. In this section we describe: 1) the structure and technical aspects of the

platform, 2) a computer application used by cohort members to run at-home sessions, 3) the process of cohort selection, 4) the experimental hypotheses and pre-registered data analysis, and 5) the procedure for running studies with cohorts.

The Psi@Home Platform

The experimental platform, which we name Psi@Home, consists of a downloadable application, its interface to a web-based server, and a website used for cohort recruitment and management. The application, described below, is bundled into a custom installer package for distribution to cohort members. The package includes custom software to manage login, security features, and data communication with a cloud server at Amazon Web Services (AWS). The AWS account serves as a repository for all experimental and cohort login data. It also allows to deploy and maintain multiple experiments from one integrated platform, and to manage accounts for multiple experimenters.

The website https://imiresearch.fr is the public face of the platform. The website provides general information about the research, sign-up forms for recruitment and information for individual cohorts or current experiments. It also serves as a tool for researchers to collaborate with and manage specific cohorts.

The Selfield Application

At the heart of Psi@Home is an application used to run at-home experimental sessions. A key feature of the platform is the ability to create and deploy different applications. This permits wide flexibility in designing studies adapted to particular research questions. In this work, the application consists of a binary test of precognition. Named the Selfield for its immersive quality, the application fluidly presents successive forced-choice trials via an engaging graphic interface. The Selfield is designed to maintain participants' attention in the task and lessen boredom. In-person laboratory tests have shown that participants' experience with the Selfield is almost uniformly positive (Varvoglis et al., 2019).

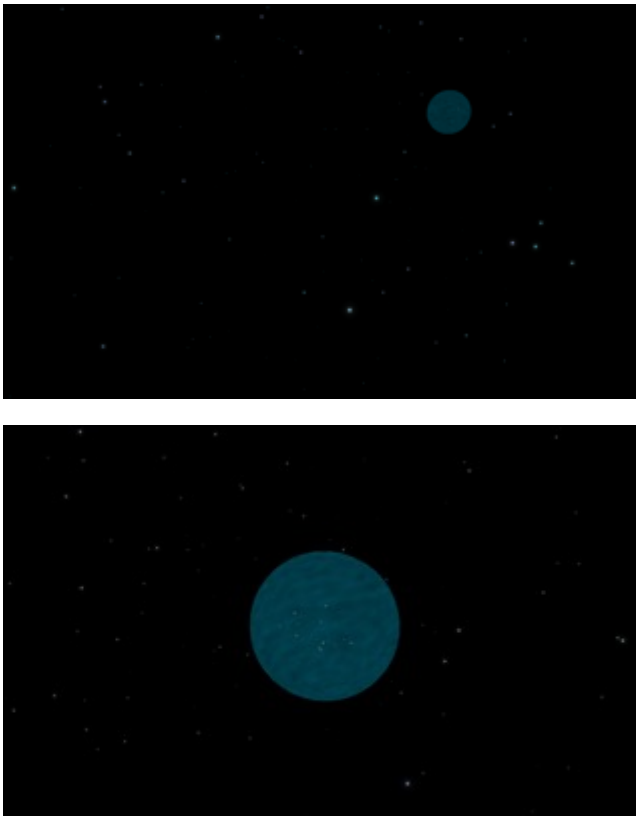
Each formal Selfield session consists of 20 trials in which participants interact with a graphical "target container," which is presented on the computer screen as a luminous, floating blue sphere. Participants are asked to choose the moment to reveal a target hidden inside the container via a keystroke. The container is then revealed to

be either empty or contain the striking image of a personage. Finding a personage is considered a "hit" whereas an empty container is considered a "miss." Each instance of hit or miss is determined by a pseudo-random process that is seeded anew for each trial using input from the millisecond timing of two participant keystrokes (the first keystroke readies the choice and the second executes it). After the reveal, the Selfield proceeds to the next trial until all 20 trials are completed. A session lasts about 15 minutes, but participants may take as long as they wish to complete the trials. A soothing background audio of flowing water and wind chimes plays throughout the session, and hits are punctuated with the sound of a gong.

Instructions explain that the experiment tests for psi and that the participants should try to "meet as many personages as possible" (i.e., obtain hits). The null expectation of the pseudo-random generator is a 50% hit rate. The psi effect tested by the Selfield is for an alteration of the null hit rate. The task is considered precognitive because the pseudo-random process to determine a hit or miss occurs *after* the participant's choice (via the keystroke inputs) is made (see Varvoglis et al.., 2019 for a detailed description).

Figure 1

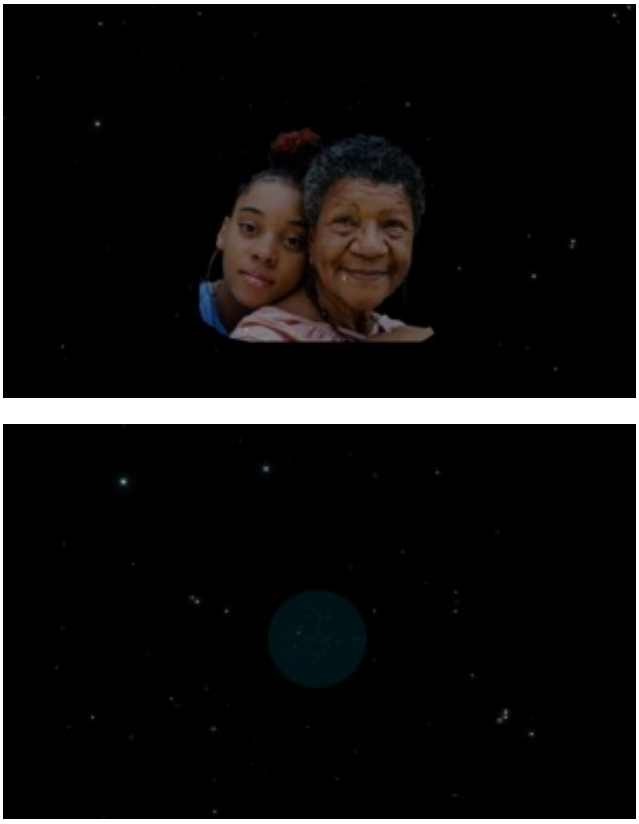
The Target Container of a Selfield Trial



Note. The target container for a Selfield trial is a blue luminous ball that floats through a starry space. The left image is a snapshot of the container on its random trajectory at the start of a trial. The right image shows the position of the container after the first participant keystroke, which brings the container forward for observation. The container moves smoothly to the foreground and hovers in place, awaiting the second keystroke at which point the participant will see either the image of a personage (a hit), or a dissolving of the container (a miss).

Figure 2

Feedback Presentation for Hit and Miss Trials



Note. Feedback follows a participant's decision to reveal the trial result with the second keystroke. The left image is an example of a hit showing the appearance of a personage(s). The bottom image shows the dissolving of the container ball when the result is a miss.

Cohort Recruitment

Cohort recruitment entails two steps: an initial contact and a tryout period. Once cohort criteria are set by the experimental team, potential cohort candidates are contacted by appropriate outreach, such as postings on social media or websites thematically aligned with the likely interests or activities of the cohort group. Interested individuals are directed to the Psi@Home website where they submit a form to enlist

as cohort candidates, specify their qualifications for the cohort, and communicate information about their personal macOS device. If the personal information conforms to the cohort criteria, a tryout period is initiated during a video meeting with a team member in which candidates receive a personal introduction to the project, and then install and live-test the Psi@Home application. In the week following the video meeting, candidates must complete a tryout of two full experimental sessions. Those who complete the tryout may join the cohort, meaning that they will receive invitations to participate in future studies.

The recruitment procedure plays a central role in the conception of Psi@Home. It serves to motivate participants and create a connection to the project, and to cull unmotivated candidates before experiments are run. We believe that the quality of these interactions can play a role in experimental outcomes. A long-term goal is to build a database that can help assess how qualitative procedures such as recruitment may impact the results of psi experiments.

The current study established three cohorts: experienced meditators, a general public "Open" cohort, and a third Psychic Arts cohort (which was combined with the Meditator cohort for the formal experiment). The recruitment procedure was first tested with 5 meditators personally known to the PI (Author 1). Their feedback allowed to refine and clarify the process from a user perspective. Also, data from the resulting 10 tryout sessions were used to test analysis procedures in preparation for the formal experiments to come.

Members of the meditator cohort were selected from a community of Buddhist practitioners that maintains a database of individuals' progress. All had 15 to 40 years of meditation experience, maintained daily home practice, practiced the same techniques of mindfulness, visualization and mantra, had completed many group retreats, and most were meditation teachers. The PI has a similar experience and knew personally most of the cohort members. The cohort's depth and similarity of practices, as well as the familiarity shared by the PI, is a rather unique instance in psi studies with meditators.

The Psychic Arts cohort consists of persons involved professionally in mediumship or clairvoyance practices, or persons actively involved in training for these or similar psychic arts. Many were recruited among members of the International Remote Viewing Association (IRVA) via presentations by the PI or emails to IRVA members. The Open cohort for the general public was solicited from email lists of the Institute's sister association (Friends of the Institute) that is active in educational outreach about psi

in France, from announcements on the website of the Institute of Noetic Sciences, and from online presentations in English by the PI.

Recruitment for the Meditator cohort was conducted July to early October 2022. Of 81 persons contacted, 20 installed the Selfield application and 19 joined the Meditator cohort. The Meditator cohort generated 38 tryout sessions during recruitment.

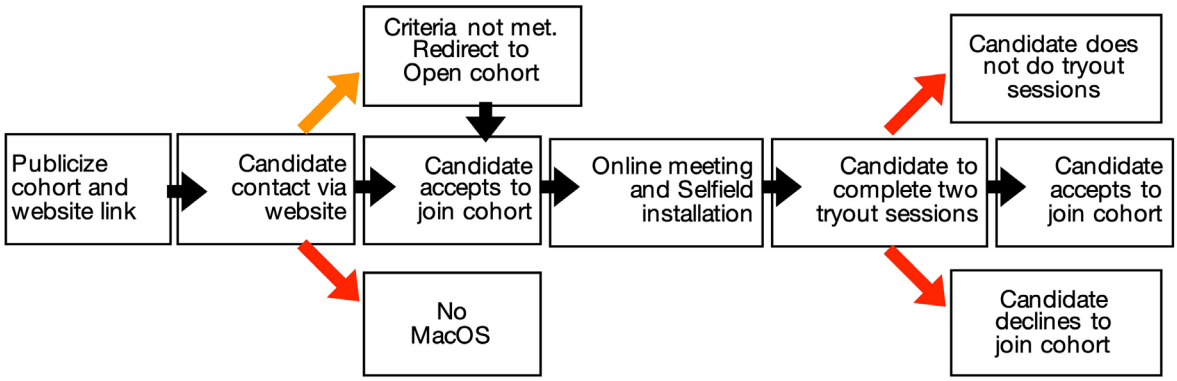
Recruitment for the Psi Arts cohort was conducted from August to October 2022; 14 persons installed the Selfield application and 11 joined the Psi Arts cohort. The Psi Arts cohort generated 20 sessions during recruitment.

Recruitment for the Open cohort was conducted from August to October 2022; 27 persons installed the Selfield application and 23 joined the Open cohort. The Open cohort generated 58 sessions during recruitment.

We estimated that a cohort pool of about 25 members would be needed to complete each study. Because the Meditator and Psi Arts cohorts were below this mark at the end of the 3-month recruitment period, a decision was made to combine the two cohorts for this first experiment (in the following, the combined cohort is referred to as the Meditator cohort, unless otherwise stated). Of the 30 members of the (combined) Meditator cohort, 24 joined the experimental study (22 females and 2 males; mean age 58.2, *SD* = 9.4), and all 23 Open cohort members participated (18 females and 5 males; demographic data were not collected for the Open cohort. However, ages estimated from video interactions range from 20s to 60s). No participant was paid.

Figure 3

Flowchart of the Cohort Recruitment Process



Note. Red arrows indicate paths where a candidate does not join a cohort. The orange arrow indicates cases where candidates do not meet cohort criteria and are re-directed to the Open cohort that accepts all interested candidates.

Hypotheses and Analyses

Before the experiment, data from 50 tryout sessions were analyzed to finalize hypotheses. Three types of 1-tailed hypothesis tests were set:

- The variance of session hits for Meditator and Open cohorts will exceed null expectation (with $p < .05$). Confirmatory, noted in the pre-registration document as H1 and H2.
- The Meditator cohort variance will be greater than the Open variance with $p < .05$. Exploratory, pre-registered as H5.
- Cohort hit rates will exceed >50%, with $p < .05$ on a direct binomial test. Exploratory, pre-registered as H3 and H4.

The session variance is defined as the variance of the values of excess hits across sessions. That is, session hits are subtracted from the null expectation (which is 10 for a session of 20 trials), and the normalized sum of squares is the session variance (see Appendix A for mathematical statements of these terms). Note that our session variance statistic differs from the standard sample variance that is typically calculated relative to the sample mean, and not the theoretical (null) mean as we do here.

The variance hypothesis tests return a *p* value for the session variance. To maintain nearly equal weights of sessions, sessions with less than 17 recorded trials were discarded (about 5% of sessions; trials occasionally failed to record because of intermittent WiFi connections), and the discard procedure was specified in pre-registration. The session variance approximately follows a chi-squared distribution, and herein we refer to this statistic as χ^2. The *p* values can be estimated analytically from the chi-squared distribution and we use these as checks on more precise Monte Carlo (MC) estimates of the *p* values. Full details are available in Appendix A and in the protocol pre-registration document (http://www.koestler-parapsychology.psy.ed.ac.uk/Documents/KPU_Registry_1072.pdf).

Study Procedure

Before launching the experiment, the study protocol was reviewed and accepted by the host institution's (the IMI) ethics committee. The authors were polled to determine their a priori beliefs about the likelihood that the experiment would find evidence

for a psi effect. On a scale of 1 to 5, with 1 being a strong belief to find no evidence and 5 being a strong belief to find evidence of psi, authors 1, 3 and 4 reported a belief rank of 4 and author 2 reported a belief rank of 3.

Studies began with an email invitation to registered cohort members that described the study, the launch date and duration, the requirements for participation (e.g., the number of sessions to complete), and gave a link to an online consent form. Cohort members joined the study by accepting the invitation, completing the consent form, and self-installing a minor update of the Selfield application that set in software administrative parameters specific to the study. On the launch date, participants were invited to an optional collective online video gathering to clarify any remaining questions and provide a final encouragement to the group. The updated Selfield applications were then activated from the cloud server and participants were free to contribute sessions at the times of their choosing. In general, our design is for studies to last 4 to 6 weeks, with participants individually contributing 4 to 6 sessions. Participants receive an email reminder if they lag in completing sessions, but care is taken not to pressure people for results. Studies assume that some will complete less than the requested number of sessions and allowance for this eventuality is incorporated into the study design. At the study's end, participants are invited to an optional closing video call where they can be thanked and share their experiences with the group. As a final step, participants fill out a brief online feedback survey to assess their experiences.

The experiments we report here were pre-registered with the Koestler Parapsychology Unit Study Registry (http://www.koestler-parapsychology.psy.ed.ac.uk/Documents/KPU_Registry_1072.pdf). The number of sessions for each cohort experiment was set to 80, and participants were asked to complete 4 to 6 sessions of 20-trials each. We allowed for the collection of more than 80 sessions per cohort, but the formal hypothesis tests were performed on the first 80 cohort sessions only, as per the pre-registered procedure.

Results

A major objective of our study was to test the Psi@Home platform and assess its potential for carrying out psi studies quickly and efficiently. The studies ran smoothly, without major difficulties or unexpected problems, and the demands on the experimental team were less than we anticipated. Study invitations were emailed on October 10, 2022, and we were able to launch the formal studies a week later. Data

acquisition for the cohorts, comprising 80 formal sessions each, was completed within 30 days. The Psi@Home platform surpassed our expectations for study execution and management.

A second objective was to assess the recruitment procedure for establishing cohorts. Through early October 2022, we received 104 website submissions for cohort candidacy, of which 61 (59%) installed the Selfield application during an online video call. The candidate attrition rate at this step was mostly due to people who lacked access to a computer with macOS. Of those who installed the application, 53 completed the tryout sessions and joined a cohort (87%). Altogether, 47 cohort members participated in our formal study (89% of the cohorts). Roughly speaking, we converted about half of contacts to cohort membership, and nearly 90% of the cohort members were available for the experiment.

Pre-Registered Confirmatory Hypotheses

The confirmatory hypothesis of an increase in session variance was not confirmed for either cohort. The session variance for the Meditator cohort was slightly greater than the null MCE (mean chance expectation) of 80, $\chi^2(80) = 89.43$; $p = .22$; 40k Monte Carlo iterations. The χ^2 for the Open cohort was moderately lower than the MCE, $\chi^2(80) = 58.13$; $p = .97$; 40k MC iterations.

Pre-Registered Exploratory Hypotheses

Hypothesis 2 (larger session variance for the Meditator cohort) was confirmed, $\Delta\chi^2(80) = 31.30$; $p = .032$; 100k MC iterations, where the null MCE value is zero.

Hypothesis 3, a positive bias of the hit rates, was not confirmed for either cohort. The Meditator study generated 780 Hits on 1597 trials, hit rate = 48.8%; exact binomial $p = .83$, one-tailed. The Open cohort study generated 821 Hits on 1593 trials, hit rate = 51.5%; exact binomial $p = .11$, one-tailed.

Non-Registered Exploratory Analyses of Tryout Data

Tryout data are those sessions completed by each candidate during recruitment. This includes 10 sessions of planned pilot data from the first 5 participants of the

Meditator cohort. The goal of that small pilot study was to test cohort management procedures, and the analysis algorithms for hypotheses 1 and 3 (session variance and total hit rate). Unexpectedly, the 10 pilot sessions gave indications of a psi effect, with the zero-mean variance (see Appendix A) well above the MCE of 10, $\chi^2(10) = 18.2$; $p = .016$; 40k Monte Carlo iterations. For these sessions, there were 89 hits on 200 trials (hit rate = 44.5%; exact binomial $p = .95$, one-tailed).

The pilot result prompted a further analysis of tryout data when 50 sessions (contributed by candidates of all cohorts) had been accumulated, with the results for the 50 sessions being highly significant, $\chi^2(50) = 94.83$; $p = .000085$; 2M MC iterations. There were 506 hits on 994 trials, hit rate = 50.9%; exact binomial $p = .295$, one-tailed. This analysis was subsequently used as the basis for the pre-registered protocol, which set the number of sessions for each cohort to 80 and designated the variance test as a confirmatory hypothesis.

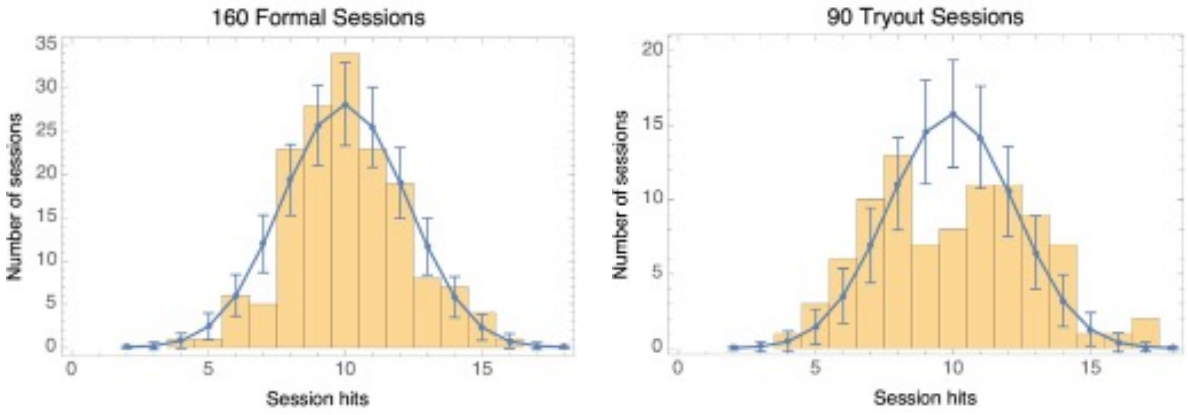
After the experiment ended, the analysis of tryout data was updated for all 90 sessions completed by cohort members who participated in the study, $\chi^2 (90) = 150.72$; $p = .000031$; 2M MC iterations. There were 905 hits on 1789 trials, hit rate = 50.6%; exact binomial $p = .318$, one-tailed. Note that 4 tryout sessions which had less than 17 trials were not included in the analysis, per the pre-registered discard rule.

