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Global Consciousness: Manifesting Meaningful Structure in Random Data¹

Roger D. Nelson

Global Consciousness Project

Abstract. The Global Consciousness Project (GCP) is a long-term experiment using a world-spanning network of physical random number generators to collect data continuously, 24/7, since 1998. We have recorded parallel sequences of data from the network, consisting of trials of 200 bits recorded each second at each node and sent to archiving servers in Princeton, NJ. A formal experiment ran for 17 years and comprised 500 replications of fully specified and pre-registered event analyses. These tested a general hypothesis that engaging events of deep interest to large numbers of people around the world would correspond to departures of the random data from expectation. Compounded results across the 500 events confirmed the hypothesis ($Z = 7.31$) and provided a sound basis for further analysis to help understand the effects. A number of explanatory propositions have been suggested, of which two stand out: a field-like model and an experimenter effect model. In this paper we consider several independent analyses and applications using GCP data, including analyses that examine all the data, not just the identified formal events. Neuroscience tools for assessing evoked response potentials (ERP) are applied to the GCP data to look for possible structure from a stimulus-response perspective. All of these additional analyses and applications identify structure that cannot be explained by an experimenter effect or goal orientation model. They are, however, naturally encompassed by field-like models.

Keywords: Global Consciousness Project, consciousness, mass consciousness, random number generator (RNG), network of RNGs, experimenter effect, field-like model.

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Highlights:

- During major events that engage the attention and emotions of large numbers of people around the world there is a compounded 7 sigma departure from random behavior in data from the GCP network.
- There is good evidence for structure in GCP data corresponding to movements of stock market valuations and Internet search trends.
- Multi-scale entropy calculations show widely distributed negentropy in the data, indicating that the actual data are a mixture of non-random and random data.
- When the event data are processed with methods drawn from neuroscience, the results show structure that has the same general form as brain responses to sensory stimuli.
- The evidence points toward something analogous to a field that can manifest influence widely and generally – though subtly – on the nominally random data.

In a sense it is fair to say the Global Consciousness Project (GCP) got its start when I read Teilhard de Chardin's *The Phenomenon of Man*, as a college student in 1960 (Teilhard de Chardin, 1955/1976). He wrote poetically about evolution from inanimate particles to organic compounds to living cells, and finally to self-aware human beings, who were able to think about this evolutionary process and to envision ourselves as its pinnacle. But Teilhard said, no, there is another stage ahead of us. Our destiny is to become a noosphere for the Earth, by which he meant a coherent sheath of intelligence that would envelop the planet as do the atmosphere and the ionosphere, but made of knowing and information. He thought it would be a long time – thousands of years – but an inevitable development driven by the increasing density and complexity of our world. Three decades after reading this inspirational book, circumstances and experiences led me to wonder if it might be possible, in our increasingly complex world, that the noosphere Teilhard wrote about might already have begun to develop, and that we might be able to get a glimpse of its formative presence. Here I want to chronicle the background of events and opportunities that led to the GCP, and to describe some of the most salient evidence for the possibility that we are indeed able to see a nascent global consciousness beginning to pulse with a life of its own.

The work begins in 1980 with a long series of experiments using physical random event generators (REG or RNG) in the Princeton Engineering Anomalies Research

(PEAR) lab, looking for effects of consciousness on physical systems. This research, always using rigorous procedures, provided evidence for small but persistent effects of conscious intention to change the behavior of RNGs. Over the course of a decade, on the order of a hundred people, quite ordinary in most respects other than their interest in participating in our hard-edged experiments, generated thousands of trials in what we called a tri-polar protocol. We asked them to change the behavior of the RNG to produce high numbers, low numbers, or to leave it alone to produce baseline data. Over the years we tried many variations and tested physical parameters including the speed of bit generation and the size of trials (20, 200, 2000 or 2 million bits per trial) as well as softer parameters like age and gender, the spatial and temporal distance between participants and the RNG, and whether the next intention would be selected by the participant or by a random process (Jahn et al, 1997). Although the absolute effect sizes are quite small, of the order of 10^{-4} bits deviation per bit processed, over the huge accumulated databases the composite effect exceeds 7-sigma ($p = 3.5 \times 10^{-13}$). Few of the tested parameters showed differentiating effects, but there were significant gender differences and modeling indicated that about 15% of participants were responsible for the anomalous deviations.

By the early 1990s we had miniaturized the RNGs and developed continuous data recording software, allowing an expansion to experiments in venues outside the lab, using laptops and palmtop computers. This second phase of RNG research was called FieldREG because we were taking the research into the field and because we wanted to study the possibility of a group consciousness field that might affect the behavior of our random sources in a similar way to the experiments with individuals in the lab. A major difference was that we no longer were looking at conscious intentions to affect the RNG, but rather something we conceived as effects of coherent group consciousness. Few if any of the people in the group knew anything about the RNG that we brought into the environment, so there was no intention directed toward the device (except, perhaps, for the experimenters' wish to learn something). Our analysis procedures changed from predicting a mean shift (high or low) to predicting a variance shift – deviations in either the positive or negative direction.

We identified two kinds of group situations, those that would generate coherent or resonant group attention, like rituals, group meditations, deeply engaging meetings, concerts, and performances. For comparison, we also collected FieldREG data in “control” venues with little coherence, like shopping malls, street corners, and railway stations. Our predictions of increased variance during coherent group situations were borne out in 70 independent experiments (Nelson et al, 1998). This work left little doubt that consciousness might alter the behavior of RNGs even without specified intentions,

but also raised further interesting questions. What might happen if the RNGs were located at a distance, and what if we had a network of devices producing data? What if the group were very large – perhaps global in extent?

These and other questions led me to gather resources and invite friends and colleagues to help create the GCP in 1997. The development of software and hardware required several months, and in late 1998 we began to collect continuous sequences of data, 24/7, from each node in the network, at first mostly in the US and Europe. The Project grew to include more than 150 people around the world hosting an RNG node at various times. Over the next two decades, a large database of random numbers was recorded, consisting of parallel streams of 200-bit sums generated each second by research-grade random number generators in the world-spanning network. The formal experiment ran from August 1998 to December 2015 and comprised 500 formally specified, pre-registered analyses.

The general hypothesis for the experiment was that during major events that capture the attention of large numbers of people and synchronize their emotional responses, we would find departures from expected random behavior in the data from the GCP network. This general prediction was instantiated in a series of formal event hypotheses with fully specified parameters, i.e., the beginning time, the duration, and the intended analysis. This created a series of replications testing formally whether the swath or matrix of parallel random sequences would show indications of structure – where there should be none – during the defined global events. A standard analysis was applied to most events, looking at the network variance or “netvar”. This was calculated as the squared Stouffer’s Z across all RNGs in the network, each second. The result is a chi square distributed quantity with one degree of freedom that can be summed across all seconds of the event to give a score representing the variance change. The measure is also approximately equivalent to the degree of pairwise correlation among the RNGs. That is, when the network variance is significantly changed, we know that the data from widely separated physical RNGs have become correlated (Bancel & Nelson, 2008).

The accumulated departure from expectation for the formal GCP experiment exceeds 7 standard deviations, corresponding to odds of about 3 trillion to one against chance fluctuation as an explanation. It is a robust bottom line that provides a solid basis for deeper analysis of the database. As a result of the fully transparent experimental design and perhaps more importantly because all of the data are publicly accessible (global-mind.org/data_access.html), the GCP experiment has received little serious criticism. Beyond this, another benefit of the open source approach is that people interested in looking at the data can undertake confirmatory independent analyses.



Recent Explorations of GCP Data

The 24-year database (beginning in 1998) of continuous parallel random number sequences from a world-spanning network shows correlations of data deviations with major global events. (Nelson & Bancel, 2011) This is the simple but profound outcome of the GCP experiment. Although the basic finding is not disputed by knowledgeable commentators, there is considerable debate on what mechanisms or models might explain the anomalous deviations. Because the data are always publicly available, independent analysts are able to inform possible models by asking whether there may be meaningful indications of structure beyond the originally specified analysis based on the calculated variance across the network. As noted, the network variance analysis implies that the RNGs in the network become slightly correlated with each other even though they are separated by global distances. This is striking and difficult to explain using the simple physical models that work so well in our technological world, but it is a solid result, deserving attention and further exploration. For a broader view that provides valuable insight, I consider some independent perspectives and research:

- There is good evidence for structure in GCP data corresponding to movements of stock market valuations.
- Similarly, there are correlations of the data deviations with an index derived from popular Google search terms.
- On a more abstract level, multi-scale entropy (degree of randomness) calculations show widely distributed negentropy (increased structure) in the data, which indicates that the actual data, but not controls using pseudorandom or temporally scrambled data, are a mixture of non-random and random data.
- Deconvolution analysis (extracting original signal from combined data) also provides empirical evidence of temporal structure that should not exist in random data.
- When the database is segregated into categories reflecting different types of events, the results by category differ substantially.
- Finally, when the event data are processed using methods drawn from neuroscience, the results show structure that has the same general form as brain responses to sensory stimuli.

All of these perspectives showing structure that is separate and independent from the results of the original analysis are instructive. In particular, these findings

shed some light on comparisons of field-like models versus experimenter effect models, as we will see.

Deeper and Broader Analysis

The GCP database includes many kinds of events, allowing comparison of the outcomes for several categories. We can assess differences based on event size (number of people engaged), valence (positive vs negative), event perspective or source (internal vs external), type of emotions (e.g., love or fear), and more. The 7-sigma accumulated deviation represents a robust bottom line that can, in principle, support a variety of secondary analyses. A number of these, including a covariance calculation, a distance between RNGs comparison, and a time-of-day assessment have shown substantial indications of structure in what should be random data, in addition to and orthogonal to the originally predicted network variance effect. In the past few years, using the formal data as well as continuing data from the network after the formal experiment ended, a number of new, independent analyses have been made. Here we describe them briefly, in the context of continuing efforts to characterize the GCP data and develop models that can account for the anomalous or unexpected structure including internal and external correlations of data that should be random and unstructured.

For much of its history, the most sensible way to model Global Consciousness Project data appeared to be some kind of consciousness or information field sourced in the attention of large numbers of people around the world focused synchronously on major events, driven by deeply felt emotions shared by many individuals. An alternative model invokes a kind of experimenter effect, where the people involved in and making decisions for the GCP use unconscious precognition of future results to determine the parameters of the experimental tests and thereby achieve desired outcomes. To help distinguish these modeling attempts, I will describe the results of various relevant but independent research programs that apply new analytical perspectives to the original data. It is important to note that these analyses are not data-snooping explorations but planned, specific research questions.

Stock Market Modeling

In March of 2019, Ulf Holmberg sent an email introducing his assessment, using economic analysis tools, of GCP data (represented by a quantity he calls “Max[Z],”

drawn from GCP's automatically calculated 15-minute block measures). He said he found "a statistically significant link between large Z scores and global stock market returns. Not only is there a daily link confirming the existence of non-local consciousness but there is also a similar pattern predating actual stock market movements" (personal communication, 2019).

Holmberg's findings have since been published (2020) in the peer-reviewed *Journal of Consciousness Studies*, as "Stock Returns and the Mind: An Unlikely Result that Could Change Our Understanding of Consciousness.". His basic approach is to seek a time series correlation that is general and not a function of single large emotional events. He proposes that the correlations his analysis finds may depend on some external influence that affects both the stock market and the GCP data. To the extent such correlation holds, it may be possible to develop an application that could be used in market decision making.

To reduce the likelihood of misinterpreting a chance correlation, Holmberg applied the same analyses to 12 different stock indices from the US, Europe, and Asia. Significant results were found in 11 of the 12 indicators. Surprisingly, the strongest correlations tended to be with GCP data from the previous day, further supporting the possibility of actual applications – using the GCP data as a predictor for decisions. He writes (Holmberg, 2021):

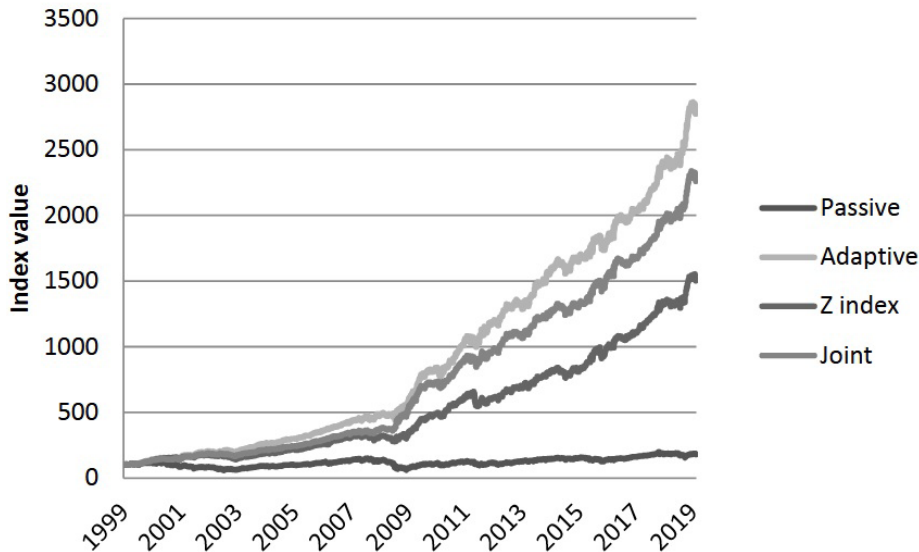
That the Max[Z] process is influenced by volatility can possibly be explained by acknowledging that financial markets tend to "pick up" the public's general mood (market sentiment) and adjust prices accordingly. Thus, what should affect Max[Z] should also affect market prices which in turn also should affect daily market volatility. (p. 218)

A simulation of various investment strategies shows that using the Max[Z] from GCP data may indeed help make profitable decisions. Figure 1 compares a "passive" vs "adaptive" approach, in which the latter clearly wins. Using the Max[Z] information alone yields a substantial advantage, and combining the adaptive and Z index indicators (Joint) yields a still better outcome. Though not shown in the graph, the joint approach reduces risk as well, so it could be a strategy that provides a relatively high return with relatively low risk.