Assessment of the Tryout Data

For the 90 recruitment tryout sessions, hit rate = 50.6%, $p = .318$, trial $N = 1789$; $\chi^2(90) = 150.72$, $p = .000031$). The large variance is 4 standard deviations from the MCE of 90 ($p = .000031$ corresponds to a z-score of about 4, and it is too extreme to ignore. At the same time, the hit rate does not show a significant deviation from the null hypothesis. One explanation consistent with the psi hypothesis is that a mixture of psi-hitting and psi-missing significantly increased the tryout session variance but not the overall hit rate and that psychological factors account for the lack of this effect in the formal study. We explore this interpretation with two models that mix psi-hitting and psi-missing in the Discussion, and then speculate on psychological factors that may have resulted in the different outcomes for the tryout and formal sessions.

Figure 4

Comparison of Formal and Tryout Data



Note: Bars are frequencies of sessions with a given number of hits. The blue trace shows the expected frequencies under the null hypothesis and error bars are statistical uncertainties of one standard deviation.

Discussion

Our report addresses two research objectives. First, we tested the functionality of a new platform, Psi@Home, whose broad purpose is to facilitate the design and execution of psi experiments. Second, we used the platform to run a study with the goal of eliciting evidence for a psi effect and comparing two cohorts. We discuss the outcomes of each of these objectives in turn.

Assessment of the Psi@Home platform

In terms of functionality, the Psi@Home platform met all our design goals. The at-home Selfield application was successfully interfaced to our cloud-based data management system and the installer package we designed allowed for easy installation by the individual cohort users. The website created for cohort recruitment and management worked well for scheduling and email communication throughout the recruitment process, both within the project team and between team and cohort members. We have processed over a hundred contacts and guided scores of people through the process of joining cohorts. The recruitment process did prove to be somewhat longer and more time-consuming than hoped. Outreach did not generate contacts at the rate we hoped and video calls required more effort than expected.

However, the process was manageable and we believe the value of personal contacts between team members and participants compensated the effort. In particular, we believe the interactions with cohort members successfully clarified and motivated their participation. This was reflected in the results of a feedback survey. A question: "Were the instructions and description clear enough?", resulted in an average score of 4.8 on a scale of 1 to 5 with 5 being "Very clear". Our goal of a positive user experience was also met. A survey question "Did you enjoy using the Selfield app?" yielded an average response of 4.4; and "Would you recommend this to others?" yielded 4.5.

The decision to have candidates run two full experimental sessions before committing to a cohort was another valuable feature of the recruitment process. It allowed participants to have a good sense of how to operate the application before participating in a study and served on a few occasions to cull candidates whose motivation was short-lived. It also allowed a thorough verification of the technical integrity of each installation, which was important given the variety of computer configurations encountered. Clearly, recruitment was limited by the restriction to the Apple's macOS platform, but this can be rectified by porting the application to a PC compatible format in the future. Indeed, of the initial contacts who did not do the installation, most were willing but lacked access to macOS computer.

The clearest measure of the platform's success was the ease and rapidity of running the two formal studies. Three steps were required of each cohort member: response to an email invitation to join the study; the submission of a consent form and completing the software parameter update; and the accumulation of 4-6 experimental sessions. The steps were accomplished smoothly and quickly. After the invitations were emailed, the studies were ready to launch within a week. Once participants were informed of the launch, they began running sessions whenever they wished. The target of 80 sessions per cohort was reached in less than 30 days. During this time, the team monitored progress and sent a few reminders by email. There was very little further effort required by the experimental team and we attribute this success to the motivation and familiarity with the platform acquired by the cohorts during the recruitment process. This was precisely the outcome the project aimed for: to establish a pool of selected participants, experienced with the platform, who would respond enthusiastically to a subsequent call for study participation.

Ultimately, the Psi@Home project is intended as a "user facility" for psi experimentation that is available to external research teams (user facility is a term borrowed from the hard sciences that refers to institutional facilities, such as satellites and particle accelerators, that are available for use by competent researchers). This

intent recalls the modular conception of the project whereby the research team is considered as one of three fundamental elements that compose a study. To this end, we have worked to make the platform user-friendly so that professional scientists can utilize it without too steep a learning curve or the need for special technical knowledge. To test this aspect, we separated the tasks of cohort and study management by cohort, whereby the PI (who designed all aspects of the platform) worked with the Meditator cohort, and two assistant team members (without technical knowledge of the platform), worked separately with the Open cohort. We found that the Open cohort managers were able to use the platform efficiently after a brief introduction and training period. They managed cohort recruitment and the formal study with only occasional assistance from the PI, and the progress tracked that of the Meditator cohort. We conclude that the platform will be transferable to external researchers, either for running experiments with existing cohorts, or for establishing new cohorts that can be used to study hypotheses of interest. The Psi@Home project will continue development work in this regard.

Formal Pre-Registered Hypothesis Tests

Turning to the results of data analysis, our confirmatory pre-registered hypothesis tests did not reject the null hypothesis. For each cohort, the session variance produced non-significant *p* values greater than .05. For the exploratory pre-registered tests, the one-tailed difference of variances for the Meditator and Open cohorts was significant with $p = .03$. However, we are cautious about inferring a psi effect from this exploratory result, given the fact that the corresponding confirmatory tests were non-significant. The difference in variance between cohorts – statistically modest and in the hypothesized direction – may well be a false positive: the probability under the null hypothesis of one or more of the five pre-registered tests returning a *p* value of $p = .03$ or less is about 14.2%.

The exploratory tests of hit rates were also non-significant. A noticeable difference between the Open and Meditator cohort hit rates (51.5% vs. 48.8%, respectively) yields a two-tailed *p* value of $p = .10$ (see Appendix A). We do not consider this post-hoc observation to be suggestive of an effect. Clearly, the registered study failed to find support for the hypothesized effects of psi-hitting, or a mixture of hitting and missing, notwithstanding the support for a variance difference of the cohorts. In summary, the analyses allow for competing interpretations: that the protocol did not evoke a psi effect at all; or that an effect was present but too weak to detect given the study

size; or that a psi effect was present in a way not sensitive to our tests. More studies are needed to resolve these possibilities. However, the formal, pre-registered results contrast strongly with the data gathered during recruitment. Those data, collected with the same procedures and software, produced strong variance increases. We next discuss those results.

Models with Psi-Missing

As mentioned in the paper's introduction, psi-missing refers to outcomes that deviate opposite to the intended target direction. Psi-missing has been discussed in the literature since at least the 1960s (Rao, 1965; Rhine, 1969). Recurrent psi-missing can weaken statistical evidence for directional hypotheses such as tests of global hit rates and render directional effects difficult to detect. In contrast, the session variance can increase when either hitting or missing predominates within sessions. The session variance test is designed to detect this case. The test has been proposed previously (Timm, 1983) and used in other psi contexts (Storm & Ertel, 2001). Furthermore, studies in our laboratory (Varvoglis et al., 2013, 2019), have found weak evidence for an elevated variance in forced-choice sessions. Therefore, there are both theoretical and empirical precedents for using the session variance to test for mixtures of psi hitting and missing under this scenario. A feature of the test is its insensitivity to the proportion of hitting and missing: it returns the same result regardless of the relative frequency of hitting and missing sessions. This is a consequence of calculating the variance relative to the theoretical (null) mean, rather than the sample mean of the dataset. We leave a full discussion of the test's properties to a future publication.

We have shown that the variance test of tryout data strongly rejects the null hypothesis. We consider here two simple yet distinct models of mixtures of hitting and missing sessions that can give this result. Both models begin with the observation that largest impact on the variance comes from sessions with large hit rate deviations. The first model assumes that a small subset of sessions deviates substantially from MCE. This outlier model (model O) further assumes that there is no psi effect present in the remaining majority of sessions. A second model (M) attributes statistically a psi effect to all sessions, with a session's hit probability being either *prob* > .5, or (1-*prob*), depending on whether the session exhibits hitting or missing. If *prob* is large enough, model M also produces a significantly high session variance.

Therefore, both models increase the session variance by increasing occupancy in the tails of the distribution of session hit rates. We can demonstrate that the tryout

data are consistent with this behavior: the tryout variance p value, p = .00003, increases to p = .03 if only the 6 most extreme of 90 sessions are removed (the p value further increases to p = .12 upon dropping the next 2 extreme sessions; the trimming is balanced, with half of the dropped sessions in each tail). That is, trimming the 6 most extreme tryout sessions yields, $\chi^2(84) = 106.7$, p = .032; hit rate = 50.4%, p = .38, which is a nearly complete attenuation of the variance anomaly. This observation supports the notion that the variance arises from a mixture of a few extreme hitting and missing sessions, in accordance with both models O and M.

If we assume, then, that the tryout sessions do mix hitting and missing psi effects, it is important to ask which model, O or M, better represents the data. The question is important because the goal of the Psi@Home platform is to elicit effects broadly, and this is consistent with model M but in conflict with model O, which assumes that effects occur only for rare outlier sessions.

To assess which is the better model, we first set parameters for models M and O so that the models accord with the experimental session variance. For model M, it suffices to set, with equal probability, a hit rate of either 60% or 40% (corresponding to hitting or missing, respectively) to each session. For the model O, 82 sessions are set to the null hit rate of 50%, and the 8 remaining sessions are set with hit values of ±5, ±6 or ±7 about the MCE of 10 hits. Details of the models are given in the Appendix. The models produce average global hit rates of .50 and mean session variances for M and O, respectively, of 158.5 ± 20 and 144.5 ± 23 (approximate one standard deviation errors). The hit rates and variances of both models accord with the tryout data values, hit rate = 50.6%; $\chi^2(90) = 150.44$.

However, models M and O differ strongly at the distribution *centers*, where session hit values are 9, 10, or 11 (see Figures 5 and A.1). A statistic that can distinguish directly between the models is, therefore, the count of sessions with hits in the range 9 to 11. For the tryout data, the count is 26 sessions, and the expectations for models M, O, and the null are 31.4, 41.0 and 44.7 sessions, respectively. The one-tailed p values for a count of 26 or fewer sessions for models M, O, and the null are, respectively, p(M) = .139; p(O) = .00064; p(null) = .000045, so that both the outlier and null models are strongly disfavored (adopting a Fisherian application of the p value). Comparing models M and O directly, we find that the likelihood ratio of exactly 26 sessions favors model M by about 64:1. We therefore conclude that the tryout data are better represented by a model that attributes a psi effect broadly across sessions and participants. A model in which only a few exceptional sessions (or participants) drive the variance anomaly is not favored because it cannot explain the low number of sessions at the center of the

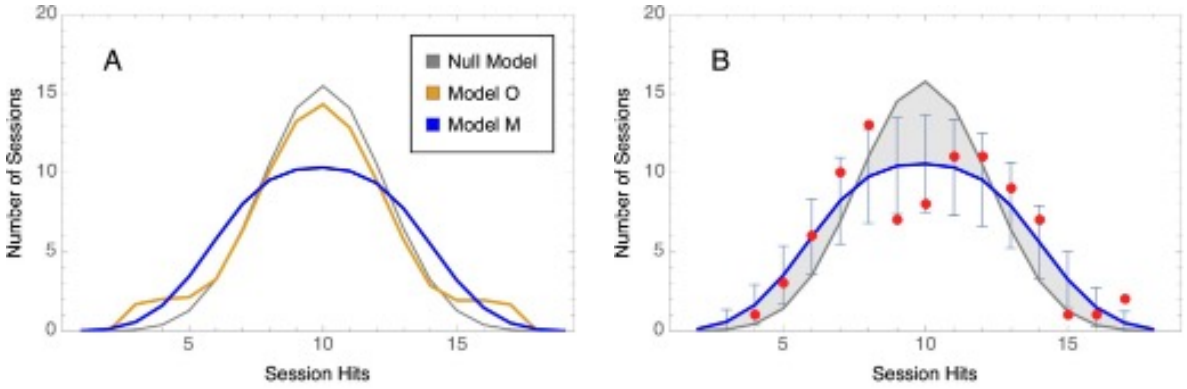
hit rate distribution. The psi-missing model M therefore provides a plausible description of the tryout data. Whatever the interpretation, we find that the effect appears for both cohorts (see Tables 1 and 2. Of the 90 tryout sessions, there were 47 Meditator sessions and 43 Open sessions. The variance tests are significant for both groups, Meditator: $\chi^2(47) = 77.6$; $p = .0025$; 400k MC iterations; Open: $\chi^2(43) = 73.2$; $p = .0019$; 400k MC iterations. Last, model M has an effect size (hit/miss rates of 60/40 percent) comparable to other reported psi effects. A 60% binary hit rate is roughly equivalent to a ganzfeld 4-choice hit rate of 33% (see Appendix A). Meta-analyses of the ganzfeld give mean effects of around 32%, and subgroups of selected participants have hit rates as high as 40% (Baptista et al., 2015).

Assuming for the moment that our interpretation holds, it remains to explain why such a strong effect would not be seen in the pre-registered formal study. One possibility mentioned earlier is that psychological factors changed during the two periods of data collection and that these moderated the occurrence and strength of psi effects. An alternate view is that psi declines mysteriously and its elusiveness is beyond our control. The clearest response is that further studies are required to adjudicate the question and it is precisely the purpose of Psi@Home to provide the needed data.

Our inclination is to favor a psychological explanation because we find it more parsimonious, at least as far as theoretical commitments are concerned. In fact, it is quite possible that participants were more motivated during the tryout sessions. The individual video calls with team members were meant to generate enthusiasm for the project, and care was taken to listen to the candidates' personal interests and emphasize the value of their participation in the research. The two tryout sessions were completed within days of the online meeting, when impressions from the video call were likely still fresh. Participants' positive attitudes and motivation for the registered study may have diminished because the emailed study invitation arrived after a delay of 1-2 months and participants had no personal contact with team members before the study launch (a brief group video call at the study's launch had a low attendance of about 20%). The requested task of 4-6 sessions was considerably more than the two tryout sessions and participants were under a deadline to finish. These factors contrast with the tryout period and may have been de-motivating. One can hypothesize that psi performance during the formal experiments was weakened by a combination of stress and a lack of motivated engagement.

Figure 5

Psi-Missing Models



Note: A) The frequency of session hits for the M, O and null models for 90 sessions. Model M puts weight in the distribution tails and suppresses frequencies in the distribution center. Model O forces tail weight by imposing 8 outlier sessions, but the distribution center is close to that of the null model. B) Red points are the tryout data; error bars on model M are one standard deviation. For clarity, error bars for the null model are not shown, but they have approximately the same extent and would be centered on the null curve.

Another possibility is that mixtures of psi hitting and missing occurred within sessions for the registered data. The power of the variance test weakens if psi hitting or missing is not stable throughout a given session. In that case, even if the absolute strength of the psi effect is maintained, the test can fail to detect an effect. Tests sensitive to this eventuality (whereby psi hitting and missing fluctuate within a given session) are based on autocorrelations and are currently under study.

Table 1

Session Variances and Hit Rates by Cohort for the Formal Experiment

			Session Variance		Hit Rate	
Cohort	N_S	N_T	χ^2	p	Hit rate	p
All	160	3190	147,56	.75	50,19 %	.42
Meditator/Psi Arts	80	1597	89,43	.22	48,84 %	.83
Open	80	1593	58,13	.97	51,54 %	.11
Meditators only	54	1078	65,36	.13	48,61 %	.83
Psi Arts only	26	519	24,07	.57	49,33 %	.64

Table 2

Session Variances and Hit Rates by Cohort for Tryout Data

			Session Variance		Hit Rate	
Cohort	N_S	N_T	χ^2	p	Hit rate	p
All	90	1789	150,72	.000031	50,59 %	.32
Meditator/Psi Arts	47	935	77,55	.0025	48,56 %	.82
Open	43	854	73,17	.0019	52,81 %	.054
Meditators only	32	637	53,13	.0092	50,08 %	.50
Psi Arts only	15	298	24,42	.024	45,3 %	.95

Limitations

A current limitation of Psi@Home is that cohort members need access to a macOS computer to operate the Selfield application, which reduces the pool of cohort candidates and lengthens the recruitment period. Solutions are to port the Selfield software to run on PCs, or to create new applications in programming languages that are broadly supported by common operating systems. The design choice to use applications installed on participants' computers – as opposed to using video streaming or web browser applications – opens several security concerns because applications can be copied to unauthorized users or modified (hacked) to alter data records sent to the Psi@Home server. Security measures include: the use of highly secure AWS servers; the use of individual passwords to connect to the server; hidden verification of each user's unique computer serial ID to detect unauthorized software installations; and a verification of the software checksum (details of which we do not report here) to guard against modification of the application's code. Security measures are never inviolable, and enhanced security is planned for future versions of Psi@Home. An option for future studies is to run applications directly from the cloud server, which overcomes some security issues. The trade-off is that bandwidth limitations and Internet intermittency may degrade the user experience or data integrity, particularly for immersive, interactive presentations like the Selfield that employ sophisticated real-time video generation. It is worth mentioning that the possibility of data manipulation is less plausible when effects are distributed broadly among participants, as we have argued is the case for the tryout data. Data manipulation would then require collusion among members of the global cohort, in addition to overcoming security measures.

Security measures against fraud by the experimenters (such as sequestering duplicate databases, key encoding the data and including skeptical collaborators) can also be implemented later. A complementary long-term approach, integral to Psi@Home, is that a reasonable assurance against fraud from any source is inherent in the ability to reproduce effects reliably and efficiently. Should the program succeed – and we remain optimistic, yet realistic about the challenges – the proliferation of evidence from independent groups would greatly diminish suspicions of hoax or deception.

A limitation of the experiment we report here is the lack of an independent, automated calibration of the random process used to determine trial outcomes. The process consists of seeding a pseudo-random bit generator in the application with input from the millisecond timing of user keystrokes. The process cannot be simulated faithfully because it entails human actions and individual computer configurations across participants. The only way to truly reproduce conditions of the random process is to run actual experimental sessions. An alternate approach is to utilize a true random source installed on the server. An implementation is currently in development.

However, live "control" data does exist de facto as the null results of the registered formal study. Two other data sets of comparable size were also collected during the study period and showed no variance anomaly. One consisted of 74 extra cohort sessions collected after the registered *N* of 80 sessions per cohort was reached. A second was 65 sessions collected by a researcher who tested the Psi@Home platform independently during the recruitment period with participants not from Psi@Home cohorts. Tests of variance for the data sets give insignificant *p* values, respectively, $\chi^2(74) = 80.7$; $p = .27$; $\chi^2(65) = 60.0$; $p = .66$. The null results for nearly 300 sessions (the 160 registered sessions of the formal study; the 74 extra sessions of the formal study; the 65 independent researcher sessions) constitute a de facto control database, generated concurrently and under real-world conditions, that counters an explanation of a persistent software or platform malfunction that might impact the random process. Further, contributions to the tryout variance anomaly are distributed across many sessions and users, so any malfunction would have to occur in multiple installations in the same manner. A few intermittent malfunctions cannot explain the variance. The variance anomaly is not associated with the several sessions that dropped a few trials. Removing those from the 90 recruitment sessions doesn't impact the test, $\chi^2(85) = 147.8$; $p = .00002$.

Finally, we note that, although the software was updated just before the registered study, the update only changed a text file with a study identifier and did not

alter the Selfield application itself. Identical software was used in both periods of data accumulation. These considerations lead us to conclude that the anomalously high variance in the tryout data is not due to technical problems and that the datasets without a variance anomaly can serve as surrogate control data.

A limitation of the variance analysis of the tryout data is that it is a post-hoc exploratory result and not the result of a pre-registered analysis, in contrast to the formal analysis. However, the collection of the tryout data *was* stipulated in pre-registration and the analysis procedures were kept identical for both data sets. There was no exploration of alternate statistics or tests.

A more consequential limitation is multiple analyses of data and the potential impact on interpreting *p* values of the tryout variance. As mentioned above when discussing control data, several data sets were tested using both the variance and hit rate statistics. In total 7 data sets were tested: recruitment data at 50 and then 90 sessions; formal data for 2 cohorts; the combined data for 2 cohorts; 74 extra cohort sessions; 65 sessions of an independent researcher. A Bonferroni adjustment multiplies the tryout variance *p* value by a factor 14 (accounting for the tests of hit rate and variance on 7 datasets) that yields an adjusted value $p = .00043$. The adjusted *p* value is still highly significant. The Bonferroni method is conservative, especially in this case where some data sets are not independent. We conclude that the variance anomaly of the tryout data is not an artifact of multiple testing or improper analytical procedures, despite the limitations we outline here.

Conclusions

We have reported on a new platform for collaborative psi research with selected cohorts. The Psi@Home platform uses a downloadable application that allows people from the across the world to participate in experiments by doing sessions at home. The at-home design permits the establishment of cohorts with substantial numbers of participants, even when applying highly restrictive selection criteria. The platform employs a modular approach to experimental design that treats research teams as a fundamental element of experimental studies. It is envisioned as a user facility that external researchers can use to undertake psi studies with lower costs and faster execution. We hope this will make psi research more accessible to the scientific community. A study to compare two cohorts was easily completed within a month's time, validating our design goal of high data rates and reduced overhead for studies.

The study, which compared a cohort of experienced meditators with a general public cohort, yielded a non-significant result on 4 of 5 pre-registered statistical tests of a psi effect. A fifth test that compared the cohorts was significant at $p < .05$, but confidence in its evidential value is diminished given the other null results. On the other hand, a tryout data set, whose collection was pre-registered as part of the process of recruiting cohort members, yielded a highly significant result for one of the two measures of an effect that we undertook for the formal study. The variance of session hit rates was nearly 4 standard deviations above null expectation, and in the direction expected for a model of psi-missing. We interpret this as evidence of a psi effect and show that a simple model of psi-missing accords well with the data's distribution of session hits. The absence of a similar effect in the formal study may be due to differences in participants' psychological attitudes between the two periods of data collection. Although we feel that this interpretation is a plausible one, it remains a speculative proposal limited by the use of post-hoc analysis and modeling. A confirmation will need input from further studies and data.

Declaration of interests

The Authors declare that there is no conflict of interest.

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Appendix A

Definitions of Terms and the Zero-Mean Variance Test

The null distribution of session hits is a binomial B[*N*, p]. In the text, we borrow a few terms from Gaussian statistics and employ *z*-score for the number of excess hits divided by the theoretical binomial standard deviation:

$$z = 2\frac{(hits - \frac{n}{2})}{\sqrt{n}}.$$

Our use should not be confused with a standard normal variable. We also refer to the sum of squares of *N* *z*-scores as the "zero-mean variance of *N* session *z*-scores":

$$\chi^2_N = \sum_i^N z_i^2.$$

This is the quantity $\chi^2(N)$ in the text. It is a discrete random variable that closely follows the (continuous) chi-square distribution with *N* degrees of freedom. A normalized value can be had by dividing χ^2 by *N*, as is typically done for (theoretical) variances, but we prefer to cite the raw χ^2 in this paper. "Zero-mean" signifies that χ^2 is calculated about the theoretical mean $z = 0$, instead of the sample mean. This allows a sensitivity to net psi-hitting (or missing) that would be lost if the variance were calculated relative to the sample mean.

Approximate *p* values for χ^2 can be estimated from the corresponding chi-square distribution. We use more accurate Monte Carlo estimates of *p* values when stating results. The MC procedure also allows *p* values estimates when the number of trials per session varies.

Monte Carlo Calculations

P value estimates for χ^2 are done by MC calculations on the *Mathematica* platform. A vector of *z*-scores for a study of K sessions is simulated using the χ^2 RandomInteger[*dist, N*] function, where *dist* is the binomial distribution with *N* trials and probability *p* (*p* = 1/2 for the null distribution, but see below for other models). Nominally sessions have 20 trials, but occasionally fewer trials are recorded due to partici-

pants' intermittent WiFi connections (about 10% of sessions). To maintain nearly equal weights of sessions, the registered protocol stipulated that sessions with less than 17 recorded trials should be discarded (about 5% of sessions). The MC calculations take into account the actual number of trials for each experimental session. A value of χ^2 is calculated from the *z*-score vector, and the process is iterated to give a simulated distribution for χ^2. Empirical values from the experiment are then compared to the χ^2 distribution to yield *p* values. Note that the number of iterations can be increased to give a desired accuracy; we typically estimate *p* values to an accuracy of better than 10%.

Difference Test of Cohort Hit Rates

The registered experiment gave Meditator and Open cohort hit rates of 48.8% and 51.8% respectively, hits of 780 and 825; trial *N*s of 1597 and 1593. An effective *z*-score for the difference of cohort hit rates is given by:

$$z = \frac{HR_{Open} - HR_{Med}}{\sqrt{HR_{av}(1 - HR_{av})(\frac{1}{N_{Open}} + \frac{1}{N_{Med}})}}$$

where = .5031 is the weighted average hit rate, so that *z* = 1.665 (*p* = .096, two-sided).

The Psi-Missing Model M

Under the assumption of a psi effect, we ask if contributions to the high variance in the tryout data come from the participant population as a whole, or only a few high performers. The question is important because the Psi@Home platform aims to elicit effects broadly.

Model M mixes hitting and missing sessions of uniform psi strength. The strength parameter, D, is the offset from a 50% hit rate and is defined on [0,1/2]. A parameter *F*, defined on [0,1], sets the proportion of hitting or missing sessions. The session hit rates are then 1/2±D, and the fractions of sessions with psi-hitting/missing are *F* and (1-*F*). Note that hits for the model sessions are binomial variables, so that hitting sessions may produce hit rates less than 50%, and vice versa for missing sessions.

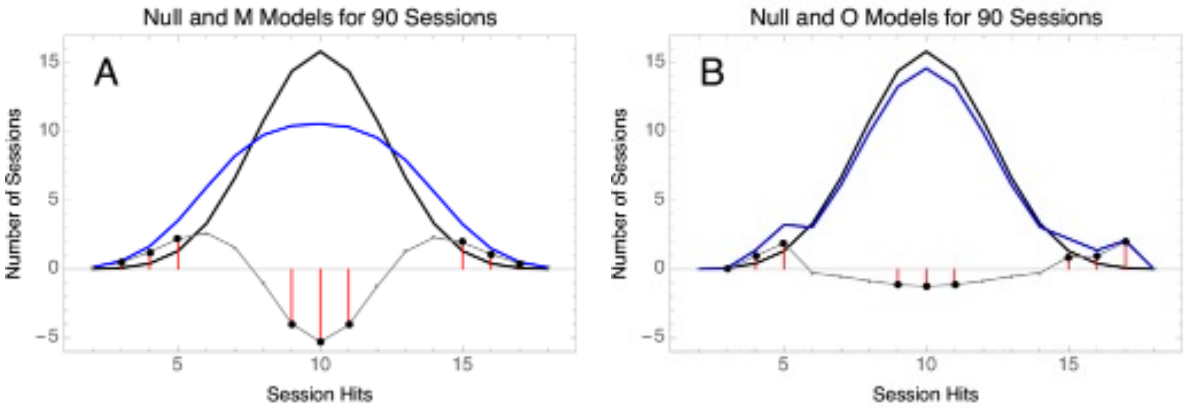
We adjust parameters *D* and *F* to give agreement with the mean and χ^2 of the 90 tryout sessions. It is fine to do this by inspection since we use the model M to draw comparative inferences, rather than determining precise parameter values. The tryout data has a mean hit rate of *HR* = 50.6% and χ^2 = 150.7. Setting *D* = 0.10 and *F* = 1/2 gives MCE of (*HR* = 50%; *CI90*(48.1, 51.9); and χ^2 = 158.5; *CI90*(126.8, 193)), where the 90% confidence intervals are determined from MC. The parameter settings give a good fit to the data's mean and χ^2.

We contrast model M with model O, which assumes no psi effect except for 8 sessions with extreme hit rates. The outlier sessions are set to the empirical values of the 8 most extreme sessions in the tryout data (4 sessions with 5 excess hits; and 2 sessions each with 6 and 7 excess hits). Model O yields: HR = 50.0%; CI90(47.6, 52.4) and χ^2 = 131.5; CI90(118.6, 159.7), which is also consistent with the tryout data.

Comparing M and O with the null finds that the distribution tails are quite similar, but that there is a marked difference for the distribution centers (Figure A.1). Model M moves weight out of the center, which decreases the frequency of sessions with hits in the range from 9 to 11. A test of the session counts in this range therefore can distinguish between the broadly distributed effect of model M, and model O, which restricts an effect to a small number of sessions. The *p* value for obtaining 26 sessions in the center range (as found for the tryout data) is calculated by MC for each model. The likelihood ratio for models M and O is had by estimating the probability of exactly 26 sessions occurring in the center range for each model by 400k MC iterations, and taking the ratio of frequencies.

Figure A.1

Comparison of Models M, O and Null



Note: The plots show how the psi-missing and outlier models, M and O, can be distinguished when there

is a significant excess variance. The horizontal axis is the number of hits in a session and the vertical axis is the number of sessions at the respective hit value (for 90 sessions). Black traces: null model; gray traces: differences from the null for models M and O, respectively. Red bars highlight the differences at the distribution tails and centers. The distribution center is much lower than the null for model M, but only slightly so for model O. Models M and O can therefore be distinguished by comparing the session counts in the center range. In contrast, because the tails dominate χ^2 for both models, the χ^2 statistic, while rejecting the null, does not allow a statistical discrimination of the two models, M and O.

Effect Size for Model M

The strength parameter for the hit rate deviation is D ≈ .10 for model M. The effect size for a single trial is

$$ES = \frac{D}{\sigma} = \frac{D}{\sqrt{p(1-p)}}.$$

For D = .1 and p = 1/2 we have ES = .2 which is comparable to recent meta-analytic estimates for ganzfeld and remote viewing databases (Tressoldi & Katz, 2023). The D parameter can be converted to a null offset for 4-choice protocols as the standard ganzfeld (G) if p = 1/4. In this case G = .866*D = .087, which corresponds to a ganzfeld hit rate of 33.7%.

Une Expérience de Précognition à Choix Forcé Avec des Cohortes Sélectionnées

Peter A. Bancel Jocelyne Bobanl Anaïs Bensahral Mario Varvoglis

Résumé : *Objectif* : Nous présentons une étude de précognition à choix forcé préenregistrée afin de tester une nouvelle plateforme collaborative pour l›expérimentation psi. L›étude a comparé une cohorte de méditants expérimentés et une cohorte sélectionnée par le simple intérêt de participer à l'étude. *Méthode* : La plateforme en ligne Psi@Home a été développée afin de permettre aux participants de contribuer à des sessions expérimentales réalisées à domicile à l'aide d'un logiciel spécifique. Chaque session comportait 20 essais à choix forcé. Pour l'étude préenregistrée, 80 sessions ont été collectées pour chaque cohorte. Les hypothèses portaient sur une augmentation, par rapport au hasard (chance moyenne attendue - MCE), de : 1) la variance des taux de réussite par session, et 2) le taux de réussite total. Une troisième hypothèse prévoyait une variance plus élevée des taux de réussite par session dans la cohorte des méditants. L'hypothèse 1 était confirmatoire, tandis que les deux autres étaient exploratoires. *Résultats* : Seule l'hypothèse 3 a été confirmée (p = .03). Toutefois, 90 sessions d'essai (préliminaires) ont montré une augmentation notablement significative de la variance des sessions (p = .00003). *Conclusion* : Nous avons réussi à tester une nouvelle plateforme destinée aux expériences collaboratives en parapsychologie. Les deux études de

cohortes préenregistrées n'ont pas permis de mettre en évidence un effet psi direct. Toutefois, les données d'essai — dont la collecte était spécifiée dans le protocole de préenregistrement et reposait sur les mêmes participants et procédures — ont révélé une variance intersession significative. Des différences d'attitudes des participants entre les deux périodes de collecte pourraient expliquer cette divergence.

French translation by Antoine Bioy, Ph. D.

Ein Forced-Choice Präkognitions-Experiment mit ausgewählten Kohorten

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Zusammenfassung: *Zielsetzung.*: Wir berichten über eine vorab registrierte Forced-Choice-Präkognitions-studie zur Erprobung einer neuartigen kollaborativen Plattform für Psi-Experimente. Die Studie verglich eine Kohorte erfahrener Meditierender mit einer Kohorte, die allein aufgrund ihres Interesses, an der Studie teilzu-nehmen, ausgewählt wurde. *Methode*: Die internetbasierte Plattform Psi@Home wurde entwickelt, um den Teilnehmern die Möglichkeit zu geben, zu Hause mit Hilfe einer benutzerdefinierten Software experimentelle Sitzungen durchzuführen. Jede Sitzung umfasste 20 Forced-Choice-Versuche. Achtzig Sitzungen pro Ko-horte wurden für die vorab registrierte Studie gesammelt, und die Hypothesen für jede Kohorte waren die Zunahme der 1) Varianz der Sitzungs-Trefferquoten und der 2) Gesamt-Trefferquote im Vergleich zur Mittlere Treffererwartung (MCE). Eine dritte Hypothese sagte eine höhere Varianz der Sitzungs-Trefferraten für die Meditierenden-Kohorte voraus. Hypothese 1 wurde bestätigt und die anderen waren explorativ. *Ergebnisse*: Nur Hypothese 3 wurde bestätigt (p = .03). Allerdings zeigten 90 Probesitzungen einen deutlich stärkeren Anstieg der Sitzungsvarianz (p = .00003*). Schlussfolgerung*: Wir haben erfolgreich eine neuartige Plattform für kollaborative Psi-Experimente getestet. Zwei vorab registrierte Kohortenstudien ergaben keine keinen direkten Beweis für einen Psi-Effekt. Für Probedaten, deren Erhebung in der Vorabregistrierung unter Ver-wendung derselben Teilnehmer und desselben Protokolls festgelegt wurde, war die Varianz zwischen den Sitzungen hoch signifikant. Unterschiede in den Einstellungen der Teilnehmer während der beiden Zeiträume der Datenerhebung könnten die Ursache für diese Diskrepanz erklären

German translation by Eberhard Bauer, Ph. D.

Experimento de Precognição com Escolha Forçada em Coortes Selecionadas

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Resumo: *Objetivo***.** Relatamos um estudo pré-registrado de precognição com escolha forçada para testar uma nova plataforma colaborativa para experimentação psi. O estudo comparou uma coorte de medit-adores experientes e uma coorte selecionada apenas pelo interesse em participar do estudo. *Método*. A

plataforma baseada na Internet, Psi@Home, foi desenvolvida para permitir que os participantes contribuíssem com sessões experimentais em casa usando um software personalizado. Cada sessão foi composta por 20 testes de escolha forçada. Oitenta sessões por coorte foram coletadas para o estudo pré-registrado e as hipóteses para cada coorte foram o aumento em relação ao MCE 1) da variância das taxas de acerto das sessões, e 2) da taxa de acerto total. Uma terceira hipótese previu uma variância maior nas taxas de acerto das sessões para a coorte dos meditadores. A hipótese 1 era confirmatória e as demais exploratórias. *Resultados.* Apenas a hipótese 3 foi confimada (p = .03). No entanto, 90 sessões de teste mostraram um aumento acentuado na variância das sessões (p = .00003). *Conclusão.* Testamos com sucesso uma nova plataforma para experimentos psi colaborativos. Dois estudos de coorte pré-registrados não encontraram evidências diretas de um efeito psi. Entretanto, para os dados de teste cuja coleta foi especificada na pré-inscrição usando os mesmos participantes e protocolos, a variância entre as sessões foi altamente significativa. Diferenças nas atitudes dos participantes durante os dois períodos de coleta de dados poderiam explicar a discrepância.

Portuguese translation by Antônio Lima, Ph. D.

Un Experimento de Precognición de Elección Forzada con Grupos Seleccionados

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Resumen: *Objetivo*. Publicamos un estudio pre-registrado de precognición de elección forzada que evaluó una nueva plataforma colaborativa para experimentos psi. El estudio comparó un grupo de meditadores experimentados con un grupo seleccionado por su mero interés en participar en el estudio. *Método*. Desarrollamos la plataforma en Internet, Psi@Home, para que los participantes contribuyeran sesiones experimentales desde su hogar utilizando un programa personalizado. Cada sesión constó de 20 pruebas de elección forzada. Recopilamos 80 sesiones por grupo para el estudio pre-registrado y las hipótesis para cada grupo fueron de un incremento relativo al MCE (expectativa media de azar) de: 1) la varianza de las tasas de aciertos de la sesión, y 2) la tasa total de aciertos. Una tercera hipótesis fue de una mayor varianza en los índices de aciertos en la sesión para el grupo de meditadores. La hipótesis 1 era confirmatoria y las otras exploratorias. *Resultados*. Sólo se confirmó la hipótesis 3 (p = .03). Sin embargo, en las 90 sesiones de prueba hubo un marcado aumento en la varianza de las sesiones (p = .00003). *Conclusiones*. Evaluamos con éxito una nueva plataforma para experimentos colaborativos psi. Dos análisis pre-registrados de grupos no encontraron evidencia directa de un efecto psi, pero para los datos de prueba cuya recopilación se especificó en el pre-registro utilizando los mismos participantes y protocolo, la varianza entre sesiones fue altamente significativa. Las diferencias en las actitudes de los participantes durante los dos periodos de recopilación de datos tal vez expliquen la discrepancia.

Spanish translation by Etzel Cardeña, Ph. D.

Telecommunication Telepathy: A Meta-Analysis[1]

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Abstract: *Objective*: We bring together results from 15 published papers describing 26 telecommunication telepathy experiments published between 2003 and 2024 in a meta-analysis to explore the patterns in these results and their overall significance. *Methods*: The basic experimental design in these experiments involved four potential callers in remote locations. For each trial one of these callers was chosen at random and asked to call the participant, who was on a telephone without a caller ID. The participant then named the caller before answering the phone. Similar experiments were carried out with email and SMS messages. By random guessing, the hit rate would be around 25%. We collected relevant studies from reference lists and online searches and used a random-effects model in the meta-analysis. *Results*: Overall, hit rates were very significant above chance level (p = $1x10^{-7}$). By contrast, in tests carried out under precognitive conditions, the hit rates were at chance. There was no significant difference between the results of Sheldrake and his colleagues, who carried out most of the studies, and independent replications. Selected participants had significantly higher hit rates than unselected participants, and hit rates were significantly higher when callers and participants shared an emotional bond. The effect sizes in telecommunication telepathy are higher than those in ganzfeld and dream telepathy tests. *Conclusion*: Research on telecommunication telepathy could become an increasingly fruitful area for psi research, especially in conjunction with automated intuition training apps.

Keywords: telephone telepathy, e-mail telepathy, psi, anomalous cognition, meta-analysis, precognition, automated tests.

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Highlights

- Based on 26 telecommunications telepathy experiments, hit rates were very significant above chance level ($p = 1 \times 10^{-7}$).
- In tests carried out under precognitive conditions, the hit rates were at chance levels.
- Selected participants had significantly higher hit rates than unselected participants.
- Hit rates were significantly higher when callers and participants shared an emotional bond.
- The effect sizes in telecommunication telepathy were higher than those in ganzfeld and dream telepathy experiments.

Many people say that they have had telepathic experiences in connection with telephone calls, emails, SMS messages and instant messaging systems (Brown & Sheldrake, 2001; Sheldrake, 2000, 2003). Typically, people say they started thinking about somebody for no apparent reason who shortly afterwards called them on the telephone, sent an email, or text message, or they felt who was calling when the phone rang before looking at the caller ID or answering the phone. In questionnaire surveys in the UK, USA, Germany, and Argentina, an average of 85% of the respondents said they had experienced apparent telephone telepathy; in most cases it occurred with people they knew well, like family members, friends, or close colleagues. In the same surveys, people were also asked if they had experienced other kinds of telepathy, to which 68% answered yes (Sheldrake, 2003). Telepathy in connection with telecommunications seems to be more common than other kinds of apparent telepathy and may be the prevalent type of telepathy in the modern world.

However, although these experiences with telephones, emails, and text messages appeared to be telepathic, could they have been a result of chance coincidence combined with selective memory? People might have remembered the times they thought of someone who called or sent a message but forgot the times they thought about someone who did not. Moreover, because telepathy typically occurs between people who know each other well, people may have anticipated subconsciously when a particular person would call, or message them, based on their habits and schedules.

Although apparent telecommunications telepathy is common, as far as we know it was not investigated experimentally until the beginning of this century. To test the possibility that the phenomenon is merely a matter of chance or depends on knowing callers' habits, Sheldrake and Smart (2003a, b) carried out experiments in which the participants had four potential callers, all of whom were in remote locations, far beyond the range of normal sensory cues. For each trial, one of the callers was selected by the experimenter at random, and the experimenter then rang up that person and asked him or her to call the participant. In these tests, participants used landline telephones without caller ID systems and in some tests they were filmed continuously. When the phone rang, the participants had to guess which of four callers was on the line before answering the phone. By chance, their responses should have been right about 25% of the time; in fact, they were correct significantly more than this. In an initial unfilmed series of tests with 63 participants and 571 trials, the average hit rate was 40%, very significantly above the mean chance expectation of 25% ($p < 1x10^{-15}$) (Sheldrake & Smart, 2003a). In a follow-up study in which four selected participants were filmed during the tests to minimize any possibility of cheating, the hit rate in a total of 271 trials was 45%, again very significantly above the chance level of 25% ($p < 1x10^{-12}$) (Sheldrake & Smart, 2003b). In addition, an experiment of this kind was filmed for television in Britain with a group of five sisters, the Nolan sisters, who were a well-known girl band; their hit rate was 50% in 12 trials ($p = .05$) (Sheldrake et al., 2004).