Figure 1

Simulation, Strategies for Positive Returns on Day Trades.

Indexed day trade return series



In August 2022, Holmberg set up a simulation study that can be thought of as an artificial GCP data fund to explore if the data could be put to practical use by traders and others. The study was set to run for a full year, but after 6 months it showed encouraging results: “The GCP data fund and its GCP data invariant counterpart have outperformed the market, even more than expected in these volatile times. The GCP data fund has also outperformed the control fund [by] between 3.5 and 4.3 percentage points after 6 months of trading which indeed suggests that the GCP data captures something not captured by regular market sentiment measures and that it can be put to practical use.” (personal communication).

On July 31, 2023, the simulation was complete, and Holmberg (2023a) wrote:

The potential advantage of using GCP data is studied in an out-of-sample simulation. The simulations are set to last one year, starting on 1 August 2022. Trades made during three different time periods were studied, and when the simulations ended on 31 July 2023, the results clearly showed that the GCP data can be used to inform traders. In fact, if the trades were made when the market opened in New York (UTC 14:30), the GCP data-informed trader achieved between 11.4 and 13.9 percent higher annual returns than their GCP data-invariant counterpart. (p. 16)

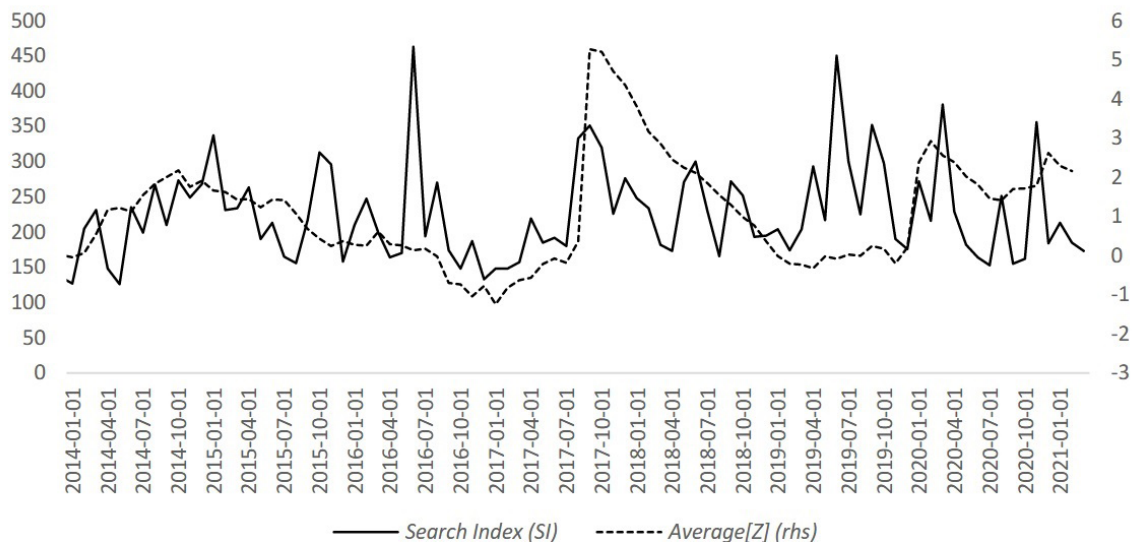
Global Attention and Engagement Index

Assessing a more general social measure, Holmberg correlates Google Trends search data with calculated daily aggregates of the second-by-second data generated by the GCP. Doing so, he finds that “all tested GCP data aggregates significantly covary with the Search Index and that the most significant correlation is found on its monthly average, $p < .001$.” Given this validation of the GCP hypothesis, he initiated the construction of a Global Attention and Engagement Search Index (SI).

In his paper describing this index, Holmberg (2023b) gives examples of the small but significant correlation of the search metric with the average GCP [Z] score. The search index is based on monthly indexed Google Trends data on all unique words, covering the period from January 2014 to February 2021. From this data set he constructed a search index by summing the Google search index value on the five most frequent unique search words over the specified time interval. The search index is not designed to be an interpretable index value but is meant to capture “movements” in attention and engagement. The two measures, SI and $\text{Max}[Z]$, are displayed in the next figure. They are visibly correlated, with clear parallel trends over time. Holmberg tests various models for the apparent correlation, and from the best of those it can be seen that public attention and engagement in a particular topic, proxied by Google Trends data, may persist for up to three months when the interaction with the change in average[Z] is taken into account. The interaction with the unfiltered GCP data aggregate is also found to be highly significant ($p < .0001$).

Figure 2.

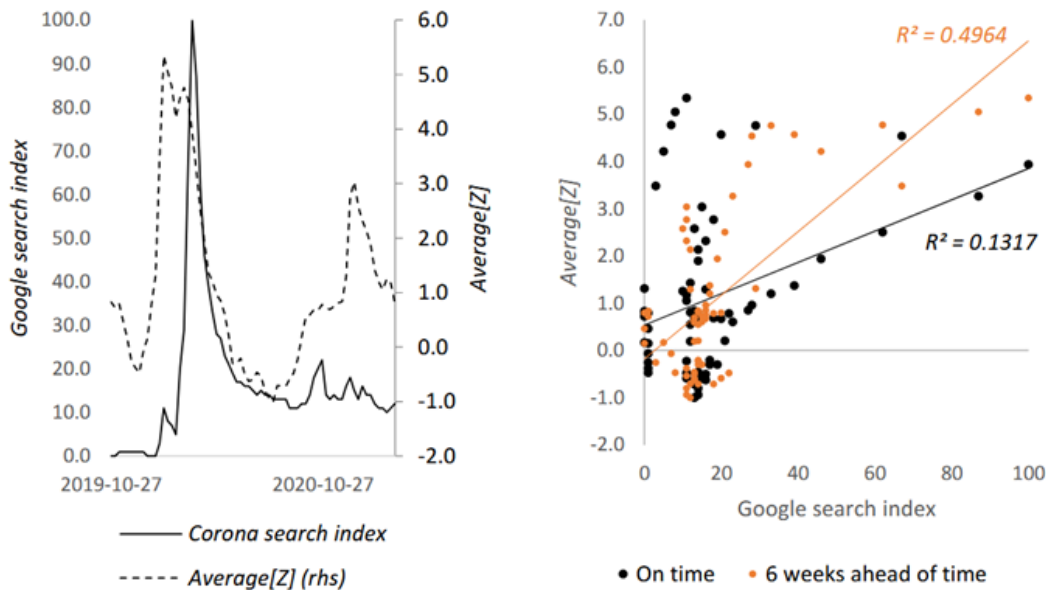
Global Search Index (Solid) and GCP Data (Dotted) Correlated Deviations 2014–2021



In the next example of the correlation of the global attention index with GCP data, the focus is sharper, looking specifically at searches for “corona” (referring to the corona virus). In Figure 3a, the correlation of the corona search index with GCP average[Z] is striking and highly significant. In Figure 3b, the correlation of SI with Average[Z] is shown, and we see that the correlation exists for data collected well ahead of the active “corona” search. These findings are intriguing and surprising, and deserve further research.

Figure 3

Indexed “Corona” Searches and Their Relation to the Normalized and Filtered Average[Z]



Based on several analyses of the link between GCP data and external variables like Google search terms and stock market indices, Holmberg (in press) writes:

The results suggest multiple avenues for future research. Firstly, they point towards the practical utility of the GCP data for forecasters. Additionally, by validating several claims made by the GCP, they open the door for research into alternative theories on the nature of consciousness. Furthermore, as stock market returns, sentiment and focused attention tend to be tightly linked to the economic performance in general, it is likely that other economic metrics could be better understood by acknowledging the information embedded in the GCP data.

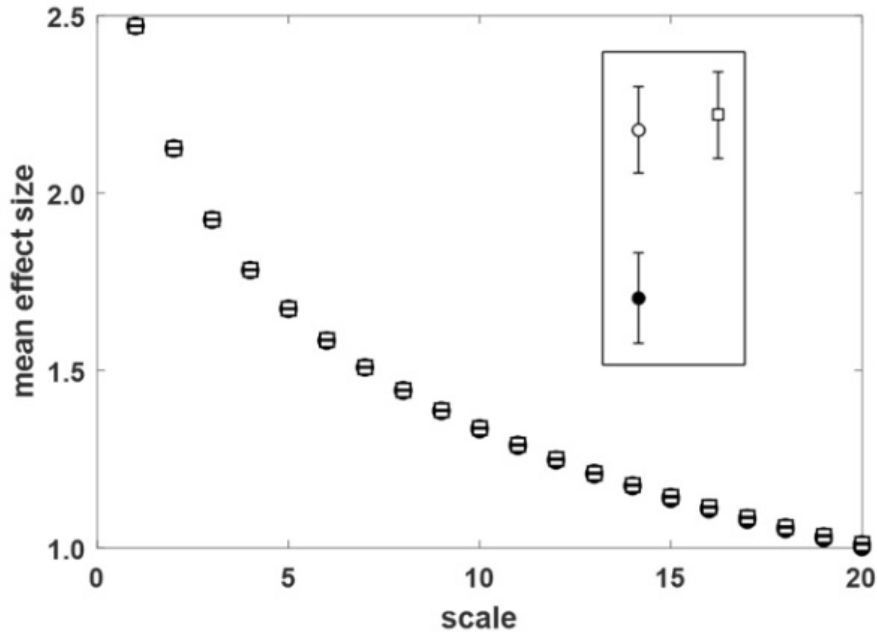
Multi-Scale Entropy

Truly random data can be regarded as fully entropic, in the sense that there is no structure or predictability, no information in sequences of numbers from true random number generators (RNG). Radin (2022) recently explored whether the “emergence of negentropic structure was limited to the 500 selected events [of GCP’s 17-year formal experiment], or if it was reflective of a persistent, if subtle, relationship among mind, matter, and entropy.” He used both a multiscale entropy (MSE) calculation and an approach asking if the data could be characterized as a convolution of many underlying nonrandom sequences. Both methods show widespread structure or negentropy in 23 years of the GCP database, and suggest a general, persistent relation of consciousness and entropy: It appears that “entropic movements are associated with many variables, such as source of consciousness (human, animal, plant), inherent talent, focus of attention and intention, coherence among groups, etc. At any given time, there are innumerable small to large groups focusing on something, and those are what the multiscale entropy method detects” (Dean Radin, personal communication, email, July 2022).

The multiscale entropy analysis is represented in Figure 4, which superimposes three very similar curves – for the original GCP data and for two control data arrays, one using scrambled original data and the other using pseudorandom data. The plot shows a stronger negentropic effect as the scale progressively includes larger amounts of data, in a smooth, non-linear relation. What is more interesting, the three curves appear to overlap but in actuality they differ significantly. If we look carefully, as shown for one scale (20) in the magnified inset, the curve for the original data (black dots) is significantly lower (i.e., more negentropic) than the curve associated with the randomly scrambled arrays (white dot) or the pseudorandom arrays (white square). This means that the negentropy exhibited by the GCP data is distributed throughout the database. The original event-based analysis of the GCP found negentropic effects in samples defined by great events, but there is much more structure than is revealed by that sampling. Does this generalized change in the data reflect a pervasive effect of the structuring power of consciousness? It certainly indicates that the data comprise a combination of non-random sequences intermixed with the random flow.

Figure 4

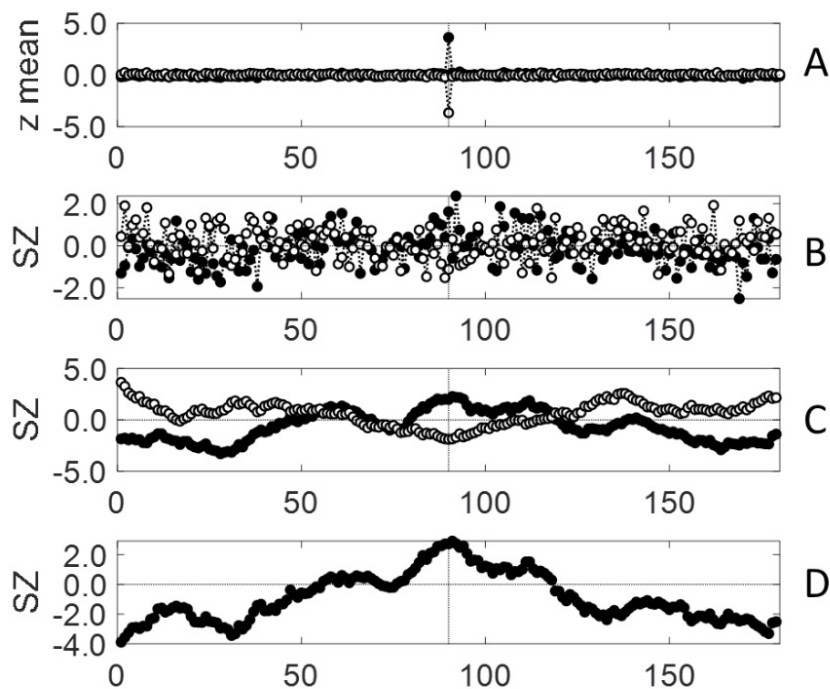
MSE Analysis of Arrays in Terms of Mean Effect Sizes and 95% Confidence Intervals



The inset shows a close up of these effects at scale 20. This curve consists of three overlaid plots: original data passing all four randomness tests (black circle), the same data randomly scrambled that also passed all four randomness tests (white circle), and pseudorandom data (white square).