Sheldrake and Smart (2005) also investigated possible telepathy in connection with emails in tests with a similar design, and with similar results. In a total of 819 unfilmed trials, the hit rate was 42%, very significantly above the 25% expected by chance ($p < 1 \times 10^{-18}$). In a subsequent series of tests in which selected participants were filmed, in a total of 137 trials the hit rate of 47% was again very significantly above chance ($p < 1 \times 10^{-7}$). After Sheldrake & Smart's initial results were published in 2003, similar experiments were carried out on telephone telepathy by independent research groups in the Netherlands (Lobach & Bierman, 2004) and in Germany (Schmidt et al., 2009).

In the study of Lobach and Bierman (2004), the primary question they were asking was whether telephone telepathy occurred more at some times of day than others. In particular they tested the possibility that psychic phenomena occurred more around 13.30 hours local sidereal time (LST) than at other times of day. LST is defined in terms of the sun's relation to the fixed stars at the time of the vernal equinox and differs from regular solar time. The motivation for this enquiry was the finding by Spottiswoode (1997) that in a large sample of anomalous cognition studies, effect sizes were greatest at 13.30 LST, for unknown reasons. Spottiswoode examined the telephone telepathy data reported in Sheldrake and Smart (2003a) and found a similar pattern (Lobach

& Bierman, 2004). In their experimental study, Lobach and Bierman compared the hit rates in telephone telepathy tests around 13.30 LST (which was between 8.00 and 9.00 am in Amsterdam at the time of the study) and at a non-peak time, between 6.30 and 7.30 pm. The hit rates around 13.30 LST were indeed significantly above chance, 34.6% compared with 25% mean chance expectation, whereas at the non-peak time hit rates were 25.2%. The overall above-chance hit rate (29.4%, p = .05) was almost entirely because of the hit rates at peak times. As far as we know, there have been no follow up studies of this fascinating finding.

In Schmidt el al.'s (2009) first test, participants were tested not at home, as in previous and subsequent studies, but in the experimenter's office. In the randomized tests their callers did not ring the participant but the experimenter. The participant, who was in the same room, responded by naming the person they thought was calling the experimenter. The results were almost at the chance level, 26.7% as opposed to 25%. Arguably, this procedure cannot be considered an exact but a conceptual replication of other studies because of the obtrusive role of the experimenter and should have been excluded from our meta-analysis. In their subsequent studies, Schmidt et al. (2009) adopted the usual procedure of testing people at home, with the participants answering the telephone themselves, and found that one of their participants consistently scored significantly above chance and continued to do so in a follow-up series of trials.

This first phase of research by Sheldrake and his team, Lobach and Bierman (2004), and Schmidt et al. (2009) involved experimenter-directed tests in which the experimenters telephoned the randomly selected callers and asked them to call the participant or emailed the emailers asking them to send an email to the participants. The second phase of research, starting in 2007, involved a variety of automated tests, including internet-based automated tests for telepathy (Sheldrake & Beeharee, 2009; Sheldrake & Lambert, 2007), tests on telepathy in connection with SMS messages (Sheldrake et al., 2009) and emails (Sheldrake & Avraamides, 2009) and automated tests for telephone telepathy on mobile phones (Sheldrake et al., 2015; Sheldrake & Stedall, 2024). Independent investigations of telephone telepathy using an automated procedure were carried out in the US by Wahbeh et al. (2024) and in Italy by Tressoldi and Stedall (2025). In some of these automated studies, instead of four potential callers, there were only three or two. With four callers, there is a 25% mean chance expectation with random guessing; with three callers, 33.3%, and with two callers 50%.

Sheldrake and Stedall's (2024) first three experiments followed a new procedure, never used before, in which the participant and two callers were continuously con-

nected in a conference call system, in which the potential caller who was not part of any given test was muted and could not hear what the other two were doing. Nevertheless, this non-caller was not physically and emotionally disconnected from the others when the tests were proceeding, and in this sense these experiments cannot be considered an exact but a conceptual replication of the methods used in most other tests; like Schmidt et al.'s (2009) first study, they could arguably have been excluded from the meta-analysis. The hit rates were not significantly above chance, perhaps because of telepathic interference from the non-caller, whose mind was not detached from the experiment when not calling, as in the usual design. When Sheldrake and Stedall (2024) reverted to a more conventional design in their experiment 4, the hit rate was positive and significant.

When Tressoldi and Stedall (2025) used the same method as in Sheldrake and Stedall's (2004) experiment 4, testing participants at a University in Italy, the overall hit rate was 48.7%, slightly below the mean chance expectation of 50%. However, there is more to this null result than meets the eye. After doing the test, the participants were asked about their strategy as follows: "*Please describe how you tried to solve the task, either to find an underlying rule or reasoning about the caller's identity, or using an intuitive approach, that is trying to guess the caller's identity based on your feelings and guessing abilities.*" Those who said they looked for rules or reasons scored very significantly below the chance level of 50%, with only 35.4% hits (p = .00003). Those who said they took an intuitive approach had an above-chance hit rate of 56.7% (p = .01). These results suggest not only that an intuitive approach works better than a non-intuitive approach under telepathic conditions, which is not surprising, but also that an attempt to use rules and reason does not merely inhibit telepathic effects, but reverses them – a kind of negative psi or psi-missing. This seems to be an example of the "sheep-goat effect," well known to psi researchers for decades. Sheep are people who accept the possibility of psi, whereas goats are people who reject the possibility of detecting psi in experimental tests. There is a general tendency for sheep to score above chance, and for goats to score at or below chance (Storm & Tressoldi, 2017).

Telecommunication telepathy research contrasts with earlier empirical research on telepathy because it does not take place in artificial experimental settings, but in people's homes and other informal environments. By contrast, in the well-known card-guessing tests of J.B. Rhine and his colleagues, people worked in pairs in formal laboratory conditions, and one, the sender, looked at cards with simple visual symbols on them, so-called Zener cards, while the participant, who was often unknown to the sender and behind a screen, tried to guess which of the five cards was being looked at. The effect size was very small, but because there were such large numbers of ESP

trials it was statistically significant (Storm & Tressoldi, 2023).

In Ganzfeld telepathy experiments, the participants were in isolated rooms, usually in reclining chairs, with halved ping pong balls taped over their eyes, in dim red light, with white noise playing through earphones. Meanwhile, a sender in a separate room watched a randomly selected video clip out of a pool of four video clips. Could the receiver identify the target video at levels above chance, in this case 25%? A long series of Ganzfeld experiments in many different laboratories has given repeatable, statistically significant positive results (Tressoldi & Storm, 2023).

Telepathy in connection with modern telecommunications offers the possibility for research in real life settings, rather than in laboratories or in hard-to-organize remote viewing sessions with an outbound target person. Telecommunication telepathy is closer to everyday experience and opens up the possibility for progressively improved automated tests, as well as for automated intuition training procedures.

Altogether there were 15 published papers describing 26 telecommunication telepathy experiments published between 2003 and early 2024. Here, we present a meta-analysis of these results.

Methods

Studies Retrieval

All studies with Rupert Sheldrake as author were retrieved from the database at this link: https://www.sheldrake.org/research/telepathy. All the remaining studies were retrieved using references in Sheldrake's papers, personal contacts of the authors, and a search on Google Scholar (scholar.google.com) database with the keywords "Sheldrake" and "telephone telepathy," on 10th November 2023. The Google Scholar database is is more comprehensive than other academic search engines such as Scopus and Web of Science, which are confined to mainstream journals; Google Scholar includes non-mainstream journals, preprints, and technical reports. Further searches were carried out on 20th August 2024 using the PsychINFO database. A search for "telephone telepathy" came up with several of the publications we had already identified, but no other publications on the subject. Searches for "email telepathy", "SMS telepathy", "text telepathy" and "telecommunications telepathy" came up with no relevant publications. In short, we found no papers on telephone or other forms

of telecommunication telepathy in the scientific literature before the publications of Sheldrake and his colleagues starting in 2000. However, even if we missed some published papers in our searches, we took into account the possibility of undetected or unpublished studies through the Publication Bias Control, discussed below.

Inclusion Criteria

Studies had to be experimental studies published in scientific journals or conference proceedings and had to report the number of trials and correct identifications (hits).

After elimination of duplicates and non-experimental studies, we retained 15 studies with 26 experiments (see Figure 1; cf. Page et al., 2021). We included the first experiment of Schmidt et el. (2009) and the first three experiments of Sheldrake & Stedall (2023) even though they were not exact replications of the original designs of Sheldrake and his colleagues but used different conditions.

Two authors, Patrizio Tressoldi and Tom Stedall, both experts in experimental studies analyses, coded the following variables to be inserted in the database: a) Authors of the study; b) Year of publication; c) Type of device (telephone, email, etc.); d) Type of condition (Telepathy or Precognition); e) Participants selection (Yes or No); f) Risk of cheating (Yes or No); g) Independent Replication (Yes or No); h) Callers' emotional bond with the receivers (Yes or No); i) Number of participants; l) Number of trials; m) Number of Hits (correct identifications).

Because in some studies the authors reported both complete and incomplete tests, that is tests interrupted either for technical problems or by participants for any reason such as optional stopping, we decided to include all complete and incomplete tests. This means that optional stopping could have been occurring, in which participants stop a test because they are not doing well. However, this would have the effect of lessening the hit rate.

All information was checked and agreed by the two coders and supervised by the first author.

The final database with all 15 papers and related 26 experiments, are available open access at: https://doi.org/10.6084/m9.figshare.24574174 for independent controls.

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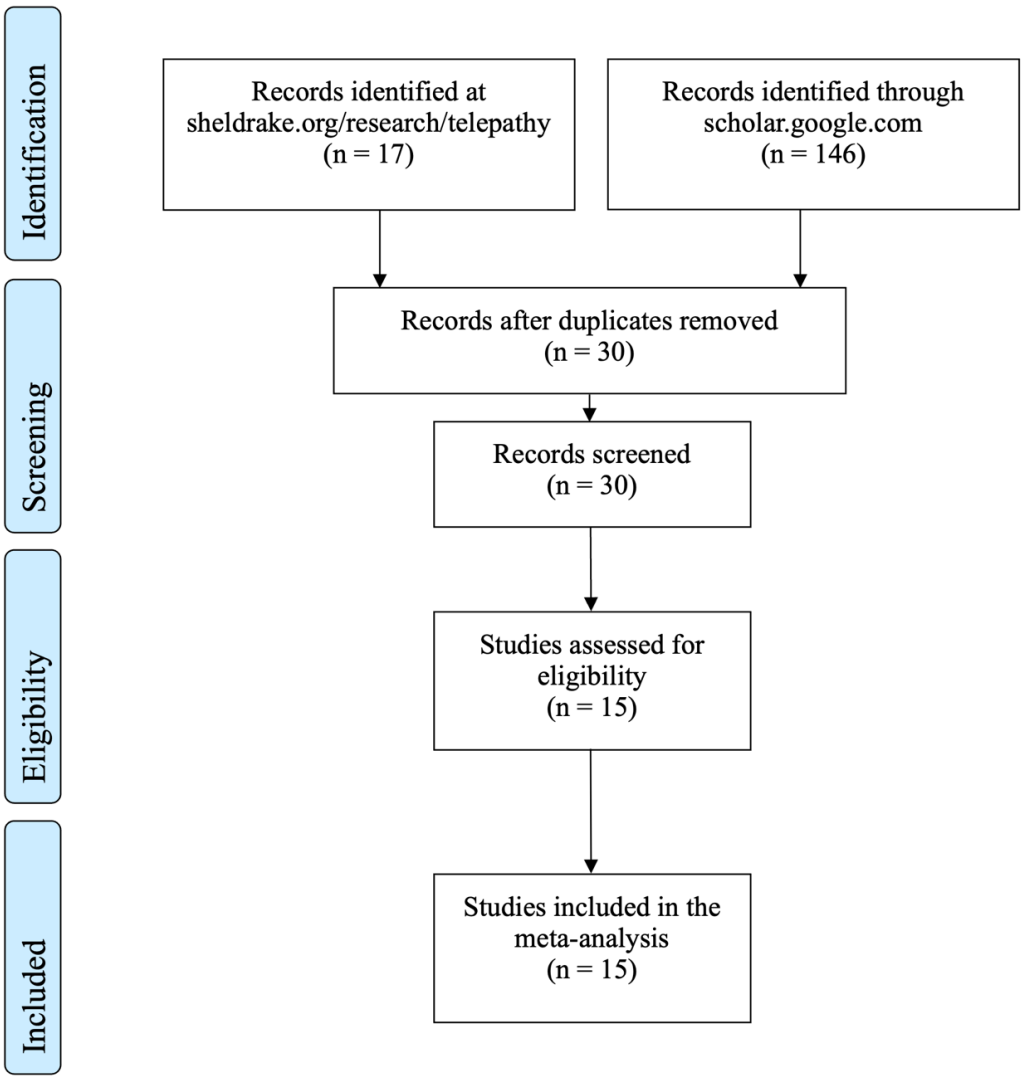
Figure 1

PRISMA Flowchart for Literature Retrieval



Effect Size Measures

We analyzed the raw effect size (ES.Hits) obtained calculating the difference between the hits percentage and the percentage expected by chance which is a measure that conveys an immediate comprehension of the overall results. In the experimenter directed tests, the mean chance expectation was 25%, and in the automated tests 33.3% or 50%. For an easy-to-understand overview of the overall results we took an average of the raw effect sizes in all experiments. We compared the raw effect sizes in a Forest plot (Fig.2).

We also analyzed the overall results with standardized effect size (ES), as this measure is often used in other meta-analyses. The standardized effect size was estimated from the Z values of the normal approximation to the binomial distribution applying the formula $Z/\sqrt{n}$ of trials. We estimated the effect sizes variance with the formula: $(p(1-p) / (n * \pi_0 (1-\pi_0)))$; where p = hits percentage; π_0 = percentage chance, n = number of trials.

Meta-Analyses Model

There are two main statistical procedures for meta-analysis: fixed-effect and random-effects models. Fixed-effect models assume that all the studies in the meta-analysis are very similar and that the only sources of variability are sampling errors in the selection of participants. This was not the case here. Therefore**,** given the heterogeneity among the different experiments, we applied a random-effects model adopting the restricted maximum likelihood (REML) to estimate the heterogeneity variance (Langan et al., 2019) and the Hartung method to control effect size nonnormality (Rubio-Aparicio et al., 2018) and corresponding confidence intervals estimation.

We carried out all analyses using the free software R and the following libraries: metafor v. 4.4.0 (Viechtbauer, 2010), PublicationBias v. 2.4.0 (Braginsky et al., 2023). The syntax is available open access at: https://doi.org/10.6084/m9.figshare.24574174 for results independent reproducibility.

Reporting Guidelines

We used the APA Meta-Analysis Reporting Standards (MARS, Appelbaum et al., 2018) and the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) (Page et al., 2021) as reporting guidelines.

Results

Descriptive Statistics

The main descriptive statistics related to all 26 experiments are presented in Table 1.

Table 1

Descriptive Statistics for the Experiments

Number of studies (%)	
Telepathy	Precognition
23 (88.5)	3 (11.5)
Selected participants	Unselected participants
8 (30.8)	18 (69.2)
No risk of cheating	Risk of cheating
15 (57.7)	11 (42.3)
Independent replications	Non-independent replications
7 (26.9)	19 (72.1)

Meta-Analyses

The results of the overall meta-analyses for both the raw and standardized effect size are reported in Table 2 divided between Telepathy and Precognition conditions.

Table 2

Results of the Meta-Analyses

Condition	***N***	**Effect size.Hits**				**Effect size**			
		ES.Hits	95% CI	**Tau²**	*p*	ES	95% CI	**Tau²**	*p*
Telepathy	23	8.7	5.3-11.9	59.2	$4x10^{-8}$	.17	.10-.24	.022	$1x10^{-7}$
Precognition	3	-.77	-2.4 -.91	.46	.18	-.017	-.05-.09	.0002	.17

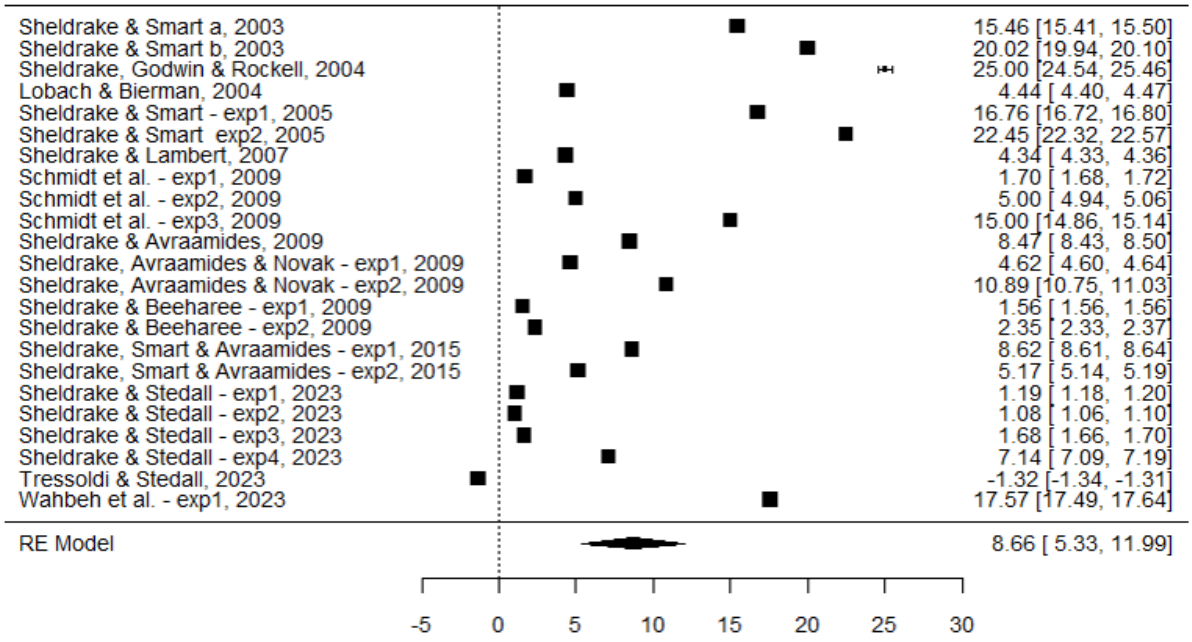
Note. This table shows both the raw effect size, as percentages above mean chance expectation (ES. Hits) and standardized (ES) effect sizes, with corresponding 95% confidence intervals (95% CI), Tau^2 is a measure of the variance heterogeneity among the different experiments. The effect size ***p*** value is with respect the null hypothesis.

The results of the telepathy experiments are also presented in a Forest plot (Fig. 2) using the raw effect sizes expressed as percentages.

Figure 2

Forest Plot of the Experiments

Note. The figures on the right and the axis at the refer to percentages above mean chance expectation. Confidence Intervals are given in square brackets in percentages. RE model is the overall result of the random effect model as reported in Table 2.



The overall results related to experiments using the telepathy condition show a strong effect both with the raw and the standardized effect size. The average hits percentage above chance is 8.6% with 95% confidence interval from 5.3 to 11.9%. The high hit rate in Wahbeh et al.'s (2023) telepathy tests, 17.6% above chance, may be explained by a statistical artifact. As the authors themselves pointed out, they offered participants three optional responses: they could choose one of the two callers but also choose to respond that no one was calling, giving a 33.3% probability of being right by chance. In fact, in all trials one of the two callers was calling and most participants never responded "no one". Hence the effective mean chance expectation was 50% rather than 33.3%. In the tests in which participants never responded "no one" the average hit rate was 56.3%, 6.3% above the chance level (p = .02). Recalculating the overall raw effect size in our meta-analysis taking his correction into account gives ES.Hits = 8.15 with 95% confidence interval 4.9-11.3, and overall $p = 8 \times 10^{-8}$ showing that this correction makes very little difference to the overall results.

The results related to the precognition condition show no significant overall effect (Table 2), and in all three studies, the results were close to chance levels, as dis-

cussed below. However, there are too few experiments on precognition to apply a meta-analysis, and all following analyses are based on only the experiments adopting a telepathic condition.

Publication Bias Controls

Among the different publications bias tests, we chose the empirical control of the percentage of experiments reporting statistical non-significant results and Mathur and Van der Weele (2020) publication bias tests which enable statements such as: "For publication bias to shift the observed point estimate to the null, 'significant' results would need to be at least N-fold more likely to be published than negative or 'nonsignificant' results."

We choose the option that affirmative results should be 5-fold more likely to be published than negative or nonsignificant results.

In our database, 46.2% of the experiments were published even if they did not reach the minimum conventional statistically significant value, thus it is implausible to assume that affirmative results were five times more likely to be published than non-significant results. Furthermore, the Mathur and Van der Weele (2020) publication bias test shows that the if the statistically significant experiments were five times more likely to be published than non-statistically significant ones, the overall effect size would be reduced from 8.6 to 7.1, and the *p* value of .001 would still be significant. Thus, both tests show that the overall significant positive results are unlikely to be a result of publication bias.

Meta-Analyses of Moderating Effects

In Table 3 and in Figure 3, we present the meta-analyses using the raw effect size of the following moderators of the experiments on telepathy: independent replications; device type; participants selection; risk of cheating; and participants' emotional bond.

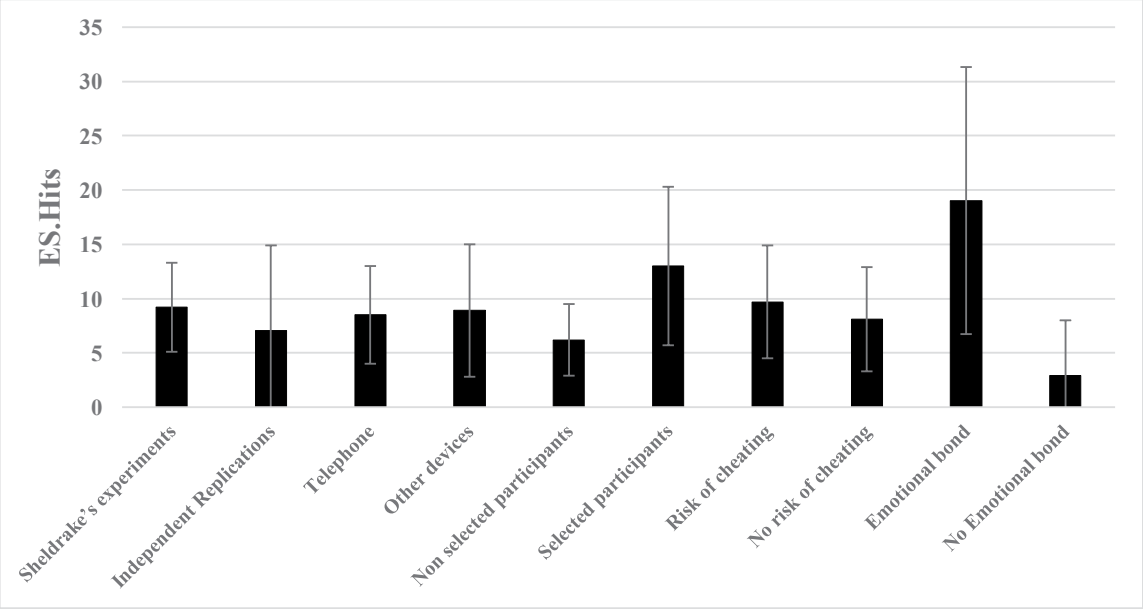
Table 3

Meta-Analyses Parameters Related to Main Moderators of Differences.

Condition	*N* of studies	ES.Hits	95% CIs	Tau²	*p*
Sheldrake's experiments	17	9.2	5.1 – 13.2	62.0	.0002
Independent replications	6	7.1	-.84 – 14.9	56.7	.07
Telephone device	15	8.5	4.0 – 13.0	65.4	.001
Other devices	8	8.9	2.7 – 15.0	54.2	.01
Non selected participants	15	6.2	2.9 – 9.6	38.8	.001
Selected participants	8	13	5.7 – 20.3	75.4	.004
Risk of cheating	8	9.7	4.5 – 14.8	38.4	.003
No risk of cheating	15	8.1	3.3 – 12.8	72.9	.002
Emotional bond	6	19.0	6.5 – 31.4	140.7	.01
No Emotional bond	6	2.9	-2.2 – 8.1	24.2	.2

Figure 3

Effect Size and 95% Confidence Intervals of the Moderators Presented in Table 2.



Even if for most comparisons the range of confidence intervals is largely due to the low number of experiments, the only statistically significant differences are between selected and non-selected participants, M = 6.8%; 95% CIs = .78 – 12.9; p = .027, and between callers with and without emotional bond with the receivers; M = 16.1%; 95% CIs = 5.8 – 26.4; p = .002.

There are no significant differences between Sheldrake's and independent experiments, between the use of telephone and other devices, and between experiments with and without risk of cheating. However, the number of studies is small and therefore non-significant p values are likely.

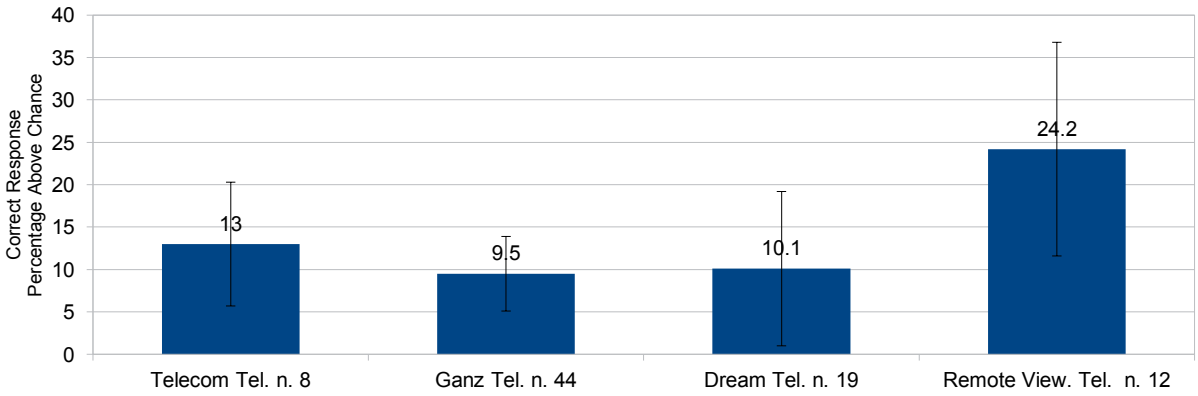
Comparison with Other Telepathy Protocols

With the accumulation of experimental studies analyzed meta-analytically, is it possible to compare the outcomes of this meta-analyses with those obtained by other experimental protocols that used telepathic conditions.

This comparison is possible with the experiments related to anomalous cognition in a ganzfeld environment (Tressoldi & Storm, 2023), experiments related to remote viewing with an outbound partner (Tressoldi & Katz, 2023), and experiments on telepathy in dreams (Storm et al., 2017). We compared the results obtained with selected participants in all these experimental protocols (Fig. 4).

Figure 4

Mean Effect Sizes of Different Telepathy Protocols



Note. Mean and related 95% Confidence Intervals of hits above chance obtained by selected participants in this meta-analysis of telecommunications telepathy (Telecom Tel), in the telepathic condition in ganzfeld (Ganz Tel), in dream telepathy (Dream Tel) and with remote viewing with outbound partner protocols (Remote View. Tel), ***n*** = number of experiments.

The performance of selected participants in telecommunication telepathy tests summarized in this meta-analysis is higher than that in telepathic ganzfeld and dream experiments, but lower than the hit rates of selected participants doing remote viewing tasks.

Discussion

A meta-analysis of 23 studies on telepathy in electronic communications showed a hit rate 8.6% above the mean chance expectation ($p = 4 \times 10^{-8}$). Using the standard methods of random effect meta-analysis, the standardized effect size was 0.17 ($p = 1 \times 10^{-7.}$) (Table 2).

We tested the possibility that these positive results were artifacts of publication bias, whereby researchers may have selectively published positive results and not published non-significant results. In fact, almost half of the published studies had statistically non-significant results. Even if five times more statistically significant studies than statistically non-significant studies had been published, the hit rate above mean chance expectation would be reduced from an average of 8.6% to 7.1%, and the result would still be statistically significant ($p = .001$). Thus, the results of the telecommunication telepathy tests conducted so far indicate that there are real effects that seem to be telepathic.

Could these effects have been precognitive rather than telepathic? Did the participants feel who was going to call them in the near future, as opposed to calling them in the present? An explanation in terms of precognition seems unlikely in the light of three studies, referred to above, under precognitive rather than telepathic conditions. Under telepathic conditions, the caller called the participant, who then said who the caller might be before answering the call, in the absence of any caller ID system. By contrast, under precognitive conditions, the participant was asked to identify who is about to call. After receiving the participant's response, one of the possible callers was chosen at random, and asked to call the participant as soon as possible. Two of these studies were with precognitive responses to telephone calls (Sheldrake, 2014; Wahbeh et al., 2024) and one with text messages (Sheldrake, 2014). The results were very close to chance: -0.1%, -1.4% and -0.9% respectively. Our provisional conclusion is that the overall positive hit rates in tests for telecommunication telepathy are indeed a result of telepathy rather than chance coincidence or precognition.

Why does telecommunication telepathy show relatively strong effects compared with Ganzfeld telepathy and dream telepathy (Fig. 4)? One reason may be that

it is more familiar. Most people have experienced apparent telepathy in connection with telephone calls, emails, and SMS messages, whereas in real life no one has experienced telepathic communication sitting in reclining chairs in dim red light with halved ping pong balls taped over their eyes, as in Ganzfeld experiments, or sleeping in a dream lab and being woken by an experimenter to ask about their dreams, as in dream telepathy experiments.

Above all, telepathy often seems to be involved in 'calling' another person at a distance to express a need (Sheldrake, 2003). Similar effects occur between humans and non-human animals (Sheldrake, 1999). Some nursing mothers respond to their babies' distress when they are away from the baby by experiencing their milk let down; their breasts squeeze out milk and often tingle (Sheldrake, 2002). Some cat and dog owners have found that they can call their animals silently when they are out of sight and earshot, and the animals come to them, apparently responding telepathically (Sheldrake, 1999). Conversely, some people who keep cats have found that their cats silently call them to open doors or windows so that they can get into the house, rather like remote garage door opening systems (Sheldrake, 1999). Many people (Sheldrake, 2003) and non-human animals (Sheldrake, 1999) have responded seemingly telepathically to distant deaths or accidents of people with whom they are emotionally bonded, and sometimes succeed in going to their help.

A related phenomenon is the ability of many cats, dogs and other animals to anticipate when their owners are coming home, sometimes 15 minutes or more in advance, in a way that cannot be explained in terms of routine or sensory cues. The return-anticipating responses seem to be telepathic; the animals appear to be picking up their owners' intentions to come home (Sheldrake, 1999, Sheldrake & Smart, 1998, 2000a, 2000b).

These kinds of seemingly telepathic responses to calls and intentions in non-human suggest that there is a long evolutionary history of responding to calls from a distance, The invention of telecommunication systems enables people to call others at a distance in a way that would only have been possible telepathically in the past. Telecommunications telepathy seems like a natural accompaniment of new methods of calling from a distance made possible by modern technologies.

The meta-analysis highlighted two major moderators of the telepathic responses. First, selected participants scored significantly higher than unselected ones. For example, most of Schmidt et al.'s (2009) participants scored little better than chance, but one in particular scored well above chance in preliminary tests, and continued

to do so over 60 subsequent trials, in which her hit rate was 40%, well above the 25% chance level (p = .007). Not surprisingly, some people are better at this task than others. In general, selecting higher-scoring participants raises the hit rate in subsequent tests.

Second, telepathic communication worked better between people with emotional bonds than between strangers. This finding is consistent with a large body of evidence showing that telepathy predominantly occurs between people who know each other well, or have strong emotional bonds (Sheldrake, 2003). The same principles apply to telepathy between people and non-human animals (Sheldrake, 1999).

Possibly the sheep-goat effect influenced the research brought together in this meta-analysis. In general, the experiments by Sheldrake and his colleagues had higher effect sizes than in independent replications (Fig. 2; Table 2), even if the difference between them was not statistically significant. The replications were mostly carried out in academic settings – by Lobach and Bierman (2004) at Amsterdam University, by Schmidt et al. (2009) at the University Medical Centre in Freiburg, Germany, and by Tressoldi and Stedall at Padua University. By contrast, Sheldrake's recruitment methods through the media, social media and internet may well have attracted participants interested in his work, more likely to be sheep, whereas recruitment in academic and scientific settings may have included a higher proportion of goats.

Suggestions for Future Investigations

The procedures in all the studies considered here are essentially contrived. The automated call environments used by Sheldrake and Stedall (2024) were particularly complex. The recruitment of participants was consistently difficult, largely because of the requirement for three or more people to be available at the same time. Further research would be facilitated by developing procedures that make it much easier for people to take part.

People communicate ubiquitously via smart phones and social media. Often this is instantaneous, or nearly so. It should be possible to construct an app that facilitates normal online communication via existing social media channels, but that also permits an element of guessing who is getting in touch. This could readily be achieved via social media Application Programming Interfaces (APIs).

Participants would not be engaging in tests as such, but willing to use such an app as an alternative means of normal online communication. If participants were not

online at the same time, any possible telepathic effect could be explored in terms of the time difference between communication and guess. Such an approach could potentially gather a large amount of data, because no coordination would be required. Such an approach could not prevent cheating but could be used to train potential telepathic ability. Talented participants could then be re-tested under controlled conditions. In summary, research on telecommunication telepathy could become an increasingly fruitful area for psi research, especially in conjunction with automated intuition training apps.

Declaration of interest

The authors declare that there is no conflict of interest.

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Télépathie par Télécommunication : Une Méta-Analyse

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Résumé: *Objectif*: Nous avons regroupé les résultats de 15 articles publiés, décrivant 26 expériences de télépathie par télécommunication menées entre 2003 et 2024, dans le cadre d'une méta-analyse visant à explorer les tendances de ces résultats et leur significativité globale. *Méthodes*: Le protocole expérimental de base dans ces études impliquait quatre appelants potentiels situés à distance. Pour chaque essai, l'un de ces appelants était sélectionné aléatoirement et invité à appeler le participant, lequel utilisait un téléphone dépourvu d'identification de l'appelant. Le participant devait alors nommer l'appelant avant de décrocher. Des expériences similaires ont également été menées avec des messages électroniques (email) et des SMS. Le taux de réussite attendu par pur hasard était d'environ 25 %. Les études pertinentes ont été recensées via des listes bibliographiques et des recherches en ligne, puis analysées à l'aide d'un modèle à effets aléatoires dans la méta-analyse. *Résultats*: Dans l'ensemble, les taux de réussite étaient très significatifs au-dessus du niveau de chance (p = 1 x 10^{-7}). En revanche, dans les tests effectués dans des conditions précognitives, les taux de réussite se situaient au niveau du hasard. Il n'y a pas de différence significative entre les résultats de Sheldrake et de ses collègues, qui ont réalisé la plupart des études, et les réplications indépendantes. Les participants sélectionnés avaient des taux de réponse significativement plus élevés que les participants non sélectionnés, et les taux de réponse étaient significativement plus élevés lorsque les appelants et les participants partageaient un lien émotionnel. L'ampleur de l'effet de la télépathie par télécommunication est supérieure à celle des tests de télépathie de Ganzfeld et de télépathie par le rêve. *Conclusion*: La recherche sur la télépathie par télécommunication pourrait devenir un domaine de plus en plus fécond pour l'étude des phénomènes psi, en particulier si elle est couplée à des applications automatisées d'entraînement à l'intuition.

French translation by Antoine Bioy, Ph. D.

Telekommunikations-Telepathie: A Meta-Analyse

Rupert Sheldrake Tom Stedall Patrizio Tressoldi

Zusammenfassung: *Zielsetzung*: Wir fassen die Ergebnisse von 15 veröffentlichten Arbeiten, die 26 Telekommunikations-Telepathie-Experimente beschreiben, die zwischen 2003 und 2024 veröffentlicht worden waren, in einer Meta-Analyse zusammen, um die Muster in diesen Ergebnissen und ihre Gesamtsignifikanz zu untersuchen. *Methoden*: Der grundlegende Versuchsplan dieser Experimente umfasste vier potenzielle Anrufer an entfernten Orten. Für jeden Versuch wurde einer dieser Anrufer zufällig ausgewählt und gebeten, den Teilnehmer anzurufen, der sich an einem Telefon ohne Anrufererkennung befand. Der Teilnehmer nannte dann den Namen des Anrufers, bevor er das Telefon abnahm. Ähnliche Versuche wurden mit E-Mail- und SMS-Nachrichten durchgeführt. Beim zufälligen Raten würde die Trefferquote bei etwa 25 % liegen. Wir sammelten relevante Studien von Literaturlisten und Online-Suchen und legten für die Meta-Analyse ein Modell mit Zufallseffekten zugrunde. *Ergebnisse*: Insgesamt lagen die Trefferquoten sehr signifikant über dem Zufallsniveau (p = 1 x 10^{-7}). Bei den unter präkognitiven Bedingungen durchgeführten Tests lagen die Trefferquoten dagegen im Bereich des Zufalls. Es gab keinen signifikanten Unterschied zwischen den Ergebnissen von Sheldrake und seinen Kollegen, die die meisten Studien durchgeführt hatten, und unabhängigen Replikationen. Ausgewählte Teilnehmer hatten signifikant höhere Trefferquoten als unausgewählte Teilnehmer, und die Trefferquoten waren signifikant höher, wenn Anrufer und Teilnehmer emotional miteinander verbunden waren. Die Effektstärken bei der Telekommunikations-Telepathie sind höher als bei den Ganzfeld- und Traumtelepathieversuchen. *Schlussfolgerung*: Die Erforschung der Telekommunikations-Telepathie könnte ein zunehmend fruchtbarer Bereich für die Psi-Forschung.

German translation by Eberhard Bauer, Ph. D.

Telepatia por Telecomunicação: Uma Meta-Análise

Rupert Sheldrake Tom Stedall Patrizio Tressoldi

Resumo: *Objetivo*: Reunimos os resultados de 15 artigos publicados que descrevem 26 experimentos de telepatia por telecomunicação, publicados entre 2003 e 2024, em uma meta-análise visando explorar padrões em tais resultados e sua significância geral. *Metodos*: O desenho experimental básico nesses experimentos envolvia quatro pessoas que seriam os possíveis emissores das ligações em locais distantes. Para cada teste, um desses emissores era escolhido aleatoriamente e solicitado a ligar para o participante, que estava em um telefone sem identificador de chamadas. O participante, então, nomeava o chamador antes de atender o telefone. Experimentos semelhantes foram realizados com mensagens de email e SMS. A taxa de acerto por adivinhação aleatória seria em torno de 25%. Coletamos estudos relevantes de listas de referências e buscas online e usamos um modelo de efeitos aleatórios na meta-análise. *Resultados*: No conjunto, as taxas de acerto foram muito significativas acima do nível de chance aleatória (p = 1 x 10^{-7}).

Em contraste, nos testes realizados sob condições precognitivas, as taxas de acerto estavam no nível das chances aleatórias. Não houve diferença significativa entre os resultados de Sheldrake e seus colegas, que realizaram a maioria dos estudos, e as replicações independentes. Os participantes selecionados tiveram taxas de acerto significativamente mais altas do que os participantes não selecionados, e as taxas de acerto foram significativamente mais altas quando os emissores e os participantes compartilhavam um vínculo emocional. As proporções dos efeitos na telepatia por telecomunicação são maiores do que aquelas nos testes de ganzfeld e telepatia em sonhos *Conclusão*: A pesquisa sobre telepatia por telecomunicação pode se tornar uma área cada vez mais frutífera para a pesquisa psi, especialmente em conjunto com aplicativos de treinamento de intuição automatizados.

Portuguese translation by Antonio Lima, Ph. D.

Telepatía por Telecomunicación: Un Meta-Análisis

Rupert Sheldrake Tom Stedall Patrizio Tressoldi

Resumen: *Objetivo*: Reunimos en un meta-análisis los resultados de 15 artículos con 26 experimentos de telepatía por telecomunicación publicados entre 2003 y 2024, para explorar los patrones de los resultados y su importancia global. *Métodos*: El diseño experimental básico de estos experimentos tuvo cuatro llamadores potenciales en ubicaciones remotas. En cada prueba se elegía al azar a una de estas personas y se le pedía que llamara al participante, que se encontraba en un teléfono sin identificador de llamadas. A continuación, el participante nombraba a la persona que llamaba antes de contestar al teléfono. Se realizaron experimentos similares con mensajes de correo electrónico y SMS. Adivinando al azar, el porcentaje de aciertos rondaría alrededor del 25%. Se recopilaron los estudios apropiados de listas de referencia y búsquedas en línea, y se utilizó un modelo de efectos aleatorios en el meta-análisis. *Resultados*: En general, los porcentajes de aciertos fueron significativos muy por encima del nivel del azar (p = 1x10$^{-7)}$. No obstante,, en las pruebas realizadas en condiciones precognitivas los porcentajes de aciertos se situaron al nivel del azar. No hubo diferencias significativas entre los resultados de Sheldrake y sus colegas, que realizaron la mayoría de los estudios, y las réplicas independientes. Los participantes seleccionados obtuvieron porcentajes de acierto significativamente más altos que los no seleccionados, y los porcentajes de acierto fueron significativamente más altos cuando las personas que llamaban y los receptores compartían un vínculo emocional. Los tamaños del efecto en la telepatía por telecomunicación son superiores a los de los diseños de ganzfeld y de telepatía onírica. *Conclusiones*: La investigación de la telepatía por telecomunicación podría convertirse en un área cada vez más fructífera para la investigación psi, especialmente en conjunción con programas (apps) automatizados para el entrenamiento de la intuición.