Deconvolution

In addition to the multi-scale entropy approach, Radin conducted a second analysis designed to determine whether the data could be characterized as a convolution of many underlying nonrandom sequences. This entailed determining the maximum and minimum deviations in sequences, then doing a circular shift to put the max/min values in the center of the data array. The artificial spikes thus produced were removed and the shape of the resulting data curves revealed by smoothing. The results, shown in Figure 5 and most clearly in Figure 5d, show that data points near the selected extreme values also depart from expectation. In other words, the spikes were not isolated but were driven by an effect that was also spread out to nearby trials in the sequence of data. We see again empirical evidence of temporal structure that should not exist in random data – and by inference from the design of the GCP, the structure is associated with human consciousness.

Figure 5*Ensemble Mean of 8-Minute Segments*

(A) Ensemble mean of daily 8-minute segment arrays centered on the maxima and minima exceeding a threshold of $|z| \geq 3.5$. (B) Same data after the central spikes are removed and combined as a Stouffer Z. (C) Smoothed curves. (D) Difference curves.

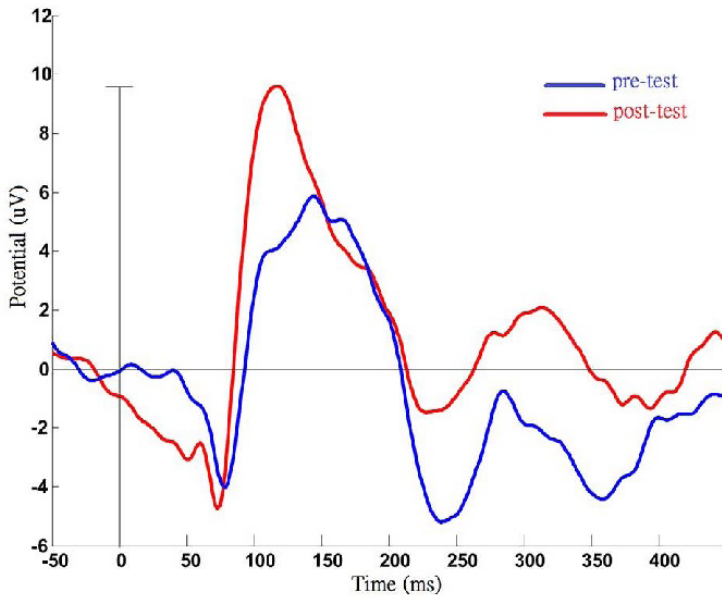
Evoked Response

The GCP adopted early on a data display based on the cumulative deviation of scores from expectation. The measure shows persistent deviations as a consistent slope of the data curve and displays the history of the scores over the duration of the event. It culminates in the figure of merit for that event. This is a useful and informative display, which transparently shows consistent small deviations from expectation. But it needs to be interpreted with care because it is autocorrelated (each point is the sum of all previous values) and because it may show impressive but temporary excursions prior to the definitive terminal value. To observe from a different perspective what is happening to the data during a powerful, engaging event, we turn to a well-developed technology for studying the time course of brain reactions to sensory stimuli – the evoked response potential (ERP). For example, a flash of light produces activity in the occipital cortex amid a great deal of unrelated activity. To reveal the ERP, the flash of

light is repeated many times, and the time-locked EEG responses are epoch-averaged and smoothed (Fig 6). Thus, the repetitions are stacked up in a summation that builds up the faint but consistent responses to the stimulus, while it washes out the noise because it is randomly related to the light flash (Li-Ting Tsai et al. 2016).

Figure 6

Example of a Visual Evoked Potential Response



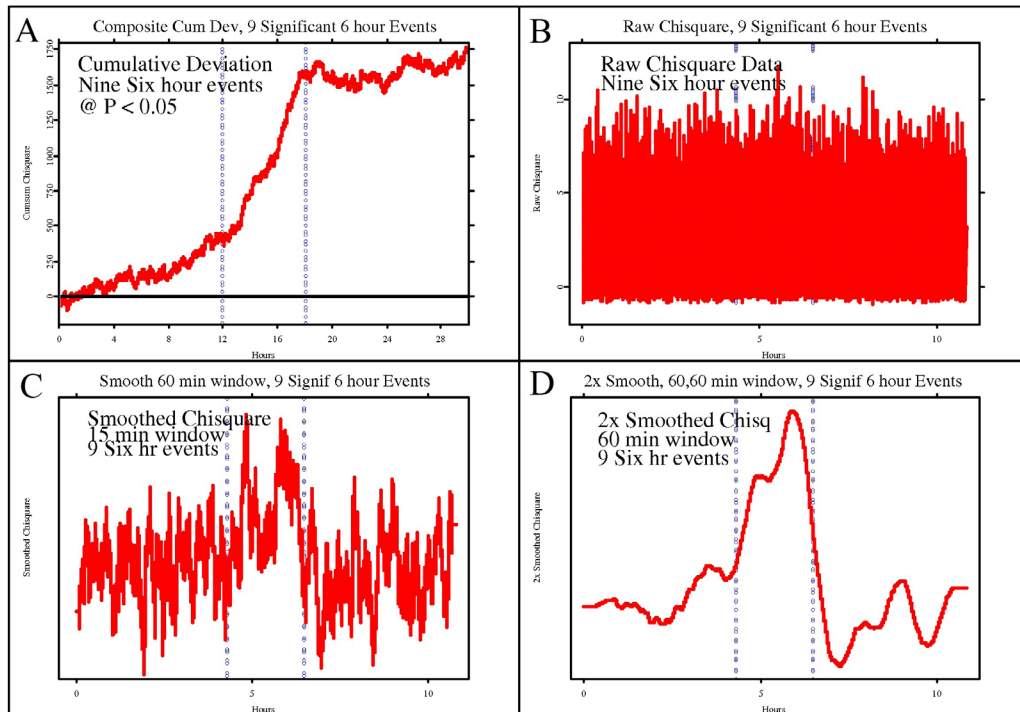
Beginning shortly after the stimulus, the response drops below baseline, then rises to a positive peak after 100 to 200 ms, then drops again to a low level after which it stabilizes at baseline deviation.

In Figure 7, I compare the cumulative deviation graphic used for most GCP analysis presentations (Fig. 7A) to a data smoothing approach used in neurophysiology (Fig. 7B, C, D). Epoch averaging and smoothing reveal what looks like a classical evoked response in the data. I treat the events as repeated stimuli to the putative global consciousness and proceed with summation and smoothing. Averaged across many events, the smoothed result shows what happens in the data before, during, and after the event. This uses the procedures applied to brain EEG data as described above. Here the process is applied to a definitive subset of the GCP event data: all the *significant* short events (six hours duration). These arguably represent the effect we wish to understand, and because they all have the same time parameters, they can be combined without distortion.

Figure 7

Average of Nine Significant 6-Hour Events

7A, cumulative deviation; 7B, original network variance data; 7C, same data, smoothed, 15-min window; 7D, additional smoothing, 60-min window



The upper left panel (7A) shows the cumulative deviation display of the data, which does not show the sharp inflections and negative trends predicted by Bancel (2017) in support of an EE model (see below). The other three panels show the epoch-averaged raw data and two steps of smoothing. The lower right panel (7D) clearly displays the striking pattern or structure that exists in the data, originally hidden in the noise, now revealed by the same signal extraction procedures used for brain EEG data (Nelson, 2020). The pattern is remarkably like that found in brain evoked responses, where a repeated flash of bright light, or repeated sharp sounds produce characteristic brain activity. The typical brain evoked response potential shows a strong positive deviation preceded and followed by weaker deviations of the opposite sign. This is the pattern shown in the lower right panel: a typical response to a stimulus. But here the data are not from an EEG, but from the world-spanning network of RNGs creating the GCP database. The pattern, while structurally similar to an ERP, has a very different time scale. Instead of a fraction of a second for the brain response, there is a GCP response over several hours. Is the structural similarity meaningful and instructive? I think it is. We are looking at a stimulus and response on a global scale, with a mass consciousness reacting to powerful world events.

Experimenter Effect Model

A general hypothesis that coherent attention in large numbers of people correlates with data deviations in a world-spanning network of RNGs during major global events. Efforts to explain the correlations have excluded mundane proposals (faulty equipment, lack of controls, erroneous analysis, fraud) leaving two reasonable alternative models. One proposes something like a nonlocal information field (IF) affecting the output of widely separated random devices, whereas the second suggests a kind of experimenter effect (EE) based on intuiting or precognizing outcomes, to allow felicitous selection of events and timing parameters that would capture large but natural deviations in the ongoing random sequence. Although the IF perspective is in principle capacious and capable of explanation of various structural and analytical aspects of the data, the EE perspective is essentially limited to explanation only of the original hypothesis test findings because that primary test is the only target or outcome experimenters could consciously or unconsciously consider when the test parameters were set.

In 2013, Peter Bancel presented a paper at the annual Parapsychological Association Convention titled, "Is the Global Consciousness Project an ESP Experiment?" The paper is a technical tour de force, with rigorous statistical assessment of various aspects of the database, intended to test whether a field-like model versus a selection model better fits the data. He concluded that a field model is virtually always the more effective choice. Discussing the multiple tests, he wrote (Bancel, 2013, p. 13),

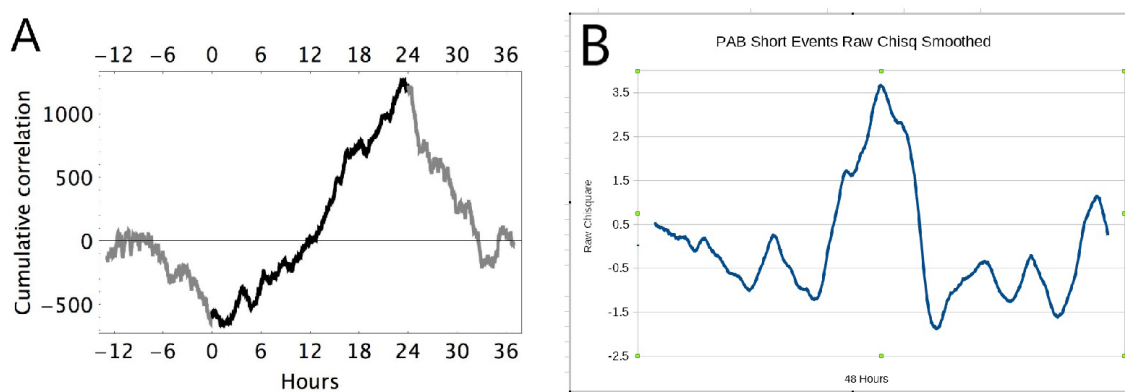
The five Z-scores can be combined to give a statistical measure of how strongly the analyses reject the selection hypothesis. A combined Z-score using Stouffer's method gives a Z of 3.98 ($p = .00003$), and using Fisher's method of combining P-values a Z of 3.70 ($p = .00011$) obtains. The tests thus reject the selection hypothesis with high significance. The analyses have also been done for the entire database and no evidence of residual or spurious structure detected by the tests is found in those data. To answer the question posed by the paper's title: No, the GCP is not an ESP experiment based on simple data selection. Rather, these analyses are consistent with a real, physical PK effect which perturbs the network RNGs.

But later Bancel (2017) did an about face, publishing a paper supporting an experimenter effect (EE) model, in which he presents graphical evidence of "fine tuning" suggested by sharp inflections at event specification boundaries, with negative data trends outside the event (Bancel, 2017). For example, in a graph he produced showing the cumulative data trace for all "short" GCP events, normalized by stretching or compression

to a 24 hour duration for summation, there are notable inflections and negative trends at the start and end of the composite across events (Fig. 8A). He suggests this should be expected because the intuitive selection of start and end points in the data sequence that define a positive segment will cause the preceding and following segments to show a deficit or a negative tendency: “If there is a choice on how to partition a null dataset, so that the chosen segment has a mean > 0 , then the remaining segment will necessarily (on average) have a mean < 0 .” In the context of ongoing parallel random sequences, this argument is reminiscent of the gambler’s fallacy that says if you have had a run of heads, then tails must become more likely. Moreover, in the cumulative deviation of statistically significant short events, shown previously in Figure 7A, there is no sign of the postulated sharp inflections and negative trends. A good question is how the sharp inflections at exactly the specified event boundaries in Bancel’s figure could possibly have come about, given the actual methodology for defining the events. Because the GCP is a replication paradigm, the parameters are most often set based on previous similar events. It is also worth noting that Bancel’s calculation and figure use data from all “short” events, including more than 80% with insignificant, null, or negative outcomes.

Figure 8

8a. Bancel’s Cumulative Deviation Composite of all Short Events (Normalized to 24 Hours). 8b. The Data from 8A Presented as Smoothed, Epoch-Averaged Network Variance Data



Looking at the same data using the ERP procedures (Fig. 8B), a now familiar structure is revealed. To see this, data from Bancel’s cumulative deviation plot (Fig. 8A) were de-convolved into their raw form (Z from chi square). The data were epoch averaged and subjected to smoothing using methods drawn from brain evoked response research – as detailed in Fig. 7B, C, D for the data from all significant short (6-hour) events. Again, there is a curve that appears to represent an evoked response

to impactful stimuli in the GCP data. This view of the data provides a perspective consistent with a field-like model but not an EE model. It shows the kind of temporally local stimulus-response relationship characteristic of brain ERP, but now in random data from the GCP network.