Spanish translation by Etzel Cardeña, Ph. D.

Novalis and Magical Idealism: A Forgotten Pioneer of Parapsychology?[1]

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Abstract: German natural philosophy was an important intellectual movement from the late 18th to the mid-20th century. It integrated phenomena such as animal magnetism into a multidisciplinary vision aimed at bringing the sciences closer together. Its influence on parapsychology remains little-known, however. I take the example of Friedrich von Hardenberg, better known by his pseudonym Novalis (1772-1801). Not cited in parapsychological literature, the young scientist and poet nevertheless mentioned his personal experiences of the apparition of his dead fiancée and his practice of animal magnetism. He also theorized a new metaphysics called "magical idealism," which aims to go beyond other forms of idealism to identify, within an immanentist yet moral framework, "magic" as a possible solution to the union of opposites (subject and object, ideal and real). His project seems coincident with that of modern theoretical parapsychology, and in particular dual-aspect monism.

Keywords: Novalis, Romanticism, Naturphilosophie, history of parapsychology, magic

Highlights

- Novalis, the German scientist, philosopher and poet claimed to have had some anomalous experiences.
- He developed an original "magical idealism" to integrate them in the philosophy of nature.
- "Magic" seems acceptable as a possible solution for Romantic philosophy of mind and nature.

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As the French philosopher Georges Gusdorf (1985) deplored, few works in the history of science focus on the "Romantic" trend associated with German Naturphilosophie:

> The discredit that the triumph of the positive sciences cast on Naturphilosophie in the second half of the 19th century led to a misunderstanding of this knowledge, which was henceforth regarded as a folly of reason. An important part of the future of Western thought has been consigned to the dustbin of history, by virtue of an option that runs counter to the historical spirit. The history of knowledge cannot be conceived as a history of truth, pursued according to the sole standard of discrimination between the true and the false. (p. 17; all translations by the author)

By employing a symmetrical approach to the history of science (Mauskopf, 1979; Wallis, 1979), we can attempt to overcome these biases. This involves (temporarily) relativizing the existence of a precise dividing line between the true and the false, and "between science and scholars proper and the adventurers of knowledge, who speculate indiscriminately, extrapolating from the true into the plausible, then slipping into the imaginary" (Gusdorf, 1985, p. 325). The same philosopher identifies a perverse effect of the "repression" of *Naturphilosophie*: its return in the form of "parapsychologies" (Gusdorf, 1985, p. 333). Is this the only link to be made between natural philosophy and parapsychology?

The *Naturphilosophie* (philosophy of nature movement) proposes an overall intelligibility of the world, ensuring human's harmonious integration into the universe. Going against mechanicism and then positivism, *Naturphilosophen* filled "the blank spots where observations are lacking, where positive data are insufficient, with speculations governed by the general laws of analogy and harmony" (Gusdorf, 1985, p. 265). Rather than rigorous exactitude, they prefer a "trans-empirical plenitude, at once poetic and religious as well as aesthetic" (*idem*). The Romantics celebrate the alliance of science and poetry, "a truth untouched by poetry would seem to them, if not dead, at least suspect" (*idem*). Nothing could be more contrary, a priori, to a parapsychology with scientific ambitions, a cult of facts, advocating an approach based on endless checks and verifications.

However, I will try to show by way of an example that this gap is not so great after all. I have chosen Friedrich von Hardenberg, known as Novalis, who has not before been studied in the German, English, and French parapsychology journals I consulted. (An exception is a book by Norwegian scholar Simonsen (2020) on popular parapsy-

chology/anomalous cognition, which mentions Novalis twice for his poetic work). Yet he is mentioned by French parapsychologist François Favre as the "only genius parapsychology has ever had" (Favre & Garnier, in press). Favre, who trained as a psychiatrist, devoted his life to parapsychology and then to a broader philosophy of science, mainly within the *Groupe d'études et de recherche en parapsychologie* (Parapsychology Studies and Research Group; Evrard, 2010, 2016). He deplored the fact that Novalis was confined to the literary domain of Romanticism, even though he exceeded it on all sides. Novalis is said to have initiated the study of the relation between psi and metaphysics, typical of the German Romantics (Stanguennec, 2011), positioning himself as the "founder of metaphysical science" towards which Favre was converging. Favre's strong assertions aroused my curiosity about this unknown philosopher.

After giving some biographical details of Novalis's brief life, I will focus on his very particular way of integrating personal experiences of apparition and the practice of animal magnetism. I will situate him philosophically, before devoting a detailed account to his "magical idealism", an original metaphysical proposition that aims to go beyond other forms of idealism, identifying, within an immanentist yet moral framework, "magic" as a possible solution to the union of opposites (subject and object, ideal and real). Novalis's scientific project is not only transdisciplinary, but also leaves a special place for aesthetics and morality, as reflected in his conception of poetry and romanticization. I conclude that the wonder he placed at the heart of his study seems to be the same wonder that parapsychology has inherited.

Biography

Georg Philipp Friedrich von Hardenberg was born on May 2, 1772, at Oberwiederstedt Castle (Arnstein), then in the Electorate of Saxony, and died on March 25, 1801, at Weißenfels in present-day Germany. His family came from the old nobility of northern Germany. He was the youngest and first son in a family of eleven children. Novalis was the pseudonym he chose for his first major publication, *Blüthenstaub* ("Grains of Pollen").

Novalis's frail health was revealed at an early age, when he contracted severe dysentery at the age of 9. According to his brother Karl, "The effect of this dazzling illness was to awaken in him all at once the intellectual faculties that had lain dormant or asleep" (quoted in Schefer, 2023, p. 50). Previously, he had shown no particular intellectual disposition (Schefer, 2005, p. 29).

He studied philosophy at the University of Jena, where he befriended Friedrich von Schiller (1759-1805), then professor of history, who exerted a considerable influence on his work. As Maeterlinck (1895, p. XXXIV) summarizes, "Novalis's entire youth was spent at the very center of this vast conflagration of human thought" (see also Wulf, 2022). He went on to study law in Leipzig, where he became a friend of Friedrich Schlegel (1772-1859) in 1792, and mathematics with the physicist and mathematician Carl Hindenburg (1741-1808). In 1794, at the age of 22, he obtained the equivalent of a law degree in Wittenberg, but he preferred to train as an engineer and work as a salt-works administrator. From 1797, at the Freiberg School of Mines, he learned differential calculus, chemistry and, above all, geology and mineralogy under the guidance of Abraham Gottlob Werner (1750-1817), one of the most important figures in the natural sciences at the time: "A genial observer of mineralogical phenomena, Werner strove to bring to light universal analogies whose radiance extended from the order of geology, the archaeology of planet Earth, to linguistics, the 'mineralogy of language' and archaeology of the human mind" (Gusdorf, 1985, p. 242). Fulgurant as usual, integrating a wide range of subjects while satisfying his pronounced taste for detail, Novalis completed his training two years ahead of his classmates. His teacher of halurgy (the art of extracting or making salts), the chemist Johann Christian Wiegleb (1732-1800), mentioned his name with reverence, as it had taken him ten to twelve days to grasp the whole of this teaching (Schefer, 2023, p. 154).

Novalis died of tuberculosis at the age of 28, leaving behind numerous unpublished manuscripts. His complete works were only identified and translated at the beginning of the 21st century.

Sophie's Ordeal

In Grüningen, Novalis met by chance the very young Sophie von Kühn (1782-1797), with whom he became secretly engaged a few months later, in 1795. He was 23 and she 13. However, she developed tuberculosis, requiring operations and long convalescence, and eventually died in March 1797.

Novalis was absolutely passionate about Sophie. During his lifetime, he wrote: "I have religion for Sophie – not love. Absolute love, independent of the heart and based on faith, is religion" (in Schefer, 2023, p. 115). Schefer (2023, p. 115) comments: "Sophie will undoubtedly have been for him a mythified figure, both real and ideal, present though already absent, and as if transfigured during his lifetime". He would also merge his intellectual work with his emotional impulse: "My favorite study is basically named

after my fiancée. Sophie is her name - philosophy is the soul of my life and the key to my innermost self" (in Schefer, 2023, p. 116). This "inner convergence" (Margantin, 2012, p. 10) has played a major part in building this legend around the figure of the "mystical couple – beyond death" (Margantin, 2012, p. 10).

Suicidality and Sophie's Apparition

Novalis was deeply affected by Sophie's death on March 19, 1797. A month later (April 14), his brother Erasmus, with whom he was very close, died (Margantin, 2012, p. 37), having given him "all sorts of advice on how to overcome his melancholy" (Schefer, 2005, p. 29). From April 18 onwards, Novalis kept a "mourning diary" in which he "regularly recorded the 'progress' of his illness, the moments of calm and relapse" (Schefer, 2023, p. 124-125). Each entry is marked by a double chronology: the date of the day on which he writes, but also the number of days since Sophie's death (31 days when he begins). Schefer (2023, p. 125) reads "two interlocking times, that of memory and the present, [which] undoubtedly allow us to consider that this text implements, in its own way, a form of writing of subjective and objective time."

Reading this diary, whose tone is at times very dark, one guesses that the all-important decision (*Entschluß*) he says he has made since Sophie's death could be that of suicide: "In the morning, the resolution was very distant – in the evening, much closer" (May 8-9-10, in Schefer, 2023, p. 129). He frequently visits the nearby cemetery where his sweetheart is buried. In a letter, he vows to see her reappear:

> I have plenty of ideas in my head – my mind has gained more than it has lost – but love, love is missing – and with the absence of love, everything is absent – for love gives everything – and love also takes everything back. What use is it to me to be a loom for weaving ideas [*Ideenwebstuhl*]? – nothing can replace the living. But at least I have gained the firm hope that I haven't lost her – and this hope would be strengthened if Sophie could appear before me again.
>
> What unspeakable happiness it would be here if she could appear to me from time to time – comforting me and giving me strength with a single look of love! How transfigured I would be! (...) What you tell me about Sophie's invisible presence is a shining truth – Her image will become and must become my best self - the magic image, which is illuminated within me by an eternal glow, and which will undoubtedly save me from so many

trials and temptations of the evil one and sin. (in Schefer, 2023, p. 121)

On May 13 (the 56th day since her death), he describes an experience that could be interpreted as an apparition:

> I got up early, at 5am. The weather was pleasant. The morning passed quickly without me doing much. Captain von Rockenthien, his sister-in-law and her children came. I received a letter from Schlegel with the first part of his new Shakespeare translations. After lunch, I went for a walk – then coffee – the weather darkened – first a flash, then cloudy and stormy – very lascivious – I started reading Shakespeare – I really enjoyed it. In the evening, I went to Sophie. There, I was in a state of indescribable joy – luminous moments of enthusiasm – With a breath, I scattered her grave like dust – centuries were like moments – her presence was palpable – I believed she would appear at any moment – When I returned home – I had some emotion chatting with *my dear* [French 'Gouvernante' Janette Danscour]. Otherwise, I was very happy all day. In the afternoon, Niebekker was there. In the evening, I had a few more good ideas. Shakespeare gave me a lot to think about. (Novalis, 2015, note 244, p. 326)

The immediate recollection in the diary refers only to a strong sensation of presence, but in a poem created later, Novalis acts as if she had appeared. This experience would become the third hymn in his *Hymns to the Night*, published in 1800. So, we have two versions of the same events:

> One day when I was shedding painful tears, when my hope, soon vanished in suffering, was streaming away, and I was standing alone by the dry mound, whose narrow, dark space sheltered the shape of my life, solitary as no solitary ever was, cornered and driven by an unspeakable anguish, without strength, I was barely the idea of distress; and suddenly, as I stood there looking around me, begging for help, no longer able to go forward or backward, clinging with infinite nostalgia to fleeting, evanescent life, I was seized by a twilight shiver from the blue distance, from the peaks of my former bliss – and the bond of birth, the chain of light, was torn asunder all at once. Earthly splendor fled into the distance, and with it my mourning, and melancholy confluent in a new world of unfathomable depth – yes, your own world, nocturnal enthusiasm, sleeping sky that came to me: the site gently lifted, and my spirit, unbounded, newborn, floated above it. The mound became a cloud of dust, and through the dust I saw the transfig-

ured features of the beloved. Eternity rested in her eyes – I grabbed her hands, and the tears turned into a sparkling, unbreakable chain. Below, in the distance, the millennia passed like a storm. At his neck, I shed tears of ecstasy for new life. – That was the first, the only dream – and ever since then I have had an eternal, unchanging faith in the night sky and its light, the beloved. (Novalis, 2014, p. 5-7; slightly modified version p. 43)

Other rhyming verses echo this experience: "Infinite and mysterious,/ A suave shiver runs through us -/ It seems to me that from the deep far away/ Vibrated the echo of our mourning./ Our loved ones likewise desire us,/ And from their nostalgia send us the sigh." (Novalis, 2014, p. 31).

The status of this experience is difficult to qualify according to contemporary parapsychological categories. The initial sensation of presence becomes a full apparition in the poem, while retaining an ambiguous status since it allows tactile contact while also being described as a "sigh." The experience is also presented as an out-of-the-body experience, assimilated to a dream. Interestingly, the altered states of time consciousness are reported similarly in both the diary and the poem as the time of centuries/millennia passed very quickly. The psychological and contextual conditions suggest that Novalis indeed experienced an altered state of consciousness that facilitated the realization of his wish – an after-death communication with his fiancée. This experience played a pivotal role in his life, even if it was sublimated by a narrative embellishment, a romanticization.

Caroline, August Wilhelm Schlegel's wife, noted the exalted form that young Hardenberg's grief took: "His melancholy has thrown him, with redoubled activity, into the abstract sciences: his inner restlessness expresses itself through the quantity and novelty of his original points of view." (Schulz, 2005, p. 73). In any case, Sophie revealed to him "the existence of another plane of reality" (Schefer, 2020, p. 19), and he devoted a kind of personal cult to her. She was a source of inspiration for tales that culminated in the resurrection of the beloved (Novalis, 2005, p. 98). A metaphor for his own work?

Animal Magnetism

In addition to his interest in communion with the afterlife, Novalis was also interested in "animal magnetism," which was the subject of much controversy in Europe. From December 1798, he had a new fiancée (her name appears in his diary on the 110th day of Sophie's death), Julie von Charpentier (1776-1811), daughter of a mining

inspector, with whom he conducted several magnetism sessions, using passes and conductive metals. He makes numerous allusions to magnetism in these manuscripts (Novalis, 2005, pp. 83, 89; 2020, p. 89).

Novalis envisioned magnetism (like electricity, chemistry, and mechanics) within the three kingdoms: mineral, vegetable, and animal (Novalis, 2005, p. 93). In this, he was influenced by Johann W. Ritter (1776-1810), a German physicist and chemist who had also studied at Jena and was a supporter of the nascent *Naturphilosophie* (Wetzels, 1990). Ritter conducted numerous experiments on galvanic (electric) phenomena, which he sought to generalize to all organic and inorganic bodies. He postulates that inert matter must be regarded as living matter at an inferior stage of evolution.

Novalis recognized in Ritter "a genius superior to his own" (Montiel, 2009, p. 63). Convinced that a secret lay behind every phenomenon he observed, all Ritter's work "remains at the service of a conception of science and of existence as a whole in which the most important thing is always elsewhere, in the realm of the mind" (Montiel, 2009, p. 63). It was in this context that he became a fervent promoter of animal magnetism and, later, of the "telluric electrometry" that was supposed to justify the effectiveness of dowsers (Ritter, 2001).

Philosophical Studies

The years 1795-1797 were marked by the pain of Sophie's ordeal and the discovery of the philosophy of Johann Gottlieb Fichte (1762-1814), one of the founders of German idealism, based on a re-reading of Immanuel Kant. Fichte was appointed Professor of Philosophy at Jena in 1793. The publication of *Grundlage der gesamten Wissenschaftslehre* ("Principles of the Doctrine of Science") in 1794-1795 ensured his renown.

As early as 1795, Novalis was writing notes, later published as *Fichtean Studies* (Novalis, 2012). It was here that he developed his fragmentary style of philosophical writing. Ideas are expressed in a variety of forms: one word, a succession of words, telegraphic sentences, whole paragraphs, lists, projects of ideas to be developed… With Friedrich Schlegel, they exchanged many of these "philosophemes," which they compared, in a chemical metaphor, "to the production of *precipitates* from the association of various substances, whose reactions to one another are unpredictable and surprising" (Margantin, 2012, p. 45).

It is very difficult to enter this philosophy, which does not present itself as a closed system, but connects extremely different fields in an interconnection that is up to the reader to reconstruct. Some of these fragments will be redeployed from entirely new perspectives in other texts, such as the notes taken from his reading of the *Critique of Pure Reason*, which are later integrated into his *Grains of Pollen* (Margantin, 2012, p. 39).

This style would nevertheless inspire other philosophers, such as Nietzsche (1882) and his aphoristic style in *The Gay Science*. Early Romanticism drew on these incomplete and unfinished sketches "to divert the logical constructs of philosophy, incapable of embracing the world in its multiplicity and its becoming" (Schefer, in Novalis, 2020, p. 12). This open system generates an original dynamic, prompting the Austrian novelist Thomas Bernhard (1988) to say, "All philosophers age with time, Novalis does not."

Novalis discovers and constructs his own thinking through his various readings. Over the next six years (1795-1801), he adopted this fruitful method, multiplying fragments that echoed his personal life, his academic training, his correspondence and his reading. "Particular attention should be paid to the poet's efforts to link and exchange dissimilar dimensions, to uncover structures of *mediation*" (Schefer, 2005, p. 18). Novalis attempts both to bind disparate elements into a continuous whole and to fragment the whole into discrete forms.

He even constructed an original method of philosophy, involving: 1) dealing with all domains at once (science, philosophy, morality, etc.); 2) applying a combinatorics of concepts; and 3) applying a combinatorics of domains, in a kind of metaphysical science without borders. Novalis calls this study of the relations between the sciences *encyclopedistics*: this method "has no other object and no other purpose than to bring all disciplines and all practices into contact with each other" (Schefer, in Novalis, 2015, p. 15). The young scholar is not system-oriented: "It is not a matter of defining or circumscribing the truth in a text, but of bringing it into being through multiple and often unprecedented relationships." (Schefer, in Novalis, 2015, p. 15). In his correspondence with Friedrich Schlegel, he nevertheless refers to this project as that of the constitution of a Bible: "Total truth is not a total of truths, but the rallying, alliance or even coalescence of the various components of presence in the world, among which religion and poetry overload the objective data of scientific investigation with their specific values" (Gusdorf, 1985, p. 53).

Novalis, poet, philosopher, and scholar, is one of the most singular figures of the Romantic movement, but "although he is *unique* and probably the most complete spirit of this period, Novalis is nonetheless one of its most *emblematic* representatives, insofar as he condenses and catalyzes all Romantic aspirations" (Schefer, 2005, p. 10). While this polymathic profile may come as a surprise, Novalis took Goethe as his model (Margantin, 2012, p. 103) and had several opportunities to exchange ideas with him.

Critical editions of these philosophical studies now include all the elements, even the fragments that Novalis himself had "crossed out":

- 1797-1799: *Seeds* (Novalis, 2004)
- 1798: *The World Must Be Romanticized* (Novalis, 2021)
- 1798-1799: *The General Draft* (Novalis, 2015)
- Summer 1799 - Autumn 1800: *In the end, everything becomes poetry* (Novalis, 2020)
- 1799-1800: *Art and Utopia* (Novalis, 2005)

These essays are complemented by the novel *Heinrich von Ofterdingen* (Novalis, 2011), the poems and fictions *Hymns to the Night*, *Spiritual Songs*, *Disciples at Sais* (Novalis, 2014), and the discourse *Europe or Christianity* (Novalis, 1975). Many ideas emerge from all these texts. To find an order for them, I will follow Olivier Schefer (2003) in his attempt to identify the originality of the "magical idealism" proposed by Novalis.

The Magical Idealism

Novalis attempts to resolve the question raised by Kant: "how can the heterogeneous kingdoms of human freedom and nature be united?" (Schefer, 2003, p. 514). Fichte's solution is to focus on the *free ego*, uncoupled from nature, as a means of overcoming the unbridgeable gap between subject and object. "But for this to happen, pure reflexive consciousness must take itself back into spiritual interiority" (Schefer, 2003, p. 515). We therefore need to rethink the connections between the ego and the outside world, and this involves a form of animism that incorporates the notion of "magic,": "*magic* constitutes a possible solution to the *idealist* problem of the union of opposites: subject and object, ideal and real." (Schefer, 2003, p. 515)

So, contrary to the widespread idea that Romanticism is a morbid, pathological and poetic rejection of reality (Schefer, 2005, p. 9-10), Novalis's proposals can be seen

"as an attempt to *construct the real*. A real that involves the self as much as the world, phenomenal experience as much as a global anthropology" (Schefer, 2005, p. 11).

A Realistic Idealism

Novalis's "magical idealism" (an expression used as early as 1798) was the culmination of a long line of idealist thinkers, reconciling "Fichtean subjective idealism (philosophy of freedom) and Schellingian objective idealism (philosophy of nature)" (Schefer, 2003, p. 516). Magic, then, is not the "sense of wonder, staged in fairy tales" (Schefer, 2003, p. 516), but the completion of idealism, its dialectical synthesis. Schlegel concluded that Novalis' philosophy "wants to absorb physics" (by Margantin, 2012, p. 140): does this necessarily mean that he sought to spiritualize matter?

However, this is not a cleverly constituted doctrine, but rather an open, protean "philosopheme": "We are dealing less with a massive thesis than with a fragmentation of propositions, or rather, with a tangle of paths that sometimes take opposite directions." (Schefer, 2003, p. 516) This is characteristic of Novalis's productions: "mobile thought, resistant to any form of dogmatism," with its "definitive singularity" (Schefer, 2003, p. 517).

Magic as a Concretion of the Will

The first surprise is that the young philosopher dispenses with the usual prejudices (especially of the Enlightenment era) concerning magic, and sees in it a link between the imaginary and objectivity:

> (I)t is clear that Novalis rejects, in all cases, the irrational and passive character often attributed to magic. Magical power, as long as it is exercised outside the subject, is a mechanical, unconscious and constraining exercise of forces. 'Out of laziness, man wants only a *simple* mechanism or a *simple* magic. He doesn't want to be active and make use of his *productive imagination*.' [Novalis, 2015, no. 724, p. 192] Unambiguously, then, Novalis makes magic a dimension of *voluntary* subjectivity, of which imagination embodies all freedom. (Schefer, 2003, p. 517)

Magic thus expresses the concretion of subjective will outside the subject. Schefer reduces this process to "mechanics," to "forces" dependent on the "uncon-

scious," which is not what Novalis says. Indeed, it is through the free act that Novalis underpins his notion of magic:

> The exhilarating, vertiginous possibility of apprehending being through the free *act* of self-affirmation of the self, anterior to all intentional object consciousness, fascinated the early Romantics, who saw in it an unprecedented aesthetic perspective. Despite the abstraction of this system, deplored by Novalis as early as 1797, the radicality of the first reflection (*Tathandlung*) provides muted nourishment for the Romantic thesis of an *absolute fantasy of the self*. (Schefer, 2003, p. 517)

Novalis explores this imaginary determinism that, starting from the free ego, modifies the object. In his reading of Fichte, he explores this notion of the ego as "fundamentally nothing - everything must be *given* to it". He then defined its modus operandi: "The ego is not an encyclopedia, but a universal principle," that of "appropriation" (*Vereigenthümlichung*): "Everything that enters its sphere is its own - for the essence of its being consists in this power to make its own (*Aneignen*)" (Novalis, 2012, p. 221). The Romantic theory of knowledge emerges from a purely logical operation: it rejects the separation between subject and object at the heart of the postulate of the scientist's objectivity. On the contrary, subjective experience is in alliance with reality, as Novalis sums up in this formula: "How can a man understand a thing of which he does not bear the germ within him? What I am destined to understand must develop organically within me" (Novalis, 1947, p. 37).

The boundaries of this imaginary world are not immediately obvious. Here, Novalis goes beyond Fichte and Kant:

> Fichtising artistically means increasing the original power of the imagination, and rejecting any mimetic thesis, any residual or factual data external to consciousness. This creative and poetic dynamic of an imagination that frees itself from external experience (contrary to what Kant advocated), in order to self-limit and self-engender, is one of the possibilities of "magical idealism": the expression of an absolute and unfailing will. 'Ideal of total will. Magical will. Would all free choice be abs[olutely] poetic – moral?' [Novalis, 2015, no. 769, p. 201] (Schefer, 2003, p. 518)

Imagination is thus able to break through the usual determinism of reality, which raises the question of the limitations of this superior will. The notion of morality soon appears as a counterpoint to this power. And vice versa, magic becomes a necessary reinforcement of morality: "To be truly moral, we must seek to become magicians

[*Magier*]" (Novalis, 2015, p. 34).

The Creative Magician

The link between this imaginary determinism and creativity is immediately apparent to the early Romantics:

> To understand how the ideal and the real, transcendence and immanence, are articulated in Novalis, it is the phenomenon of *creation* that we must focus on, for it always stands at the intersection of the two planes we have identified. (Schefer, 2005, p. 18)

Armed with magic, idealism ceases to be an abstract contemplation, since it possesses its own mode of action to "pass into realism" (Schefer, 2005, p. 13). "Imagination is a similar extra-mechanical force (Magism or synthetism of the imagination). Philosophy appears here entirely as magical idealism.)" (Novalis, 2015, no. 826, p. 215) This objective concretization enables idealism to be no longer a monism detached from reality, but rather an effective complementarism:

> Recourse to magic gives a weight of reality to the subjective imagination, always threatened within itself with losing itself in the emptiness of its pendulum movement (*Schweben*). In this respect, magic presents itself as 'poetic-noetic' thinking, which partly meets the idealist demand for the unification of opposites. (Schefer, 2003, p. 519)

The idea of magic enables Novalis to reinterpret certain concepts of German idealism, such as the "intellectual intuition" present in the philosophies of Kant, Fichte, and Schelling: "In a radical way, he links this to the productive imagination, i.e. to the capacity that the mind would have, from imaginary representations, to realize the ideal" (Margantin, 2012, p. 88).

The status of the person who produces through imagination is thus compared to that of the artist, the latter reciprocally becoming a "magician":

> So the philosopher-poet is in the "*state of absolute creator*" [Novalis, 2015, no. 758, p. 199; in French in the text]. The 'absolute creator', like the poet or musician, is therefore a 'magician' [Novalis, 2021, no. 286, [*Anecdotes*], p. 116.] who produces an art that is necessarily 'abstract', i.e. of exclusively spiritual origin. (Schefer, 2003, p. 518)

The artist, he adds, is thus "able to use his organs as instruments to modify the real world at will" (quoted by Margantin, 2012, p. 94). The connection between imagination and creation is thus established. The creator is considered here in an immanentist way: "Novalis reformulates, or modifies, the question of transcendental subjectivity into creative subjectivity, to which he seems to lend properly theurgic and magical powers" (Schefer, 2003, p. 519). Magic is first and foremost the magic of creative subjectivity.

Moving Away from Transcendental Idealism

What Novalis proposes introduces a break with previous idealisms. For example, he criticizes Fichte, who "does not understand hypostasis" (Novalis, 2015, no. 1067, p. 251). By this term, he designates a fundamental substance, a first principle, which places the spirit in a complete metaphysical model. If we dismiss magic, and thus the possibility of the will exporting itself into the objective world, we deprive ourselves of "the other half of the creative spirit" (Novalis, 2015, no. 1067, p. 251). Novalis is interested in these bridges between inside and outside, as Schefer comments:

> The mind too enclosed within itself, in Fichte, is incapable of positing an otherness that is truly its own, and of hypostasizing itself in a real that proceeds from the producing mind. This is an insistent motif of his thinking: the movement towards the self, the internalization or ecstasy of an internal conversion, is always counterbalanced by the opposite movement out of the self, a movement of procession of the subject into the world. 'The outside,' he writes, 'is in short only a *transposed* and *distributed* inside – a *higher* inside.' [Novalis, 2015, no. 703, p. 187] It is not merely the recognition of the spirit in an alien form that is at stake, but its concretion. (Schefer, 2003, p. 520)

Novalis's position is "dual, but not dualistic" (Schefer, 2005, p. 16), reminiscent of dual-aspect monism (Atmanspacher & Rickles, 2022; Rabeyron, 2023). Not only does Novalis attempt to extricate idealism from its monistic rut, he also rejects the easy solution of religious transcendentalism, going against the grain of his cultural heritage. It is always through the Ego that the magical operation proceeds:

> Fascinated by Spinozism and its postulate of a natural divinity, Novalis does not depart from the principle of (self-)mediating subjectivity. For God has fundamentally nothing to do with nature, at least in a direct way: hence his

> depreciation of a 'magical God' (Novalis, 2015, no. 60, p. 31), i.e. here natural and external to the subject. (Schefer, 2003, p. 520)

The only God accepted by Novalis is therefore a "personal God" with ideal value, "to be sought within the consciousness that subjectively appropriates the divine, through creative ecstasy (conversion, hypostasis), or creates (recreates) it through the act of *theurgic* faith, itself a source of *fictions*" (Schefer, 2003, p. 520-521). With a certain malice, Novalis leads magical idealism towards what he elsewhere calls "applied religion": the creation of a *God of one's own*. This was taken up by Friedrich Schlegel, when he concluded his *Lectures on Transcendental Philosophy* in Jena, with an allusion to his young friend's thinking spotted by Schefer (2003, p. 521):

> A science that links politics, religion and morality equally well, all the arts and sciences in one, and which would consequently be the art of producing the divine, could only be described by the name MAGIC. (Schlegel, 1991, p. 105)

This relativization of divinity can be seen as early as the *Fichtean studies*: "Wherever man places his reality, that is where he fixes his God, his world, his whole" (Novalis, 2012, p. 177). In the same fragment, he affirms the reality of human fantasy (*Fantasie*) and will, as well as the *freedom* of destiny's self-determination.

Rejection of the Supernatural

Novalis claims to have seen his dead fiancée appear. But did he believe in the existence of spirits? He himself asserted: "Where there are no gods, ghosts reign" (quoted by Margantin, 2012, p. 151).

In *Pollen*, he explains that spirits have no other means of acting in this world than through the memory of the living, "hence the duty to think of the dead. This is the only way to remain in communion with them" (Novalis, 2004, p. 76). The same applies to God, who "is effective for us only through faith" (*idem*).

Even so, the finale of *Hymns to the Night* (Novalis, 2014) evokes the *passive* dissolution of the finite subject in the infinite whole (Schefer, 2005, p. 15). But an expanded understanding of spirit opens the door to this beyond: "The world of spirits is in fact already open to us – It is always *manifest* – Should we suddenly become as elastic as possible, we would find ourselves in it" (Novalis, 2015, no. 341, p. 89).

In his tendency to go beyond oppositions, Novalis would instead point to the complementarity between miracles and the laws of nature: "Miracles and the laws of nature are in a relationship of alternating effect: they limit each other and form a totality. They are united insofar as they neutralize each other. There is no miracle without a natural event, and vice versa" (*Pollen*, quoted in Margantin, 2012, p. 55).

For what Novalis retains from Sophie's appearance is final determinism:

> "And believing that my little Sophie is at my side and can appear, and behaving according to this belief, then she is *at my side* – and appears to me for sure infinitely, precisely where *I did not expect it* – In me, perhaps as my soul, etc. (Theory of chance and necessity) And from the outset really *outside me* – for what is really outside can only act through me – in me and on me – and in enchanting relationships." (Novalis, 2015, no. 603, p. 165)

This episode enables him to identify a general process of circular determinism: "In determining myself, I determine the world – and thus I indirectly determine myself and vice versa" (Novalis, 2015, no. 603, p. 165). Hence paradoxes involving a different logic: "The result of the process is the goal inverted – only when I know it can I proceed with certainty – I have the goal and at the same time I don't have it, when I want to simultaneously realize the goal and its opposite, and so on." (Novalis, 2015, no. 603, p. 165).

This finalist immanentism (or own final determinism) associated with magic is not just one possible form of idealism, but is in fact, according to Schefer (2003, p. 522), "one of the first avatars in the turbulent history of modern subjectivity". Indeed, it can be likened to metapsychic thought, emerging at this time in the current of induced somnambulism (Méheust, 1999), in the heritage of studies on "natural magic" (Faivre, 1986), since it admits a "transitive" action of the imagination that is exerted on objects outside the subject's body (Panese, 1999). Such ideas will later reemerge to explain mediums' ectoplasms through "ideoplasty" (Méheust, 1999).

The Negativity of the Absolute

Schefer (2003, p. 522) locates this magical idealism in relation to two other elements: the *negativity of the absolute* and the *emergence of the proper body*. The negative absolute is another formulation of *complementarity*, since everything is brought into relation: nothing is totally independent. Schefer (2003, p. 522) identifies this "im-

portant fragment", according to which true magical idealism "would hold together the self and the world, the ideal and the real, without claiming to resolve this tension in favor of one of the two terms (like theurgic magic depositing itself in a product)". The fragment in question is eminently complementarian:

> If you cannot make a thought into an autonomous soul separating itself from you – and now becoming *foreign* – that is, existing outside, then proceed in the opposite direction with external things – and transform them into thoughts. Both operations are idealistic. He who has them both perfectly in his power is the *magical idealist*. Wouldn't the accomplishment of each of these operations depend on the other? (Novalis, 2015, no. 338, p. 83)

Magical idealism is concerned with the passage from ideas to reality and from reality to ideas, in other words "the metaphysical and experimental approach to the world" (Schefer, 2005, p. 24). It expresses itself in a complementarian way, using chiasms: "The scholar," he says (Novalis, 2015, no. 737), "knows how to appropriate the *foreign* (bring it to the plane of his transcendent will, bring it back to reflexive consciousness), but also how to make the *proper* foreign (reintegrate it into nature, into an immanence whose laws are not necessarily those of the subjective mind)" (Schefer, 2005, p. 16).

Novalis works on the interaction (*Wechselwirkung*) of opposing terms, which are always "in a relation of alternating effect": the notion of "interaction" "expresses this reciprocal action of two poles, which either 'neutralize' each other while composing a totality whose two parts are indissociable, interdependent and interactive, but remain themselves, or exchange and mingle, constituting new entities" (Margantin, 2012, p. 55). His idealism involves "reversible operators": "In and through the *Wechsel*, these operators tear us away from the autarchy of the self and its statics; they initiate an exit from the self and a dynamic" (Lancereau, 2014, p. 324).

The object of study also determines the working method. In one passage, anticipating Hegelian dialectic, Novalis describes the "polemical" method as excellent: "To learn to know a truth correctly, one must also have *polemized* it: 1. *Praise*. 2. *Blame*. 3. *Final result*." (Novalis, 2015, no. 801, p. 221). He points out that this subversive method is also reflexive:

> Strictly speaking, *criticalism* – (or the *method of exhaustion*, which includes the method of inversion) is that theory which, during the study of nature, refers us to ourselves, to internal observation and experience, and during the study of our self, which refers us to the external world, to external obser-

vations and experiences – considered philosophically, it is the most fruitful of all *indications*. (...)

We naturally understand all that is foreign only by making ourselves *foreign* to ourselves – *by modifying ourselves* – by observing ourselves.

We now see the true links in the articulation between subject and object – we see that there is also an external world within us, which maintains an analogous link with our interiority, just as the external world outside us is linked to our exteriority, and the one and the other are equally connected, like our interior and our exterior. (Novalis, 2015, no. 820, pp. 224-225)

Transcendental idealism, referred to the subject, then appears to him in a totally new light through this anticipated complementarism.

The Limitation of the Proper Body

Novalis's metaphysics led him to conceive of a balanced process, with two inverted operations linking the subjective and objective worlds. From then on, magic, as "absolute doing" (akin to the supposed omnipotence of "psychokinesis"), is necessarily limited outside the purely imaginary: "[...] We cannot do absolutely, because the problem of absolute doing is an imaginary problem. There is no absolute beginning – that is a matter for imaginary categories of thought" (Novalis, 2015, no. 1000, p. 242).

This negativity of the absolute ties in with the constraint posed by the existence of the body itself, at the intersection of worlds. Novalis formulates this co-dependence as follows: "I must not and will not voluntarily act on the world in its totality – that is why I have a body" (Novalis, 2004, no. 485, p. 289). He develops a completely "organic" conception of the world:

Whoever undertakes to explain the organism without taking into account the soul and the mysterious link that unites it to the body, will not get far. Life is perhaps nothing other than the result of this unification – the action of this contact. (...) Life is perhaps the result of the awakening (penetration) of organic matter. (Novalis, 2004, n°453, p. 240)

Idealism cannot describe everything, since being has no absolute consistency, as Schefer analyzes:

> Above all, I see in it the expression of an originally *embodied* subjectivity, intricately knotted to the interplay of forces and energies of the world, through which the subject passes and through which he is at the same time passed. There is a "trembling" of the idealist foundation in Novalis, insofar as consciousness discovers that it is, strictly speaking, *nothing*, or rather that it is intimately an experience of the multiple and of change. 'The world is like the object in general the result of infinite agreement, and our own internal plurality is the foundation of the worldview [*Weltanschauung*]' [Novalis, 2005, no. 598 [April 18, 1800], p. 113]. (Schefer, 2003, p. 524)

This infinite agreement is that of a present as the only real that actualizes existence via the body (Favre & Garnier, 2024). From then on, the internal plurality of the infinity of imaginary selves, of potential realities, is actualized in the present. Novalis proposes a union of the dynamic and the static through embodiment.

There is indeed a *transgression* between the subjective and the objective world, but there is no *transcendence* involved. The targeted operation is inseparable from the immanence of an embodied subjectivity, hence its obvious connection with "psychosomatic magic": "The link between the ideal and the real now operates through the mediation of the magician's body, which interweaves the subject with the flesh of the world. 'MAGIC. The physical magician knows how to animate nature and manipulate it at will like his *own body*.' [Novalis, 2015, no. 322, p. 79]" (Schefer, 2003, p. 526). In this quotation, the formula suggests that magic proceeds from a *communion* in which external nature becomes one with my own body. The equivalence between magic, creativity and psychosomatics is even more evident in this other fragment:

> "The active use of the organs is nothing other than *magical* and *miraculous* thinking, or an *arbitrary* [*voluntary*] use of the world of the body – for the will is nothing other than a magical and *powerful* faculty of thinking." (Novalis, 2015, no. 1075, p. 265)

The Metaphysical Significance of Magical Idealism

Schefer (2003, p. 526) clearly identifies this extension of magic as an essential process in the dynamics of the universe: "Magic, then, designates less an absolute power of creation than an *ability of infinite transformation of the world*". Unfortunately, Schefer's analysis remains at the artistic level, as a prefiguration of the "poetics" of creative making (Schefer, 2005, p. 22), without drawing the metaphysical consequences.

Thus, Novalis is never seen by his commentators as a metaphysician attempting to theorize paranormal phenomena, even though he had first-hand knowledge of them. For Manfred Frank (2007), such an interpretation of Novalis's magical idealism would even be "nonsense". By what miracle would Novalis escape the exploration of the *Nachtseite der Naturwissenschaft* in which *Naturphilosophie* is immersed? Nonetheless, Schefer (2005, p. 22) speaks of a "metaphysics of the will" in which magic becomes a "dimension of the imagination, the expression of the poet-philosopher's creative and performative force." He acknowledges the legacy of another pre-romantic philosophy:

> For all that, Novalis did not renounce, far from it, the idea of a natural magic, specific to Antiquity and the Renaissance, of which he became particularly aware through the Hermetic current, which largely nourished the thought of nature on electricity or galvanism (Baader, Ritter). He sometimes refers to the Paracelian doctrine of signatures, this mysticism of natural signs postulating a 'sympathy of the sign with the signified' [Novalis, 2015, n°1073, p. 252], or to the Plotinian theme, taken up by Marsilio Ficino, of "magician love", which Pierre Hadot [2004, p. 122 ff.] has clearly shown to refer, beyond the attraction between beings, to a science of correspondence and sympathy between elements. (Schefer, 2005, p. 23)

According to Schefer (2005, p. 23), Novalis is led to reinterpret "the data of paganism and sacred physics in the sense of an ultrasubjective and, in this case, poetic Christianity." But how does Novalis's own God still relate to Christianity? Christianity, like other monotheisms, is built against magic, and in particular against the vision of Jesus as a miracle-worker (Méheust, 2015). It is more a question of the relation between macrocosms and microcosms (Vieillard-Breton, 1983). Novalis envisages reciprocal determinisms: "We must seek to create an inner world, which would be the true counterpart of the outer world – which, by being opposed to it on every determined point, enlarges our freedom ever more." (Novalis, 2012, p. 237) In other words, he builds bridges:

> Our inner world must completely correspond [to the world] outside, down to its tiniest parts – for they oppose each other in the whole. What thus opposes itself in the former – opposes itself in the latter in an inverse manner, or else [they are] determined by each other – nothing but antithetical determinations. (Novalis, 2012, no. 653, p. 243)

His proposal is strikingly modern, so much so that Schefer (2005, p. 23-24) likens it to André Breton's *Art magique* (1991).