For context, we need to look at the nature of the specific event hypotheses, which are set *a priori*, and are rigorously implemented. The experimenter effect model is arguably supported by noting that more events are suggested and described by Nelson than by others, but the count is not as biased as the EE modelers maintain. It is about half and half, and the positive analytical outcomes are as often from specifications by “others” as from those attributed to Nelson. More germane is the question whether the predictions and hypothesis specifications about an event are novel or are drawn from previous events of the same sort. It turns out, as indicated earlier, that the majority of event specifications are literal applications of the parameters defining a previous case. In other words, rather than an experimenter selecting parameters by intuition (or pre-cognition), in most cases the specifications are not freely determined but prescribed.

Starting in early 2000, when the GCP had accumulated about 45 events in an exploratory mode, it began an effort to zero in on a set of specification that would work for many events. Some types of events were spread out over many time zones and the GCP could do no better than simply to specify a full 24 hour day. For more sharply focused events it seemed best to specify a few hours, and we settled on 6 hours as a period we thought would be sufficient to capture the original stimulus – the sharp point in time of the occurrence, with some hours for the news to spread and the emotional response to develop. There have been exceptions but most events in the later years of the Project, from about 2005, have used these more standardized specifications. This means that the flexibility implied, indeed required for an EE model, is not generally present in the GCP database.

Field-Like Models

An argument can be made that some form of field model representing consciousness is called for because there is a lot of structure in the GCP data beyond the deviation of network variance from expectation, which is the measure that yields the seven sigma formal result. The examples from Holmberg and Radin clearly make this point, as does a deeper examination of the GCP database, where we see, for example, that the results depend on factors such as the number of people engaged, the distance separating the RNGs, the strength of emotional engagement, whether people are awake or asleep, and so on (Nelson & Bancel, 2011). The data also show struc-



ture that qualitatively resembles stimulus-response patterns seen in brain activity when applying the signal processing tools of neuroscience. None of these extra signs of structure can be accommodated in an EE or goal orientation model. Instead, the evidence points toward something analogous to a field that can manifest influence widely and generally – though subtly – on the nominally random data.

We are far from describing such a field in precise terms, but it is possible to make some useful observations. There is no need for a field model to be seen as “force like” nor should it imply physical intervention to change bits. Rather, it seems most promising to think in terms of an information field. This notion could draw on the conceptual framework of the active information or pilot wave described by David Bohm (1980) – which allows actualization of a potential from the implicate order when a need for it exists in the explicate, real world. An RNG, or a network like the GCP, constitutes a “need” for information to satisfy the requirements of an experimental question, and the coherent mass consciousness engaged in major events is a potential source of the information that appears in the otherwise random experimental data.

Discussion

Independent assessments like those from Holmberg and Radin provide good evidence for structure not captured by the original network variance analysis specified for the formal GCP experiment. Not only is there correlation of the nominally random data with external variables like stock market fluctuations and Google search trends, there is also evidence of a generalized reduction of entropy in much of the data. Such indications are consistent with the idea that the network is reactive not only to the “stimuli” of events that we can readily identify from news reports, but also to widespread subtle influences. And when we look thoughtfully at the GCP data recorded during those major events, applying canonical techniques from brain EEG research, the results are strikingly similar in form to brain ERPs, even though the GCP responses occupy hours instead of a few hundred milliseconds. Again, a new analysis unrelated to the original figure-of-merit assessment reveals structure that should not be found in the output from a network of true random number generators, and again it is associated with consciousness. A major event is a stimulus that evokes a common response from large numbers of us. It links us in a coherent mass consciousness that is responsive to the evocative stimulus of a tragic happening or a celebratory moment. In an IF model, GCP data deviations are a proxy for (are linked to) our natural response to special moments in consciousness space. Our shared consciousness and emotions, if they are coherent, manifest structure that apparently is absorbed into the labile data of the RNG network.

In the analyses described here, there are meaningful relations between what would seem to be completely independent and unrelated elements in the world. What could explain the correlations of GCP deviations with the stock markets or with trends in internet search terms? How can we explain a generalized reduction of entropy in data from a globally distributed network of research-grade random sources? What can explain the correlation of data deviations with great events on the world stage? The best evidence points toward synchronous movements of consciousness as the common element that shape the anomalous structure in the search and market trends, the multi-scale entropy calculations, and in the GCP event data. These analyses show that when human consciousness is focused and engaged, when there is widespread coherence of attention and intention, there are effects – on sentiment, on markets, on what interests us, and on the random data from the GCP network. Consciousness is without question present in all these elements, including the GCP data, as shown by the correlations of data deviations with operationally defined moments of “global consciousness.”

Returning to the question of suitable explanatory models, I think the evidence for goal orientation or experimenter effects is unpersuasive. On the global level of the experiment as a whole, it could be said that my intention as an experimenter is clear and strong. I do want to learn something, and I have expectations that will be tested against the data. But can that be construed as an intention to mold (via a postulated goal orientation that accesses the future) the experimental outcome to match my hopes and desires? Could my intention to learn how things work be satisfied by reaching into the future to see the experimental outcome so I could apply it to my choices for setting the GCP’s specific hypotheses? I do not think so. Instead, thanks to my respect for science as a set of tools, I am deeply opposed to using, or more correctly said, to misusing those tools to support preconceptions or cherished notions. Logically, I could not satisfy my intention to learn something about the world by manipulating it to provide “desired” results.

Put in concrete terms, the idea that experimenter psi of this sort can explain the broad array of facts and findings in the GCP database is dubious. It is a bit much to expect from any individual (especially one whose performance as a participant in the PEAR PNG PK experiments was decidedly at the modest end of the scale). And for the small group of people who knew the GCP experiment and helped identify events, my guess is that their energies were, like mine, typically engaged in the social and personal event as it transpired – not in an attempt to get a particular outcome to satisfy some cherished notion.

No, although the experimenters’ influence on the experiment is without question more likely than that of people who do not know it is happening, it seems clearly to be



about aiming the instrument rather than dictating or influencing its readings. As I have mentioned elsewhere, the determinants of subtle phenomena like those we study in the GCP are multiple – the nominal source we call mass consciousness; the experimenters deciding where to aim the instrument; the question, whose nature necessarily influences its answer; and the universe, playfully and curiously forcing us to think deeply, and then to think again.

When great events fix the attention and emotions of large numbers of us, we respond in a moment of collective coherence; we turn on the bright light of synchrony. We become like a plasma of electrons that stop behaving as individuals and start behaving as if they are part of a larger and interconnected whole (cf. Bohm, 1980). The array of internal and external correlates of the GCP data all point to interconnected consciousness as the common factor that can explain the surprising intersections of random data and meaningful elements of human activity (Nelson, 2019). These effects may be small, but they are of extraordinary importance, for they show that we are connected in ways that we have not yet recognized. Our poets and artists have always seen our deeper layers, where we touch each other with faint awareness. Now scientists also are beginning to paint pictures of our true nature as linked but independent parts of a field of global consciousness that must soon awaken to its purpose. It seems possible that these surprising correlations are indications that we are on the verge of becoming Teilhard's noosphere, becoming intelligent stewards of our only home, the Earth.

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Conscience Globale : Manifestation d'une Structure Significative dans des Données Aléatoires

Roger D. Nelson

Résumé. Le Global Consciousness Project (GCP) est une expérience à long terme qui utilise un réseau mondial de générateurs de nombres aléatoires pour collecter des données en continu, 24 heures sur 24, 7 jours sur 7, depuis 1998. Nous avons enregistré des séquences simultanées de données provenant du réseau, composées d'essais de 200 bits enregistrés chaque seconde à chaque centre et envoyés à des serveurs d'archivage à Princeton, dans le New Jersey. Une expérimentation formelle s'est déroulée pendant 17 ans et comprenait 500 répétitions d'analyses d'événements entièrement spécifiés et préalablement enregistrés. Ces analyses ont permis de tester l'hypothèse générale selon laquelle les événements qui intéressent un grand nombre de personnes dans le monde correspondraient à des écarts entre les données obtenues de manière aléatoire et les prévisions. Les résultats cumulés des 500 événements ont confirmé cette hypothèse

($Z = 7,31$) et ont fourni une base solide pour une analyse plus approfondie afin de mieux comprendre les effets. Un certain nombre de propositions explicatives ont été suggérées, dont deux se distinguent : un modèle de type champ et un modèle d'effet de l'expérimentateur. Dans cet article, nous examinons plusieurs analyses et applications indépendantes utilisant les données GCP, y compris des analyses qui examinent toutes les données, et pas seulement les événements formels identifiés. Des outils neuroscientifiques permettant d'évaluer les potentiels de réponse évoqués (PE) sont appliqués aux données GCP afin de rechercher une structure possible de type stimulus-réponse. Toutes ces analyses et applications additionnelles identifient une structure qui ne peut être expliquée par un effet de l'expérimentateur ou un modèle d'orientation vers un but. Elles sont cependant naturellement incluses dans les modèles de type champ.

French translation by Antoine Bioy, Ph. D.

Globales Bewusstsein: Manifestation bedeutungsvoller Struktur in Zufallsdaten

Roger D. Nelson

Zusammenfassung. Das Global Consciousness Project (GCP) ist ein Langzeitexperiment, bei dem seit 1998 ein weltumspannendes Netzwerk physikalischer Zufallszahlengeneratoren zur kontinuierlichen Datenerfassung rund um die Uhr eingesetzt wird. Wir haben parallele Sequenzen von Daten aus dem Netzwerk aufgezeichnet, bestehend aus Einzelversuchen (trials) mit 200 Bits, die jede Sekunde an jedem Netzknoten aufgezeichnet und an Archivierungsserver in Princeton, NJ, gesendet wurden. Ein formales Experiment dauerte 17 Jahre lang und umfasste 500 Replikationen vollständig spezifizierter und vorab registrierter Ereignisanalysen. Dabei wurde die allgemeine Hypothese getestet, dass Ereignisse, die für eine große Anzahl von Menschen auf der ganzen Welt von großem Interesse sind, mit Abweichungen der Zufallsdaten von der Zufallserwartung einhergehen würden. Die zusammengefassten Ergebnisse für die 500 Ereignisse bestätigten die Hypothese ($Z = 7,31$) und boten eine solide Grundlage für weitere Analysen, die zum Verständnis der Effekte beitragen sollten. Es wurde eine Reihe von Erklärungsvorschlägen gemacht, von denen zwei hervorstechen: ein Modell nach Art eines Feldes und ein Modell im Sinne eines Versuchsleitereffektes. In diesem Beitrag werden mehrere unabhängige Analysen und Anwendungen unter Verwendung von GCP-Daten beschrieben einschließlich Analysen, die alle Daten und nicht nur die identifizierten formalen Ereignisse berücksichtigen. Neurowissenschaftliche Zugänge zur Bewertung von evozierten Reaktionspotenzialen (ERP) werden auf die GCP-Daten angewandt auf der Suchen nach nach einer möglichen Struktur aus einer Reiz-Reaktion-Perspektive. Alle diese zusätzlichen Analysen und Anwendungen zeigen Strukturen auf, die nicht durch einen Experimentator-Effekt oder ein Modell der Zielorientierung erklärt werden können. Sie werden jedoch auf natürliche Weise von feldartigen Modellen abgedeckt.

German translation by Eberhard Bauer, Ph. D.

Consciência Global: Manifestando Estruturas Significativas em Dados Aleatórios

Roger D. Nelson

Resumo. O Projeto Consciência Global (Global Consciousness Project - GCP) é um experimento de longo prazo que usa uma rede mundial de geradores físicos de números aleatórios para coletar dados continuamente, 24 horas por dia, 7 dias por semana, desde 1998. Registramos sequências paralelas de dados da rede, consistindo em testes de 200 bits gravados por segundo em cada nó e enviados para servidores de arquivamento em Princeton, NJ. Um experimento formal foi realizado ao longo de 17 anos, envolvendo 500 replicações e análises de eventos pré-registrados rigorosamente especificados. Estes testaram uma hipótese geral de que eventos significativos de profundo interesse para um amplo número de pessoas ao redor do mundo corresponderiam a desvios em relação à expectativa nos dados aleatórios. Os resultados consolidados ao longo de 500 eventos confirmaram a hipótese ($Z = 7,31$) e forneceram uma sólida base para análises subsequentes voltadas a compreensão de tais efeitos observados. Diversas proposições explicativas foram sugeridas, dentre as quais duas se destacam: um modelo de campo e um modelo de influência do experimentador. Neste artigo, consideramos variadas análises e aplicações independentes usando dados da GCP, incluindo análises que examinam o conjunto dos dados, e não apenas os eventos formais identificados. Ferramentas de neurociência dedicadas a avaliar Potenciais Evocados (ERP) foram aplicadas aos dados do GCP em busca de uma possível estrutura, a partir de uma perspectiva de estímulo-resposta. Todas estas análises e aplicações adicionais identificam estruturas que não podem ser explicadas por modelos como os de influência do experimentador ou de orientação para objetivos. Elas são, por outro lado, naturalmente compreendidas por modelos do tipo campo.

Translation into Portuguese by Antônio Lima, Ph. D.

La Consciencia Global: Manifestación de Estructuras Significativas en Datos Aleatorios

Roger D. Nelson

Resumen. El Global Consciousness Project o Proyecto de Consciencia Global (GCP) es un experimento a largo plazo que ha usado una red mundial de generadores físicos de números aleatorios para recopilar datos continuamente, 24 horas al día, 7 días a la semana, desde 1998. Ha registrado secuencias paralelas de datos de la red, consistentes en muestras de 200 bits cada segundo en cada sitio, y las ha enviado a servidores de archivo en Princeton, NJ. Un experimento formal duró 17 años y consistió en 500 réplicas de análisis de eventos completamente especificados y registrados previamente. En ellos se puso a prueba la hipótesis general de que los sucesos de gran interés para un gran número de personas en todo el mundo se asociarían a desviaciones de la aleatoriedad. Los resultados combinados de los 500 acontecimien-



tos confirmaron la hipótesis ($Z = 7.31$) y proporcionaron una base sólida para realizar nuevos análisis que ayuden a comprender los efectos. Se han postulado varias explicaciones, entre las que destacan dos: un modelo de tipo campos (field) y un modelo de efecto experimentador. En este artículo discuto varios análisis y aplicaciones independientes que utilizan los datos del GCP, incluyendo análisis que examinan todos los datos, no sólo los eventos identificados formalmente. Aplico las herramientas neurocientíficas para modelar los potenciales de respuestas evocadas (ERP) con los datos del GCP para buscar una estructura desde una perspectiva estímulo-respuesta. Todos estos análisis y aplicaciones adicionales identifican una estructura que no puede explicarse mediante un efecto del experimentador o un modelo basado en el fin deseado. En contraposición, modelos de tipo campos proporcionan una buena explicación.

Spanish translation by Etzel Cardeña, Ph. D.

Parallel Presentiment Tests Can Verify the Effectiveness of Our Free-Choices¹

Ephraim Y. Levin

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Abstract: Our inability to rewind time may cast some doubt about the genuineness of the effectiveness of our free choice capability. I suggest that the so-called presentiment anomalous experience can be used to verify this genuineness. The idea is to post stimulus compare averaged results from two apparently “similar” presentiment tests (“channels”) carried out simultaneously on the same individual. Before the occurrence of the stimulus an experimenter decides, in real time, whether to observe the measurements in any channel or not and immediately performs this decision before the occurrence of the stimulus. A case in which a channel is observed during real time and a case in which it has not belong to different decoherent histories. This holds true because according to the “Orthodox Interpretation” of quantum mechanics the conscious observation collapses the multitude of possible pre stimulus measurements to just the perceived one. In such cases quantum mechanics imposes a disappearance of the retrospective presentiment effect. Thus, in such a parallel design one can compare what happens when an observation is carried out and is not carried out at the same time instance. The presentiment effect disappearance in the observed channel despite its appearance in the unobserved channel for the same moments is thus evidence for the effectiveness of the experimenter’s willed observation.

Keywords: consciousness; quantum collapse; effective free choice; presentiment; decoherent histories

Highlights

- Our inability to rewind time and then repeat an experiment under counterfac-

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tual conditions seems to rise suspicions about the genuineness of the effectiveness of our free-choice capability, rendering the issue a philosophical one.

- Using the reputed recent empirically supported Orthodox Interpretation of quantum mechanics, this paper argues that by comparing the results of two simultaneous naively “similar” presentiment tests on the same single individual one can empirically verify the genuineness of the effectiveness of our free-choice capability.
- The aforementioned two simultaneous naively “similar” tests actually differ by an executed autonomous decision of an experimenter to consciously observe the pre-stimulus measurements in real time (that is, before the presentation of the stimulus) in one of them.

Acquiring knowledge about the world through experiments, perceptions, induction, modeling and deducting checkable predictions defines the scientific method. This is an iterative process. The hope is that we can use our freedom in selecting experiments to disprove any wrong theory eventually. Hence, our capability to choose a question freely and pose it to nature at any moment we prefer is a fundamental presumption in advancing science. Were our apparently free decisions genuinely ineffective delusions, the effectiveness of the scientific method might become illusive. Its very status as a way to reject false theories and thus asymptotically discover the truth would be lost.

For the founders of Quantum Mechanics (QM) it was of utmost importance to allow this freedom in the quantum theory. Bohr (1935) claimed “our freedom of handling the measuring instruments [is] characteristic of the very idea of experiment.” Indeed, in QM the choice of the question to be asked and the choice of the time to carry out this questioning experiment are free, in the sense that QM does not forbid different tests and timings. For example, it allows a test of a position or a test of a momentum. Likewise, it allows angular momentum measurement along one out of infinite possible directions. (In fact, due to the non-commutativity of various observables, to measure some observable property exactly the physicist *must* usually select a single definite observable to study at a specific moment. This happens because QM forbids exact measurement of several non-commuting observables at the same moment in principle. Hence, in order to get some exact information about the relevant system the physicist has to select *a specific* questioning aspect.) Another example is how many detectors to use in the experiment and how to distribute these detectors in space. QM supplies no rule whatsoever (neither deterministic nor probabilistic) for the pick. It leaves it completely free, up to the experimentalist. Nevertheless, it is undeniable that

somehow the scientist makes a decision. This means that not only physics happens in the context of an experiment. In the lack of any imposing physical law, it seems to be a psychological choice. Therefore, the quantum theory seems as a framework for an at least *psychophysical* theory.

Furthermore, QM dictates that the answer to a well-posed selected question will fit *that preferred question*. That is, QM claims that in such a case the observed system will be found in the ray (a whole class of normalized state vectors that differ from one another only by phase factors, i.e., by numerical factors with modulus unity) associated with a corresponding eigenvector (a nonzero vector that changes at most by a scalar factor when the observable is applied to it) of *that specific chosen observable* in Hilbert space (a vector space equipped with an inner product that defines a distance function for which the space is a complete metric space). In such a case the answer will be some eigenvalue (a factor by which an eigenvector is scaled when an observable is applied to it) of *that specific chosen observable*. This means that the theory clearly shows that although the experimenter does *not* completely determine the result, the experimenter's choice regarding the question to pose to nature *is efficacious*. The well-known Quantum Zeno Effect (Aharonov & Rohrlich, 2005), for example, clearly exhibits this effectiveness. It appears that in the quantum theory different posed questions will end up with different futures.

However, conventional thinking holds that we have only a single world and time always "flows" forward. Whatever result one gets in an experiment, it is unique. So, once an experimenter makes a decision any other alternative prior possible decision become counterfactual. A counterfactual experiment cannot be carried out. Posing to nature *at the same moment* any alternative question using another similarly prepared system cannot absolutely convince a stubborn skeptic. After all, this new question is directed at another system. Even by repeating any experiment on a well-reprepared system, one cannot reach the goal. (That is because the very moment of execution will never be the same.) We absolutely cannot rewind time in order to pose another question about the very same system under exactly the same conditions (including the same time) in a hope of observing the appearance of a different result in a counterfactual test. Hence, our inability to rewind time casts some philosophical doubt about the agent's real freedom involved and the genuine effectiveness of these choices.

Indeed, Greene (2004), for example, claims that an inescapable consequence of the theory of relativity is that, at least theoretically, we should be able to find all past and future events queued up in the form of world lines, and these past and future events exist together, at once, in one eternal, frozen `static block universe`. They will forever remain so. It seems that this worldview leaves no place for genuine influenc-



es of agent's carried out free decisions. (Needless to say, this "inescapable consequence" is not unanimously accepted. For an example, Capek (1976, p. 521) shows that "The virtualities of our future history which our earthly "now" in the universe separates from our causal past remain potentialities for all contemporary observers. Something which did not yet happen for us [locally] could not have happened elsewhere in the universe."

The fundamental traditional scientific belief in the agent's freedom to choose a test and the aforementioned lack of QM's restrictions over the experimenter's decisions led Bell (1964) to predict the, by now empirically confirmed, violation by QM of his famous inequality. However, concerning this, Bell himself noted that there is a far-fetched way to escape the inference of superluminal speeds and spooky action at a distance by assuming superdeterminism in the universe. That is, by completely denying the apparent agents' free ability to choose to do one experiment at one moment rather than another at another moment. The replacing idea is that all choices were predetermined already earlier (say, at the Big Bang, where all backward light cones presumably overlapped). (If this idea is accepted there is no need for a faster than light signal to tell particle A what measurement has been carried out on particle B, because the universe, including particle A, already "knows" what that measurement, and its outcome, will be.) Were we able to rewind time in order to pose a counterfactual question about the very same system under exactly the same time and conditions we could have try to falsify superdeterminism (by showing that particle A is being told about what measurement has been carried out on the far particle B only during real time). Unfortunately, time always seems to advance forward. Therefore, we cannot act in this way and we are left with a philosophical doubt. Bell (1977, 104) phrased this difficulty by saying "In this matter of causality, it is a great inconvenience that the real world is given to us once only. We cannot know what would have happened if something had been different. We cannot repeat an experiment changing just one variable; the hands of the clock will have moved, and the moons of Jupiter". The superdeterminism idea is advocated nowadays as well by some scholars. For instance, by Hossenfelder & Palmer (2020). They rephrase the above Bell's citation (p. 4) as "In summary, Statistical Independence is not something that can be directly tested by observation or by experiment because it implicitly draws on counterfactual situations, mathematical possibilities that we do not observe and that, depending on one's model or theory, may or may not exist."

In addition to the aforementioned gap concerning the experimenter's side, the quantum theory has a causal gap on nature's side. Though QM lacks an explanation of the selection process by which a particular result is obtained for a well-posed question, nature at least commits itself to the Born (1926) statistical rule. Inclusion of

the behavior on nature's side in the QM's worldview causes the quantum theory to look like a framework for a theo-psychophysical theory. That is, some immaterial Deus-ex-Machina obeys the Born's rule and decides about the final result in every test. Similar doubts may be raised concerning this gap as well. That is, a stubborn skeptic may ask how can one become convinced about the coexistence of the QM's tendencies (sometimes called propensities). After all, in each well-prepared test the experimenter gets a definite answer. Being unable to rewind time and exactly repeat the same test on the very same system to observe another result, one may remain skeptical about the real coexistence of these tendencies and suspect that the famous QM statistical fluctuation is epistemic. That is, that these tendencies are only "pretending to exist" for us. This "ontic or epistemic" question has bewildered physicists and philosophers ever since the formulation of QM. It amounts to the basic puzzle of whether one should regard QM as a *discovery* or as an *invention*. The unsettled debate reflects itself in the generation of a multitude of interpretations for the quantum theory.

An Account of the Presentiment Effect, Its Explanation, and the Involved Premises

Despite the fact that according to orthodox physics one cannot sense an undetermined future event prior to the occurrence of the event, during several decades what seem to be successful presentiment experiments (PSEXs) have been carried out and replicated (Duggan & Tressoldi, 2018). In such experiments, physiological arousals of participants, such as skin conductance, heart rate, blood volume, respiration, EEG, pupil dilation, blink rate, and blood oxygenation level dependent responses, are monitored and recorded during several seconds by computers. The records are taken before (and usually also during and after) randomly presented stimuli designed to evoke either a significant or a nonsignificant psychological poststimulus response. As one may expect, this psychological response can objectively be inferred from *poststimulus* physiological measurements. However, after averaging the results for each specific *prestimulus* time over many trials, a statistically significant difference between the *prestimulus* response to stimuli that evoked a significant poststimulus response and the *prestimulus* response to stimuli that did not evoke a significant poststimulus response clearly emerges as well. Although the bare effect is small and imbedded in strong noise (i.e., an estimated effect size of 0.28 with 95% confidence interval of 0.18–0.38 (Duggan & Tressoldi [4])) the averaging improves the signal to noise ratio. This improvement allows the difference to become statistically significant; over six standard deviations.



Various potential mechanisms to explain the surprising effect as an artifact were discussed and examined over the years but were rejected. The aforementioned meta-analysis (Duggan & Tressoldi, 2018) as well as Mossbridge & Radin (2018) concluded that the presentiment effect (PSE) seems to be confirmed and can be considered among the more reliable anomalous effects.

“Orthodox QM” is a term introduced by Eugene Wigner to describe von Neumann’s formulation of QM (Stapp, 2017b, p. 19). (This does not necessarily mean that his Orthodox interpretation is currently supported by the wide cohort of physicists.) Utilizing orthodox QM Levin (2020) justified the existence of this effect by contemporary QM’s ideas. He initially showed that an efficient real-time prediction of an unpredictable future sentiment is impossible. He then recalled the difference between an “actual-past” and an “effective-past” (Stapp, 2017a) in QM. By using this QM’s idea of a difference between an actual-past and an effective-past (i.e., the historical-past) he suggested that the PSE is merely a “quantum delusion”. I.e., it really appears, but in retrospect only. Levin (p. 193) describes the basic idea as follows.

According to orthodox QM, there are *two* different pasts: The “actualpast” that was there before the collapse and included all the potentials, and the effective-past that, in principle, is defined as the backward-intime continuation via a relevant Schrödinger equation, of the immediate future that exists just after the collapse. The effective-past keeps changing even though the causal dynamical process is strictly forward in time. (...) this is a result of the fact that in a collapse event one of the possible classically described worlds survives, along with the actualization of the potentiality approximately represented by the classically described process that the actualization event selects. The collapse eradicates all the other possibilities. An evolution in time according to the Schrödinger equation is essentially continuous. Therefore, it is only reasonable to expect that the averaged record (...) *before* the mental event in the causal offshoot of what survived the collapse had been correlated to the value of it shortly *after* the mental event took place. The point is that when the experimenter is statistically recovering the PSE the subject already knows in every single specimen in the averaged poll whether he had a strong stimulus (...) or a weak stimulus (...). This question was settled already. It had already served as a final boundary condition for the evolution in time in that case. Poststimulus collecting of the survived prestimulus records and statistically averaging them over the cases thus recovers the effective-past instead of the actualpast.. Therefore, for real-time statistically averaging prestimulus collection of records

orthodox QM predicts a negligible mean (...). Whereas by statistically averaging poststimulus collection of survived prestimulus records over the cases we get, in a way compatible with contemporary QM, an effective-past's PSE that is not negligible (...).