The Moralization of Romantic Metaphysics

Novalis's project was not to dominate nature through knowledge of natural magic:

> Novalis strives to link objective and subjective magic, not for technical reasons of mastering reality, but above all for creative and poetic reasons. It is about creating through psychomotor excitements, connecting the "absolute" creative will to the interplay of sthenic and asthenic forces, by soliciting the body of the creator, its health as well as its illnesses. This is why this idealism, which stands at the crossroads of philosophy, poetry and medicine, is as much a matter of theory as of empiricism, and its object is none other than their difficult correlation. (Schefer, 2005, p. 24)

By reducing it to an artistic goal, Schefer does not sufficiently consider the moral purpose of this metaphysics, which Novalis proclaimed on several occasions. As early as the summer of 1796, he conceived of an ethic of the infinite realization of being:

> Morality must be the core of our existence (*Daseyn*), if it is to be (*soll*) for us what it wants to be. Its end, its origin, must be the *ideal of being*. The destination of the self would be an infinite *realization of being*. Its effort would be to be more and more. The path of evil descends from the I am, the path of good ascends. The highest philosophy is ethics. This is why all philosophy begins with the I am. (Novalis, 2012, no. 556, p. 213)

While placing existence back at the center of philosophy, Novalis asserts that existence is amoral if it seeks only to persevere in stasis; it becomes moral by following a purpose of unfolding being, towards a "total free-being" (Novalis, 2012, no. 556, p. 213). Yet this morality is built on its magical means: "The self seems (*scheint*) to be contradictory when one does not know the nature of its efficacy, the activity of the productive imagination, in that the accomplishment of its end seems, as it were, thwarted by the chosen means" (Novalis, 2012, no. 556, p. 213). Novalis rightly points out that this magic is in the very nature of being, and that in employing it, he therefore acts in accordance with himself, even if this being is only an unstable "floating."

This metaphysical moralization is achieved through action. Indeed, Novalis constantly asserts that we know a thing only insofar as we do it (Novalis, 2004, p. 50, 59 and 187): "Everything that tends towards unity will therefore have to prove itself in the real and *as* the real." (Schefer, 2005, p. 11). This ability to act is connected to freedom

of thought: "Freedom of thought leads to freedom of the acting self" (Novalis, 2012, no. 559, p. 214). The affirmation "I exist" is central to the process:

> (T)he principle of all reality, its guarantor, the foundation of thought is – SUM ["I am" in Latin]. Philosophy is strictly restricted to the determined modification – of consciousness. It is modest – it stays within its boundaries. It grasps what is within it, or what is within its power. (Novalis, 2012, no. 559, p. 214)

Novalis evokes "in turn our mission to educate the Earth, the necessity of a cosmopolitan policy applied to plants and stones, or the miraculous power of faith (*Wunderkraft des Glaubens*)" (Schefer, 2005, p. 20). Magical idealism is linked to his desire for a "romanticization of the world," which expresses his deepest aspiration: "to renew the lost links between man and the cosmos, man's childhood and the ages of the earth" (Schefer, 2020, p. 8). According to Novalis, in his *Poeticisms*, "romanticizing" is merely a qualitative potentiation, the identification of an inferior self with a better self: "This operation is still totally unknown. When I give the ordinary an elevated meaning, the common a mysterious aspect, the known the dignity of the unknown, the finite the appearance of the infinite, then I romanticize it" (Novalis, 2004, no. 105, p. 142).

Practical Mysticism

It is through this "romanticization" that Novalis proceeds with all dogmas, starting with Kant's assertion that there could be no knowledge beyond the sensible world. Novalis asks himself: "Is there still extra-sensible knowledge?" (quoted by Margantin, 2012, p. 67). In *Pollen*, he goes further in criticizing this "most arbitrary prejudice according to which man will be deprived of the faculty of being outside himself, of being with his consciousness beyond the senses". In Heinrich, the dream is thus described as a path leading to new experiences and "signs announcing what he is about to experience" (Margantin, 2012, p. 183).

Sophie's death probably precipitated this "belief in true revelations of the spirit," in this "aptitude for Revelation" peculiar to man and said to be more developed in certain individuals (quoted by Margantin, 2012, p. 68). He formulates the idea of a universe already contained within us, accessible by a "mysterious path" enabling us to explore the unknown depths of our mind, propositions that are generally interpreted as the expression of his "mystical thought" (Margantin, 2012, p. 68).

Magical idealism is the theorization of this significant coincidence between an imaginary expectation (to see one's beloved again) and its physical realization. The inside and the outside can coincide... even if it is impossible. Laurent Margantin interprets this fragment of the "mysterious path" as a common thread running through his work:

> There is thus in this fragment a skillful blend between the two spheres, metaphysical and psychological, but also physical and psychic, spiritual and corporeal, a blend that gives the mystical experience a concrete dimension that will always be present in the poet's later writings. (Margantin, 2012, p. 71)

To say that the French Enlightenment did not correspond exactly to the German *Aufklärung* would be an understatement (Belaval, 1979). German rationalism is not anti-religious, and the young philosopher is an excellent example of this: "Novalis attempts not to reconcile religion and reason, but to open reason to the perception of the infinite, which would be indistinguishable from religious experience" (Margantin, 2012, p. 136). Maurice Maeterlinck (1895, p. XXIX) described Novalis as "a scientific mystic, although he only deals with science at times and places when it is on the verge of merging with poetry."

Conclusion

What a strange discovery Novalis was! A shooting star in intellectual history, but one whose intuitions seem to have grasped many things. His fragmentary and combinatorial method is apt to inspire all those who reject dogmatic systems. Nevertheless, his link with parapsychology remains tenuous. Favre's (Favre & Garnier, 2024) initial assertion of Novalis's "parapsychological genius" may seem exaggerated. Apart from Favre, Novalis clearly had no influence on parapsychologists through any empirical or theoretical work. At best, we are belatedly discovering a kinship between his reflections (informed, among other things, by anomalous experiences that are difficult to identify) and certain contemporary conceptions.

To reconcile Novalis with contemporary parapsychology, we would have to equate his "magic" with "psi." Novalis makes it a normal process, part of the way the world works, not something marginal and spectacular. He even makes it an essential process associated with life and creation (as Favre also defends), immanentist by nature, which distances itself from all supernaturalist attempts to associate parapsy-

chology with survival issues or transcendent forces. In short, magical idealism is not an unknown ancestor of today's parapsychology, but perhaps a harbinger of a parapsychology to come.

Novalis's encyclopedic approach embraces a trans-disciplinarity that also suits today's scientific parapsychology, but with a poetic twist. His approach, based on hypostasis and "the negativity of the absolute," is that of a complementarian psychophysics, in the manner of dual-aspect monism (Atmanspacher & Rickles, 2022): a psychology that seeks to absorb matter, while recognizing the limits of embodiment. Combining the philosophy of nature and the philosophy of freedom, Novalis questions the morality underlying this free will that appropriates the rest of the world. He comes to identify the circular determinism of the magician who modifies the world and himself in the process. Is it not the same with the psi paradox (Rabeyron, 2023), when the researcher obtains a psi-effect that corresponds to his own beliefs, thus shaping the psi-effect he will be led to seek?

Globally, there is an important affinity between *Naturphilosophie* and phenomena dear to the hearts of future parapsychologists (Gusdorf, 1985). It is one of the rare philosophical and scientific currents to preserve a place of choice for the marvelous, as parapsychology has come to do today. Our incursion into this intellectual current of Romanticism, through a historical and philosophical approach, gives only a glimpse of the possible connections.

Novalis's magical idealism is an attempt to ensure that "magic" is not excluded from the Enlightenment project. It implies an *animism*, an *immanentism* and a *complementarianism* that stand in stark contrast to *naturalism*, *transcendentalism,* and the various *monisms* and *dualisms*. This properly revolutionary metaphysics is not consolidated as a refined doctrine, but rather as "grains of pollen" and "fragments," in the form of a "general draft" left as a legacy for future generations. All that remains to be done is to bring them together and articulate them with the scientific progress made over the last two centuries.

Declaration of Interest

The author declares that there is no conflict of interest.

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Novalis et l'Idéalisme Magique : Un Pionnier Oublié de la Parapsychologie ?

Renaud Évrard

Résumé : La philosophie de la nature allemande est un courant intellectuel important de la fin du XVIIIe siècle jusqu'au milieu du XXe siècle. Il a intégré des phénomènes tels que le magnétisme animal dans une vision pluridisciplinaire visant le rapprochement des sciences. Son influence sur la parapsychologie reste néanmoins méconnue. Nous prendrons l'exemple de Friedrich von Hardenberg, plus connu sous le pseudonyme de Novalis (1772-1801). Jamais cité dans la littérature parapsychologique, le jeune savant et poète a pourtant mentionné ses expériences personnelles de l'apparition de sa fiancée défunte et de sa pratique du magnétisme animal. Il a également théorisé une nouvelle métaphysique appelée « idéalisme magique » qui vise à dépasser les autres formes d'idéalisme pour identifier, dans un cadre immanentiste et néanmoins moral, la « magie » comme solution possible à l'union des opposés (sujet et objet, idéal et réel). Son projet semble éminemment coïncider avec celui de la parapsychologie théorique moderne, et notamment le monisme à double aspect.

French translation by Antoine Bioy, Ph. D.

Novalis und der Magische Idealismus: Ein vergessener Pionier der Parapsychologie?

Renaud Évrard

Zusammenfassung. Die deutsche Naturphilosophie war eine wichtige intellektuelle Bewegung vom späten 18. Bis zur Mitte des 20. Jahrhunderts. Sie integrierte Phänomene wie den tierischen Magnetismus in eine multidisziplinäre Vision, die darauf abzielte, die Wissenschaften einander näher zu bringen. Ihr Einfluss auf die Parapsychologie ist jedoch noch wenig bekannt. Ich ziehe das Beispiel von Friedrich von Hardenberg heran, besser bekannt unter seinem Pseudonym Novalis (1772-1801). Der junge Wissenschaftler und Dichter, der in der Literatur zur Parapsychologie nicht erwähnt wird, berichtete dennoch von seinen persönlichen Erfahrungen mit der Erscheinung seiner verstorbenen Verlobten und seinem praktischen Umgang mit dem tierischen Magnetismus. Er entwarf auch eine neue Metaphysik, den sogenannten „magischen Idealismus", der über andere Formen des Idealismus hinausgehen und in einem immanentistischen und zugleich moralischen Rahmen die „Magie" als mögliche Lösung für die Vereinigung von Gegensätzen (Subjekt und Objekt, ideal und real) identifizieren soll. Sein Projekt scheint mit dem der modernen theoretischen Parapsychologie übereinzustimmen, insbesondere mit dem Duale-Aspekte-Monismus.

German translation by Eberhard Bauer, Ph. D.

Novalis e o Idealismo Mágico: Um Pioneiro Esquecido da Parapsicologia

Renaud Évrard

Resumo: A filosofia natural alemã foi um importante movimento intelectual do final do século XVIII até meados do século XX. Ela integrou fenômenos como o magnetismo animal em uma visão multidisciplinar que visava aproximar as ciências. Sua influência na parapsicologia, no entanto, permanece pouco conhecida. Tomo como exemplo Friedrich von Hardenberg, mais conhecido pelo seu pseudônimo Novalis (1772-1801). Não citado na literatura parapsicológica, o jovem cientista e poeta mencionou, no entanto, suas experiências pessoais com a aparição de sua noiva falecida e sua prática de magnetismo animal. Ele também teorizou uma nova metafísica chamada 'idealismo mágico', que visa ir além de outras formas de idealismo para identificar, dentro de um quadro imanentista, mas moral, a 'magia' como uma possível solução para a união dos opostos (sujeito e objeto, ideal e real). Seu projeto parece coincidir com o da parapsicologia teórica moderna, e em particular com o monismo de duplo aspecto.

Portuguese translation by Antônio LLima

Novalis y el Idealismo Mágico: ¿Un Pionero Olvidado de la Parapsicología?

Renaud Évrard

Resumen: La filosofía natural alemana fue un importante movimiento intelectual de finales del siglo XVIII hasta mediados del XX. Integró fenómenos como el magnetismo animal en una visión multidisciplinar que pretendió acercar a las ciencias, pero su influencia en la parapsicología es poco conocida. Tomo el ejemplo de Friedrich von Hardenberg, más conocido bajo su pseudónimo Novalis (1772-1801). No citado en la literatura parapsicológica, el joven científico y poeta mencionó sin embargo sus experiencias personales de la aparición de su prometida muerta y su práctica del magnetismo animal. También desarrolló una nueva metafísica, "idealismo mágico," que pretende ir más allá de otras formas de idealismo e identificar, dentro de un marco inmanentista pero moral, a la "magia" como una posible solución a la unión de opuestos (sujeto y objeto, ideal y real). Su proyecto parece coincidir con el de la parapsicología teórica moderna, en particular con el monismo de doble aspecto.

Spanish translation by Etzel Cardeña, Ph. D.

LETTER TO THE EDITOR

Erratum: Moon Phases and Online Tests of Precognition[1]

Julia Mossbridge

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This erratum corrects errors in the Letter to the Editor titled *Moon Phases and Online Tests of Precognition* (Mossbridge, 2024). Because of a copy-paste error undetected until recently, the statistics for the second data batch reported in that letter were in fact the statistics for the two data batches combined.

The correct statistics for the second data batch are as follows: As in the first batch, in the second participants were more likely than expected by chance to instigate a trial during the last quarter/waning crescent phases, and less likely than chance to do so during the full/waning gibbous phases (batch 2, n = 1,207; last qtr/waning crescent: .37, $p < 1x10^{-6}$ [binomial test]; full/waning gibbous: .16, $p < 1x10^{-6}$ [binomial test]). Also as in the first batch, in the second during the moon phases when participants were more likely to choose to instigate a trial, they were more likely to perform better than during moon phases when they were less likely to instigate a trial, though this difference was not significant (batch 2, last qtr/waning crescent: 223 hits, 224 misses, ratio = 1.00; full/waning gibbous: 92 hits, 107 misses, ratio = .86; $\chi^2_{(2, n= 646)} = .74$, $p > .39$). The conclusions of the original letter are not changed by these statistics, because the performance pattern and the accuracy pattern were both maintained through both data batches, even though in the second batch the accuracy pattern was not significant.

Reference

Mossbridge, J. (2024). Moon phases and online tests of precognition [Letter to the Editor]. *Journal of Anomalous Experience and Cognition*, *4*(1), 142-143. doi.org/10.31156/jaex.26006

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Recent Publications of Note 5 (1)[1]

Anomalous Cognition and Experience

Marie, N., Lafon, Y., Bicego, A., Grégoire, C., Rousseaux, F., Bioy, A., Vanhaudenhuyse, A., & Gosseries, O. (2024). Scoping review on shamanistic trances practices. *BMC Complementary Medicine and Therapies*, *24*(1), 381. https://doi.org/10.1186/s12906-024-04678-w

This paper is useful as a review of works evaluating the phenomenology and psychophysiology of… and with that ellipsis I run against the wall of what the paper is or is not about. Literally it is about "shamanistic trance practices," which end up being subsumed under the concept of "trances." However, this classification includes a wide variety of practices (e.g., different types of hypnosis, meditation, and so on) and potentially associated alteration of consciousness. Even when restricted to "traditional shamanism" and "shamanic practices in contemporary Occidental cultures," it includes phenomena such as the visual shamanic magical flight and spirit possession that differ substantially in their phenomenology, behavior, and related historical and socio-cultural characteristics (Cardeña & Krippner, 2018; Dobkin de Rios & Winkelmann, 1898). Meaningful comparisons require wrestling with difficult conceptual issues, rather than throwing apples, oranges, and other fruits into a conceptual mixer and expect a very discernible taste.

Pehlivanova, M., Cozzolino, P. J., & Tucker, J. B. (2024). Impact of children's purported past-life memories: A follow-up investigation of American cases. *Frontiers in Psychology*, *15*, 1473340. https://doi.org/10.3389/fpsyg.2024.1473340

An important follow-up, by the DOPS group from the University of Virginia, of Americans who mentioned purported past lives as 3-6 year olds (i.e., CORT, or cases of the reincarnation type). As adults, they led productive lives, had moderate-to-high spiritual well-being, and endorsed slightly more dissociation and fantasy proneness than comparison samples. Most reported having been impacted by their early ostensible reincarnation experiences, only few of them in a negative way. This supports the conclusion that unusual (anomalous) experiences are not necessarily negative and may even be psychologically beneficial.

1 This regular feature summaries critically recent papers of interest. If you want to recommend a paper, please send me a note with bibliographic information to **etzel.cardena@psy.lu.se**. In this issue, I integrated Anomalous Experience and Cognition as some papers straddled both phenomena.

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2025, Vol. 5, No. 1, pp. 99-101

https://doi.org/10.31156/jaex.27782

Radin, D: (2023). Sentiment and presentiment in twitter: Do trends in collective mood "feel the future"? *World Futures, 79*(5), 525-535. Doi: 10.1080/02604027.2023.2216629

Although this is not a very recent publication, it deserves mention because it is consistent with the Global Consciousness Project (Nelson, 2024) and has important implications for the consideration of anomalous cognition. An analysis of Twitter (now called X) postings for 13 years showed what looked like a precognitive effect two weeks before important negative unpredictable events.

D. del Rosario-Gilabert, & I. Vigué-Guix, I. (2025). Unveiling the EEG signatures of extrasensory perception during spiritual experiences: A single-case study with a well-renowned channeler. *Explore, 21*(2), 103114. https://doi.org/10.1016/j.explore.2025.103114.

Unfortunately, what I found of note in this paper were the confused assumptions made by the authors and tacitly endorsed by the reviewers and the journal that published it. The single-case EEG data of a medium during three conditions (imagination, perception of listening to a story, and attempting contact with a "non-corporeal intelligence" or "ESP condition") might be valuable in considering neural dynamics of channelers, although the order of the conditions did not seem to be counterbalanced, which makes any fast conclusion problematic. The more serious problems start when the paper states that the "fraud hypothesis" for the channeler was disproved because the EEG activity differed between the fantasy and ESP conditions. That is unwarranted as those results only show a difference that might be explained in different ways. Similarly, the paper also implies that the results generally supported the ESP hypothesis because the EEG activity during the perception and ESP conditions differed. That confuses what may be an anomalous experience from actual anomalous cognition or "ESP," with the latter requiring some type of corroboration other than the reputation of the channeler.

Weisman, K., & Luhrmann, T.M. (2025), Shifting between models of mind: New insights into how human minds give rise to experiences of spiritual presence and alternative realities. *Topics in Cognitive Science*. 1-36. https://doi.org/10.1111/tops.70002

A fascinating study with a large sample (N = 1,779) from a team that has investigated cognitive and cultural mediators of the experience of perceiving immaterial beings such as a divinity or an ancestor. From the abstract: "A person is more likely to hear God speak if they have the epistemic flexibility and cultural support to shift, temporarily, away from a mundane model of mind into a more 'porous' way of thinking and being."

Wittmann, M., Droit-Volet, S. (2024). Subjective time in ordinary and non-ordinary states of consciousness: How interoceptive feelings inform us about the passage of time. *Current Topics in Behavioral Neurosciences*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/7854_2024_520

The paper makes a case for the proposal that time in ordinary and altered states is related to emotions and bodily sensations, in accord with the general perspective of the embodiedness of cognition.

References

Cardeña, E., & Krippner, S. (2018). Some needed psychological clarifications on the experience(s) of shamanism. *Behavioral and Brain Sciences*, *41*, e72. https://doi.org/10.1017/S0140525X17002035

Dobkin de Rios, M., & Winkelman, M. J. (1989). Shamanism and altered states of consciousness. *Journal of Psychoactive Drugs, 211*(1), 1-7. Doi: *10.1080/02791072.1989.10472137*

Nelson, R. (2024). Global consciousness: Manifesting meaningful structure in random data. *Journal of Anomalous Experience and Cognition*, *4*(2), 149–173. https://doi.org/10.31156/jaex.25553


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