Levin (2023) went further and *mathematically* explained the way in which this effect retrospectively appears in the quantum theory. In his explanation he relied on the contentious claim of the Orthodox Interpretation of QM (OIQM), that the reduction of the quantum state occurs at the moment an agent's mind perceives the observation. Hence, although unobserved prestimulus records are decohered they retain their tentative nature (i.e., remain coexisting possibilities) until the moment the participant's mind consciously perceives the stimulus.

This OIQM claim for the participation of the mind in a step of the von Neumann's Process 1 is sometimes hastily and a little carelessly called Consciousness Causes Collapse (CCC). A more careful wording should probably say that mind initiates the Process 1's step by posing a question and then consciously perceives Deus-ex-Machina's selected answer, where the term Deus-ex-Machina stands for a non-psycho-physical abstract entity needed in the QM machinery. Whereas during the sixties Wigner (1961) suggested that Consciousnesses (i.e., *minds'* features) Causes Collapses and wrote (1961, p. 173) "It is the entering of an impression into our consciousness which alters the wave function because it modifies our appraisal of the probabilities for different impressions which we expect to receive in the future. It is at this point that the consciousness enters the theory unavoidably and unalterably.", Pauli (1954) preferred to endow a non-psycho-physical abstract entity with such an astonishing ability. For Pauli the determinate mental state of an observer only *statistically supervenes* on the observer's physical state. On page 223 Pauli wrote that the appearance of the collapse of a system to a definite position during an observation is "a 'creation' existing outside the laws of nature." (Indeed, given the facts that we have no intuitive feeling that we are actually carrying out this task and no idea how our minds can perform such a task in the first place, and what we nowadays empirically and theoretically know about the QM's non-local nature (Stapp, 2014), such an omnipotent Deus-ex-Machina presumably is better equipped for this marvelous task than our restricted minds.)

Assuming that whether an emotionally significant experience would occur can be considered a "Yes" or "No" question posed to nature, Levin (2023) assumed that the initial state of this qubit of information represents total ignorance. He then used the formula to calculate from this initial ignorance state's density matrix the probability of a history composed of a sequence of decoherent alternatives and the usual rules of the classical probability theory to calculate the conditional probabilities to get "Yes" or



“No” records at any prestimulus moment given any poststimulus record. Throughout these calculations the most general 2X2 time evolution matrix has been used. Eventually, he used these conditional probabilities to calculate the retrospective difference between the average at a prestimulus moment due to an emotionally significant stimulus and the average at the same prestimulus moment due to an emotionally insignificant stimulus. This retrospective difference turned out to fluctuate as a function of the involved prestimulus time resembling the empirical PSE. He argued, therefore, that the shown OIQM’s success to explain the statistically well-established empirical existence of the PSE is clear evidence that this interpretation is the correct one.

The physiological arousals in which the PSE is detected, such as skin conductance using electrodermal activity (EDA), have poor resolution as for identifying the influential sentiment. The activities measured by it at any moment are apparently a combined weighted response to several, sometimes temporally shifted relative to one another and even conflicting, sentiments. Therefore, usually one should not expect that just a single sentiment will determine the EDA signal over a long period. Over time, other sentiments may usually contribute their influence to modify the effective EDA signal. That is, it is not only that the value of Levin (2023)’s n_3^2 may depend on the experimental case, even with a plausible Levin’s $n_3^2 = 1$ value it is more reasonable than not to expect the PSE to be of finite duration only. Simply because most probably some earlier, different, sentiment prevailed at that earlier moment. Nevertheless, sentiments are a slippery thing and unless being masked by such other hypothetical earlier sentiments, the aforementioned fluctuation of the retrospective difference as a function of the involved prestimulus time that Levin (2023) obtained in his model has a constant amplitude. Levin (2023) suggested to associate this constancy with the results of an experiment on prediction with planarian worms described by Alvarez (2016), who found an apparent predictive behavior even one whole minute before the stimulus. In this respect, it is also relevant to mention the results of Radin (2023), who analyzed 13 years of daily Twitter sentiment data in 10 languages. The sentiment data was examined *two weeks* prior to events assessed as significantly negative and unpredictable (including acts of terrorism, mass shootings, unexpected deaths of celebrities, etc.). Results of the analysis were statistically significant ($p = .001$), suggesting the existence of a form of a long-time collective presentiment.

According to Schlosshauer et al. (2013), it appears as if the majority of researchers in the foundations of physics have left behind the relationship between physics and psychology and in particular the aforementioned hypothesis that the observer’s consciousness plays a distinguished physical role (i.e., CCC). However, this fact, by no means, implies that somebody *proved* that the Orthodox Interpretation is wrong and untenable. One should not judge scientific quality by popularity alone (recall that

Newton's classical physics enjoyed very high popularity during the beginning of the nineteenth century, yet in the twentieth century it lost popularity drastically and better theories replaced it).

Bierman (2006) pointed out that for a PSE to occur, the mind has to *consciously* perceive the Deus-ex-Machina's selected answer. While describing a successful re-examination of published data (originally collected in 1993 by Murphy and Zajonc for other purposes than showing a PSE), Bierman realized that although a previously unnoticed PSE was indeed buried in the data when the pictures' exposure time was long enough, no PSE was present in the data when the pictures' exposure time was less than about 100msec. Since less than about 100msec is too short for a full comprehension of the contents and meaning of a picture, he suggested that for the PSE to appear conscious observation is apparently a requirement.

Concerning this issue, it is interesting to note the CCC assumption recently got an additional empirical support from other psychological experiments. Lucido (2023) used true random number generators, and an experimenter's early conscious observation of the coexisting possibilities for subliminal stimulus to reduce these possibilities to a definite stimulus, in the process reproducing the empirically well-established subliminal priming. After confirming that a usual subliminal priming effect had indeed appeared, he skipped the experimenter's early conscious observation of the coexisting possibilities for subliminal stimulus and repeated the test. He discovered that the subliminal priming effect disappeared. Recalling that the priming paradigm is a well-established one, one can consider the vanish of it an anomalous cognition effect. Lucido (p. 193) concluded, therefore, that his findings support the CCC interpretation; "The outcome suggests that the act of conscious observation may play a critical role in quantum mechanics, and, by extension, physical reality." Lucido (2023, p. 193) then first cautiously suggested that "replications of this investigation will be necessary to establish more confidence in the outcome obtained". Later on, in a so far unpublished paper, he successfully replicated that investigation.

Given that OIQM appears to provide a context in which the well verified existence of the anomalous PSE and the disappearance of the subliminal priming effect due to the avoidance of the experimenter's early observation of the coexisting subliminal stimulus possibilities can be explained, we now describe a design of a parallel PSEXs and the way in which such an experiment circumvents the time rewinding inability obstacle for verifying the genuineness of our free choices.

How Can Parallel PSEXs Circumvent the Time Rewinding Inability Obstacle?

To avoid the aforementioned time rewinding inability obstacle for proving the experimenter's genuinely effective freedom to pose questions to nature, one has to carry out two experiments of different types on the same system during exactly the same time. One must collect records from these two tests and show differences between these two groups of records. To avoid the time rewinding inability obstacle to proving the coexistence of various ontological tendencies, one has to show that the answer to any posed question can result in two different coincident results. Common wisdom seems to say that we can never satisfy such demands.

To satisfy these demands we suggest here a use of a modified (in the sense of Levin (2020)) PSEX and a non-modified (that is, a usual) PSEX in parallel. In principle, any physiological arousal that usually uses one out of an organs pair to exhibit the PSE may be used. Obvious candidates are skin conductance and pupil dilation.

In line with OIQM, we assume that an appropriate projection of the current world-representing ray represents in the Hilbert space the agent's conscious mental event by itself. The projection is onto the ray that describes the new situation consciously felt by the agent.

Suppose that we are talking about skin conductance measurements using electrodermal activity (EDA). According to OIQM, one may consider an agent as a whole individual with a single united consciousness. In principle, the conscious mental events of the participant are what really matter. However, the physiological EDA signal witnesses these mental events through some transfer function. Since distant organs may use different transfer function (that is, may be operated by distant centers in the brain, may have different neuronal length etc.), and we want the two channels of the parallel PSEX to measure systems that are as similar as possible, we shall farther connect the two pairs of electrodes to the same (non-active, say left) hand. The experimenter can minimize worries about possible harming interference between the two pairs by using relatively far locations on the same palm. For example, one can attach a first pair of electrodes on the distal pads of the first (index) and second (middle) fingers and attach a second pair of electrodes to the distal pads of the third (ring) and fourth (pinky) fingers (Fig. 1a). Alternatively, the experimenter can attach one pair of electrodes to the volar distal phalange and the volar proximal phalange of the index finger and attach the second pair of electrodes to the volar distal phalange and the volar proximal phalange of the pinky finger (Fig. 1b).

Figure 1

Electrode Configurations

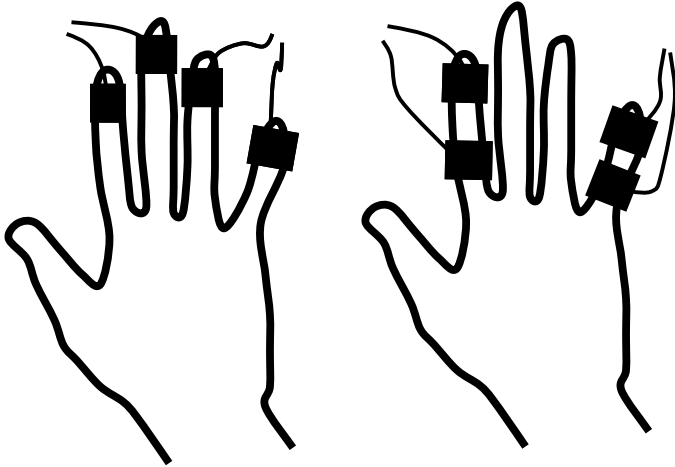


Fig. 1: a) *One pair of electrodes attached on pads of the first and second fingers and another pair attached to the pads of the third and fourth fingers.*

b) *One pair of electrodes attached to the distal and the proximal phalanges of the index finger and another pair attached to the distal and the proximal phalanges of the pinky finger.*

One can further reduce worries about possible influence of the different underlying sources of arousal in different places on the body. To this end the experimenter may exchange (alternatively or randomly) the position of the pair of electrodes that functions in a certain way (say, continuously stays connected and without consciously observing any recorded physiological measurement along the whole PSE experiment) with the position of the other pair that functions differently (correspondingly say, with consciously observing the prestimulus physiological measurements during real time (or maybe with disconnecting the organs from the recording computer a very short period before the presentation of the stimulus)). Use of such procedures would presumably bring him closer to the understanding that treats EDA as if it represents one homogeneous change in arousal across the body.

It may be worthwhile mentioning that supplementary evidence that the different locations of the pairs of electrodes with their different sources of arousal do not matter may be supplied, of course, by performing PSEXs in the serial design of Levin (2020) as well. This holds true because in that serial design one uses the same unique location in a time-sharing way; the experimenter uses the same location both for the usual PSEX (in which he or she leaves the electrodes connected to the organ and the recording



computer during the whole PSEX experiment and no agent consciously observes the results in real time) and for the modified PSEX (in which the experimenter consciously observes the prestimulus physiological measurements during real time (or maybe one disconnects the measuring equipment from the recording computer just before the stimulus presentation)). Notice, however, that the execution in the serial design is naturally twice as long. It may suffer from unknown changes in environmental conditions between its two parts as well.

In a basic suggested parallel design, a first pair of electrodes continuously measures the EDA from several seconds before the instants at which the computer presents random stimuli to several seconds after these instants. The computer continuously collects unobserved records from this pair of electrodes and stores it. Simultaneously, the other pair of electrodes measures the EDA along the same duration. However, this other pair's prestimulus results are consciously inspected by an agent in real time. Since only a few hundreds of milliseconds of inspection is usually considered long enough for the conscious agent to consciously perceive a sight, whereas the PSE endures at least seconds, the agent can easily consciously observe almost all of the prestimulus records in real time.

[Alternatively, this last pair of electrodes simultaneously measures the EDA from the same several seconds before the computer presents random stimuli until a fraction of a second before these presentations. These measurements are recorded and during real time remain uninspected. However, unlike the first pair of electrodes, at these fractions of a second before the moments of stimuli presentations somebody intentionally disconnects the second measuring pair from the recording computer. One inspects the records from both channels only after the stimuli presentations. This protocol creates two parallel sequences of records from the few seconds before any prestimulus disconnection instant. It seems that one can predict that the records from the first pair of electrodes will contain the usual low signal to noise ratio PSE. After appropriately averaging it for specific times before the presentations of the emotional stimuli and comparing to the averaging at the same specific times over the non-emotional stimuli these records will significantly reveal a PSE. However, one can also argue that due to the lost connection to the coming stimulus the records from the second pair of electrodes, when averaged at those specific times before the emotional stimuli, are (according to Levin, 2020, 2023) predicted to show no PSE compared to the averages at the same times before presentations over the non-emotional stimuli.]

Since the measuring devices and the computer are macroscopic and are not isolated from their environments one can expect that the records are almost immediately decohered. This turns quantum tendencies which are vulnerable to interfer-

ence into pseudo classical possibilities. It can therefore be argued that any quantum entanglement that might have correlated the tentative records from the first pair to those of the second pair should quickly vanish. However, according to the OIQM unless any conscious agent consciously observed a record, this decoherence by itself does not yet select a single definite result for that record. All various pseudo classical possibilities for the value of the record still coexist as tentative abstract entities. The formation of a conscious perception takes a few hundreds of milliseconds during which the possible pseudo classical possibilities still coexist. It is only at the times that the conscious experimenter perceives the measurements of the second pair of electrodes, once the experimenter indeed freely decided to observe it, that the various pseudo classical possibilities are being reduced to just the realized ones. Once reduced to just the realized ones these realized records cannot be changed anymore by the participant's later observation of the presented stimulus. This disability to be changed prevents a formation of a retrospective PSE in these second pair's measurements. According to Levin (2020), could one base an efficient real time prediction on these prestimulus measurements he would violate QM that prohibits such a real time prediction. As Levin (2023, p. 184) states for such conditions, at any prestimulus t_1 moment QM dictates that the average of the $\alpha_1(t_1)$ measurements should be $\langle \alpha_1(t_1) \rangle = 0$.

The situation just described should be contrasted against the first pair's unobserved prestimulus measurements which retain their coexisting pseudo classical possibilities nature until the conscious participant eventually perceives (at the t_2 moment) the presented stimulus. Due to this tentative nature of them they can be reduced upon the later participant's perception of the presented stimulus. This participant's perception serves as an end condition for the prestimulus time evolution of the possibilities leading to a retrospective PSE in the idealized model of Levin (2023, p. 184)

$$\langle \alpha_1(t_1) | \alpha_2(t_2)=1 \rangle - \langle \alpha_1(t_1) | \alpha_2(t_2)=-1 \rangle = 2 - 4(1 - n_3^2) \sin^2[\omega(t_2 - t_1)]$$

with some $n_3^2 \leq 1$ and angular frequency ω .

Both pairs measure the *same* kind of arousal due to the *same* stimulus. The appearance of the PSE in the records from the first pair of electrodes and the lack of a PSE *for the same instances of time* in the records from the second pair of electrodes is obviously a result of the experimenter's free decisions to consciously observe the prestimulus records during their collection times in his favorite channel rather than in the other channel. This clearly shows that the experimenter's carried out decisions indirectly have real influence on the known evolving physical history. After all, the results obtained under his executed decisions can be *directly contrasted* against the results obtained when at the *same* moments the alternative decision has been taken.

Conclusions

The suspected hypothesis that an agent's free choice ability is genuinely effective can be empirically verified. This paper points at our inability to rewind time in order to actually perform counterfactual measurements as the source of certain current suspicions that our free choice ability is not genuinely effective. The paper argues that somewhat different parallel PSEXs carried out on the same individual can bypass the time rewinding incapability obstacle in proving that our free choice ability is genuinely effective.

The described experiment seems to be a feasible one. Utilizing current QM's understanding, an understanding supported by recent empirical results, the paper supplies and substantiates QM's predictions for the experiment's expected results as well. In line with the scientific method, one can empirically check the predictions. The experimenter can then either prove or disprove the hypothesis that an agent's free choice ability is genuinely effective.

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Des Tests Parallèles Peuvent Vérifier l'effectivité de nos Libres Choix

Ephraim Y. Levin

Résumé. Notre incapacité à remonter le temps peut jeter un doute sur le caractère véritable de notre capacité à faire des libres-choix. Je propose d'utiliser ce que l'on appelle le pressentiment pour vérifier cette réalité. L'idée est de comparer, en post-stimulus, les résultats moyens obtenus à deux tests de pressentiment (nommés "canaux") en principe "similaires", effectués simultanément sur le même individu. Avant que le stimulus ne se produise, un expérimentateur décide, en temps réel, d'observer ou non les mesures d'un des canaux et prend immédiatement cette décision avant que le stimulus ne se produise. Le cas où un canal est observé en temps réel et le cas où il ne l'est pas appartiennent à des événements différents et décohérents. Cela est vrai parce que, selon l'« interprétation orthodoxe » de la mécanique quantique, l'observation consciente réduit la multitude de mesures possibles avant le stimulus à la seule mesure perçue. Dans ce cas, la mécanique quantique impose la disparition de l'effet de pressentiment rétrospectif. Ainsi, dans un tel modèle de parallèle, il est possible de comparer ce qui se passe lorsqu'une observation est effectuée et n'est pas effectuée au même moment. La disparition de l'effet de pressentiment dans le canal observé malgré son apparition dans le canal non observé pour les mêmes instants est donc une preuve de l'efficacité de l'observation voulue par l'expérimentateur.

French translation by Antoine Biouy, Ph. D.

Parallele Presentiment-Tests Können die Wirksamkeit Unserer Freien Entscheidungen Überprüfen

Ephraim Y. Levin

Zusammenfassung. Die Tatsache, dass wir nicht in der Lage sind, die Zeit zurückzudrehen, kann Zweifel an der Echtheit der Wirksamkeit unserer Fähigkeit zur freien Entscheidung aufkommen lassen. Ich schlage vor, dass das sogenannte Presentiment genutzt werden kann, um diese Echtheit zu überprüfen. Die Idee besteht darin, nach dem Stimulus die gemittelten Ergebnisse zweier scheinbar "ähnlicher" Presentiment-Tests ("Kanäle") zu vergleichen, die gleichzeitig bei derselben Person durchgeführt wurden. Vor dem Auftreten des Stimulus entscheidet ein Experimentator in Echtzeit, ob die Messungen in einem Kanal beobachtet werden sollen oder nicht, und trifft diese Entscheidung unmittelbar vor dem Auftreten des Stimulus. Der Fall, in dem ein Kanal in Echtzeit beobachtet wird, und der Fall, in dem er nicht beobachtet wird, gehört zu unterschiedlichen dekohärenten Geschichten. Dies gilt, weil nach der "orthodoxen Interpretation" der Quantenmechanik die bewusste Beobachtung die Vielzahl der möglichen Prä-Stimulus-Messungen auf die tatsächlich wahrgenommene reduziert. In solchen Fällen erzwingt die Quantenmechanik ein Verschwinden des retrospektiven Presentiment-Effekts. In einem solchen parallelen Design kann man also vergleichen, was passiert, wenn eine Beobachtung zum gleichen Zeitpunkt durchgeführt wird und was nicht. Das Verschwinden des

Presentiment-Effekts im beobachteten Kanal trotz seines Auftretens im unbeobachteten Kanal zu denselben Zeitpunkten ist somit ein Beweis für die Wirksamkeit der vom Experimentator gewollten Beobachtung.

German translation by Eberhard Bauer, Ph. D.

Testes Paralelos de Presentimento Podem Verificar a Efetividade de Nossas Livres-Escolhas

Ephraim Y. Levin

Resumo. Nossa impossibilidade de retroceder o tempo pode lançar dúvidas quanto à autenticidade da eficácia de nossa capacidade para realizar livres-escolhas. Proponho que o chamado presentimento possa ser utilizado para se verificar tal autenticidade. A ideia é, após estímulo, comparar os resultados ponderados de dois testes de presentimento aparentemente “semelhantes” (“canais”) realizados, simultaneamente, com o mesmo indivíduo. Antes da ocorrência do estímulo um experimentador decide, em tempo real, se observa ou não as medições em qualquer canal e, imediatamente, executa tal decisão antes da ocorrência do estímulo. Um caso em que um canal é observado em tempo real, e um caso em que não, pertencem a diferentes histórias descoerentes. Isso é verdade porque, de acordo com a “interpretação ortodoxa” da mecânica quântica, a observação consciente colapsa as múltiplas medições possíveis, pré-estímulo, apenas para a que é percebida. Nesses casos, a mecânica quântica impõe um desaparecimento do efeito de presentimento retrospectivo. Assim, em tal design paralelo, pode-se comparar o que acontece quando uma observação é realizada e não é realizada ao mesmo tempo. O desaparecimento do efeito de presentimento no canal observado, apesar de sua aparição no canal não observado no mesmo momento é, portanto, evidência da efetividade da observação desejada pelo experimentador.

Portuguese translation by Antônio Lima, Ph. D.

Las Pruebas Paralelas de Presentimiento Pueden Verificar la Eficacia de Nuestras Opciones de Libre Albedrío

Ephraim Y. Levin

Resumen. Nuestra incapacidad de rebobinar el tiempo puede poner en duda la validez de nuestra capacidad de libre albedrío. Sugiero que el llamado presentimiento puede utilizarse para verificar tal validez. La idea consiste en comparar después del estímulo los resultados promediados de dos pruebas de presentimiento aparentemente “similares” (canales) realizadas simultáneamente en el mismo individuo. Antes del estímulo, un experimentador decide, en tiempo real, si observa o no las medidas en algún canal y pone



en marcha inmediatamente tal decisión antes de la ocurrencia del estímulo. Un caso en el que se observa un canal en tiempo real y un caso en el que no se observa pertenecen a historias decoherentes diferentes. Así sucede porque, según la "Interpretación ortodoxa" de la mecánica cuántica, la observación consciente colapsa la multitud de posibles mediciones previas al estímulo a sólo la percibida. En tales casos, la mecánica cuántica hace desaparecer el efecto retrospectivo del presentimiento. En un diseño paralelo de este tipo se puede comparar lo que ocurre cuando se realiza o no una observación en la misma instancia temporal. La desaparición del efecto de presentimiento en el canal observado a pesar de su aparición en el canal no observado en los mismos momentos sería, por tanto, evidencia de la eficacia de la observación voluntaria del experimentador.

Spanish translation by Etzel Cardeña, Ph. D.

The Phenomenology of Distressing Near-death Experiences and Their Aftereffects¹

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Abstract. *Objective:* To explore what it is like to have a distressing near-death experience (NDE) and its aftereffects. *Method:* We accessed all distressing NDE narratives from the International Association for Near-Death Studies (IANDS) database and analyzed eight individual narratives using Interpretative Phenomenological Analysis (IPA). *Results:* Distressing NDEs include features such as disturbing feelings and experiences of darkness and frightening images in different forms. Participants reported emotional and social difficulties in dealing with the NDE afterwards. Aftereffects such as receiving negative feedback when talking about the experience and heightened emotions were mentioned. We found hybrid experiences, where the distressing experience had positive features as well. *Conclusion:* Future research about NDEs should focus on hybrid experiences and employ mixed methods and more qualitative research in general.

Keywords: Near-death experience, IPA, distressing near-death experience, hybrid near-death experience, NDE

Highlights

- We conducted an Interpretative Phenomenological Analysis of all thick narratives of distressing NDE narratives in the IANDS database.
- Such NDE include disturbing feelings and experiences in various forms, but some of them were hybrid and included both positive and negative aspects.
- The aftereffects could also be positive or negative.

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There have been reports of people having vivid experiences when being close (or believing they were close) to dying or pronounced dead but later resuscitated. These experiences have been called near-death experiences or NDEs for short (Moody, 1975). NDEs are vivid, complex, and realistic experiences (Bush, 1991; Greyson et al., 2009; Noyes et al., 2009). Examples of life-threatening conditions that might lead to an NDE include loss of consciousness, head injury, states of shock, cardiac arrest, childbirth, allergic reactions, surgery, and suicide attempts (Bush, 2012; Facco et al., 2015; Ring, 1980). There are no two identical near-death experiences, but they usually include features such as: a clear perception of being in a different dimension; feelings of peace, and well-being; separation from the body; telepathic communication; meeting deceased relatives and/or other spiritual figures; traveling through a tunnel; and feeling like one is floating (Greyson, 1983; Greyson et al., 2009; Moody, 1975; Ring, 1982).

People who have had NDEs generally have a very vivid, detailed, and stable memory of the events of their experience (Cassol et al., 2020; Martial et al., 2017; Moore & Greyson, 2017). The NDE memories play a role in how near-death experiencers (NDErs) view themselves and their identity. Near-death experiencers have also had significantly more life changes after their experience than those who have experienced a life-threatening situation without an NDE (Cassol et al., 2019a), which indicates that there is something beyond the life-threatening situations that leads to the effects reported by NDErs

Most experiencers have positive heaven-like experiences that can include positive emotions, seeing a bright light, and God or other religious figures, but others have hell-like experiences with features such as distressing emotions and a threatening environment. There is still no known way to predict when someone will experience an NDE as it is not associated with demographics, personality traits, religious beliefs, or the duration of a state of unconsciousness (Greyson, 2003b; Parnia et al., 2001; van Lommel, 2011). The prevalence for NDEs ranges from 0.1% to 15% in different countries (Gallup & Proctor, 1982; Greyson, 2003a; Knoblauch et al., 2001; Pasricha, 1995; Perera et al., 2005; Ring & Lawrence, 1993; Sabom, 2011). These experiences are reported by 6% to 23% of cardiac arrest survivors (Parnia et al., 2001; Schwaninger et al., 2002; van Lommel et al., 2001) and 37% of survivors of coma (Yamamura, 1998).

Distressing NDEs

Although most reports of NDEs are positive, some have been negative or distressing. Frightening, distressing, or hellish NDEs refer to experiences in which the dominant theme of the event is fright, fear, concern for one's safety and well-being, shock,

despair, panic, or guilt. Distressing NDEs are underreported out of fear, shame, and social stigma (Bonenfant, 2001; Bush, 2012; Rawlings, 1978). There have been few estimates of the prevalence of distressing NDEs, ranging from 1% to 20% of all NDEs (Bush, 2009; Charland-Verville et al., 2014; Groth-Marnat & Summers, 1998; Lindley et al., 1981).

Distressing and positive NDEs usually share a similar pattern of elements but with different emotional content. They are both likely to have out-of-body experiences, a sense of journeying, encountering beings, and an experience of another realm. Having a positive NDE might include friendly beings, beautiful environments, and an overwhelming sensation of love. In contrast, distressing NDEs might include lifeless or threatening beings, harsh environments, and danger (Atwater, 1994; Grey, 1985). Greyson and Bush (1992) have described three types of distressing NDEs: inverted, void, and hell.

Inverted Experiences

Inverted NDEs are similar to positive ones, but the experiences are interpreted as unpleasant. According to Greyson and Bush (1992) the inverted experience is the most common type of a distressing NDE. It is not necessarily the content in the NDE that is terrifying, but the person's interpretation of it is. Situations might move too fast or the NDEr might feel helpless. There can also be a feeling that the reality they know is falling apart into something unknown. Someone with an inverted experience might feel that they do not know what is happening to them and that they are not supposed to experience it (Bush, 2012; Ring, 1984).

Void Experiences

Another kind of distressing NDE is being in a void, which can be described as an experience of nothingness, without any sensation, and a feeling of existing in a limitless and featureless void. A void NDE might include out-of-body episodes, a sense of movement and great speed, intense emotions, strong messages, and sometimes encounters with other presences (Bush, 2012; Greyson & Bush, 1992). Some people experience a sense of being forsaken and abandoned by God. It is not uncommon to feel a lasting sense of emptiness even after the experience. Particularly people from Western cultures may be poorly prepared for the emptiness and the nothingness in void experiences, since their identity depends on persons or things to ground them,

whereas Asian cultures in general are more familiar with the concept of emptiness or detachment, which void experiences may resemble (Bush, 2012).

Hellish Experiences

A distressing NDE can include experiences of hell or hellish features, including different kinds of sounds, sights, and sensations. The hellish NDE can consist of features such as darkness, fire, screeching blackbirds, demons, beings with obscured faces, and bleak landscapes; the NDE may also have features of the devil or other menacing demonic figures (Atwater, 1992; Cassol et al., 2019b; Grey, 1985; Greyson & Bush, 1992; Rawlings, 1978; Ring, 1984). According to Bush (2012) strong feelings of fear and panic are common during hellish NDEs. It is common to feel fear during a hellish NDE, but it is also common to be scared of the fear itself. Another common pattern in hellish NDEs is that people usually experience them as an observer and see others being tormented or suffering but do not necessarily experience that same torment themselves.

Hybrid Experiences

Some NDErs have both negative and positive components in their experience, so called hybrid NDEs. According to Sabom (1982), an NDE can start out as an initial passage into darkness, followed by questions about what is going on. In time the experience becomes positive, filled with calm, peace, and tranquility. Ring (1980) and Bush (2012) have also suggested that some NDErs may be stuck in the fearful part of their NDE and that if they were to join and accept it, the fear might turn into peace. It is also possible that a positive NDE might turn into a distressing one, but that is less common (e.g., in Irwin & Bramwell, 1988).

Making Sense of an NDE

There is no clear answer as to why some NDErs have positive and others distressing experiences. Previous retrospective studies have shown that NDErs do not differ from other comparison groups in terms of age, gender, race, religion, religiosity, or mental health (Holden et al., 2009), nor intelligence, neuroticism, extraversion, or state anxiety (Locke & Shontz, 1983). Nevertheless, there seems to be a difference in how NDErs manage and attribute meaning to their NDEs.

Sense of Control During an NDE

Individual differences when coping with one's NDE have to do with the ability to cope and process an unknown and indescribable event, and sense of control may differ when processing an NDE, since NDErs need to make sense of their NDE using previous knowledge and experiences (Roberts & Owen, 1988). There are NDErs who have reported that their experiences have included events where they felt "out of control." For a person who has been used to being calm and in control an NDE can be frightening and risky. At the same time, there are those who enjoy risk taking, the adrenaline rush, and the feeling of being on the edge. Being able to trust one's own ability to handle anything can be reassuring. Thus, how a person reacts or copes with an NDE might lie in the ability to tolerate the risk of being drawn to the unknown (Bush, 2012).

There is a variation in the degree to which a person experiences a sense of control during an NDE. In a state where one feels out of control and where there is no person to blame, the search for a moral agent can give the experience meaning and a sense of control. Feeling hurt or pain may lead to the search for an agent, because it is important for people to seek guidance when experiencing negative emotions (Bering, 2002; Seligman, 1975).

Making sense of one's NDE can be influenced by whether one attributes the cause of the experience to oneself or external factors. Those who experience more distressing NDEs might ask themselves afterwards why they had such an experience. There is often a sense of why me, what have I done to deserve this horrible experience? (Bush, 2012). In a case study by Irwin and Bramwell (1988), a girl reported that she believed that the physical injuries from the accident that led to her NDE were a way of repenting for her sins.

Distressing NDEs may be influenced by negative beliefs, life patterns, or mental status. Some researchers hypothesize that if you believe that hell exists, you will experience it in your NDE (Atwater, 1992; Rommer, 2000). In contrast, Bush (2002) emphasizes that anyone could have a distressing or a positive experience, no matter what their mental status is or whether they are morally deserving of it or not.

Aftereffects

Experiencing an NDE can cause profound changes in people's attitudes, beliefs, and values. NDE aftereffects have often been reported to be overwhelmingly positive and include being less materialistic, having a greater concern for others, increased

self-esteem (Greyson, 2014; Jahromi, 2021; Moody, 1975; Ring, 1984), a stronger belief in an afterlife and a greater appreciation for life (Foster et al., 2009; Groth-Marnat & Summers, 1998; van Lommel et al., 2001). Approximately 75–80% have reported feeling more spiritual after their NDE (Musgrave, 1997; Sutherland, 1995) and about 80% report a lessened or lost fear of death (Ring, 1980; Sabom, 1982).

However, for many NDEers, “returning to the real world” has led to a crisis in their previous worldview, which may cause increased anxiety, depression, alienation, relationship problems, and a sense of altered reality after their NDE (Bush, 1991; Foster et al., 2009; Stout et al., 2006), and approximately 65% go through a divorce when one partner has experienced an NDE (Christian & Holden, 2012). Many NDEers do not dare to talk about their near-death experience and its aftereffects to health professionals or others in their social network, considering the stigma and fear of being seen as mentally ill or demonic (Bianco et al., 2017; Morris & Knafli, 2003).

Positive Aftereffects After a Distressing NDE

Frightening NDE usually generates some form of transformation within the experiencer. The positive aftereffects include reduced death anxiety (Bush, 2002), decreased materialism, deeper concern for others, (Irwin & Bramwell, 1988) and an increased interest in religion and spirituality (Bonenfant, 2001). For some, experiencing a frightening or even a hellish NDE can be seen as a warning and as an opportunity to change a lifestyle to avoid the consequences that might otherwise come. Religious NDEers may identify this as atoning for their own sins. Others may process their NDE by reducing its significance and focusing more on the positive aspects of the experience (Bush, 2002).

Negative Aftereffects After a Distressing NDE

Some NDEers have experienced negative aftereffects and question their previous beliefs, mental status, life patterns, and what they have done to deserve an experience like this. Some concerns may be about what is wrong with one or what the truth about existence is, and for some pessimism and fear of death remain even after their NDE (Bush, 2002). A distressing NDE can produce long-lasting emotional distress, including fear of others’ judgment, high fear of reliving the frightening experience, increased vulnerability, and anxiety (Greyson, 1997). One case study by Bonenfant (2001) described how a boy experienced symptoms of posttraumatic stress disorder, anxiety, restlessness, and nightmares after his NDE where he briefly encountered the devil.

Hoffman (1995) reported that an older man who had experienced a hellish-like NDE was haunted by it afterwards.

People who have experienced a distressing NDE are more likely to develop negative long-term psychological and emotional symptoms. Those who have experienced a distressing NDE are more likely to repress their experience and report a sense of emptiness and despair as well as an unwillingness to talk about their experience out of fear of being dismissed or seen as mentally ill (Greyson & Bush, 1992). Others have felt that therapy or conversations with priests have been ineffective, because therapists cannot get to the real problem, or priests have rejected their experience or not known how to respond to it, so that they feel betrayed by religion or by their previous perception of the afterlife (Bush, 2012).

Purpose

The purpose of this study was to explore what it is like to have a distressing NDE and its aftereffects through interpretive phenomenological analysis (IPA). Rather than simply relying on impressions or writing a case study, we systematically analyzed all distressing NDE narratives found in a database. There have been a few studies that examined positive NDEs using IPA (e.g., Bianco et al., 2017; Hou et al., 2013; Wilde & Murray, 2009) and other qualitative methods (e.g., Cassol et al., 2018; Khoshab et al., 2020; Royse & Badger, 2020). Research about distressing NDEs has been mainly based on quantitative methods. This study is, to the best of our knowledge, the first to explore distressing NDEs and their aftereffects using a qualitative method encompassing all relevant observations within a database. By using a qualitative approach, we can learn more detailed information about a topic that has been understudied.

Method

We used Interpretative Phenomenological Analysis (IPA), which uses basic principles from phenomenology, hermeneutics, and idiography by combining a focus on subjective experiences, interpretation of text, and an understanding of an individual retrospective account (Pietkiewicz & Smith, 2012; Smith et al., 2009; Willig & Stainton-Rogers, 2008). IPA is a qualitative method that studies how people understand and give meaning to their experiences. It assumes that people are self-interpreting beings, actively engaged in interpreting experiences, objects, and people. The aim of analyzing data with IPA is to make a thorough analysis of individual cases before any potential generalization (Smith & Osborn, 2008). IPA is especially suitable to study

phenomena that are either complex, involve a psychological process of some kind, or express something new (Smith & Osborn, 2003). IPA is also suitable to study anomalous experiences, a category of experiences that includes NDEs (Cardeña et al., 2014; Wilde & Murray, 2009).

According to Smith (1996), one cannot experience a phenomenon without interpretation. He points out that IPA deals with a sort of double hermeneutic, which means that participants try to understand their life world while the researcher in turn tries to understand the participants' understanding of their world. Our goal with this study was not to probe the ontological nature of NDEs, but to arrive to a deeper understanding of what it is like to experience a distressing NDE. We acknowledge that our own personal perspectives could have had an impact on how we interpreted the data. During the research process we had continuous discussions about how our pre-understanding could affect the study.

Data Selection

We received from the International Association for Near-Death Studies (IANDS) an anonymized data file only with participants' basic information such as the circumstances of the NDE, age and gender, and the age at which the participants had their NDE. IANDS also asked participants to fill out several questionnaires about their NDE and describe their experience in their own words. The experiences were collected from 2016 onward and the narratives ranged from 1-4 pages long. One of these questionnaires was the *Near-Death Experience Scale*, a 16-item multiple-choice questionnaire to measure the intensity of the NDE and to assess key components of its features (Greyson, 1983). A score of 7 or higher (max 32) on the scale is considered to represent an NDE (Greyson, 1983; Lange et al., 2004). A score below 7 in the Scale was an exclusion criterion in our study.

We accessed the data of 39 out of 499 participants from the database, all of those who had rated their experience as frightening and specified that their data may be used for research. Of these 39 participants only 30 had filled out narratives about their experiences. The experiences could be entirely distressing or partly distressing, meaning that some parts of the NDE were described as positive. Participants who did not have a narrative were not included.

Our second sorting of experiences involved the exclusion of narratives that did not have a thick description and of narratives that described other anomalous experiences than an NDE. According to Ryle (1949) a thick description includes both ob-

servations, descriptions, interpretation, and analysis of a situation. By having a thick description, one can interpret data and generate meaning. In comparison, a thin description only includes a short surface level explanation of a situation and does not explore underlying meanings. That is why we decided to exclude the narratives that had too thin descriptions of their NDEs and/or their aftereffects. We defined aftereffects as participants' descriptions of how the NDE had affected them afterwards. Since participants had been specifically asked to describe only their NDE not everyone included descriptions of their aftereffects.

Other exclusion criteria were narratives with descriptions of other people's NDEs and narratives only about aftereffects, but lacking information about the NDE itself. We did, however, include narratives that had thick descriptions of the NDE but lacked descriptions of their aftereffects. In the last screening we only included participants who were in a physically life-threatening condition at the time of their NDE.

Analysis

We used Smith et al.'s (2009) approach and steps for IPA when analyzing the narratives. First, we got an overview of all the narratives, one at a time, by reading and re-reading them thoroughly. The two first authors did this independently from each other to ensure reliability and a breadth of perspective on possible themes. After the individual analysis of the narrative, they merged the themes they had both identified through a joint discussion. Following the discussion, they agreed on which themes to add, change, or discard before moving on to the next narrative. All agreed themes were written down for each individual narrative, and this process was repeated for every participant's narrative. The last step was to cluster all the identified themes into the following categories: themes, master themes, and super-ordinate themes. Then, themes that were either similar or related to each other in some other way were clustered and master themes and higher-level super-ordinate themes were developed. Every identifying category is summarized in table 2.

Ethical Considerations

Microethical aspects such as voluntary participation and informed participation, as per Brinkmann and Kvale (2005,) were considered. The narratives and the background information accessed were de-identified. Participants had voluntarily submit-

ted their NDEs through the IANDS website and had given consent for their experiences to be used for research purposes. Thus, the design of the study did not include any aspect that would require ethical review according to the Swedish Act concerning the Ethical Review of Research Involving Humans.

Results

Participants

We included eight participants' narratives in our study, all of them with scores of 7 or higher on the Greyson NDE scale (most of them had considerably higher scores than the cutoff one). All participants have been given pseudonyms and Table 1 shows their demographics.

Table 1

Demographic and NDE Information

Name	Gender	Age	Age of NDE	Circumstan
Ryan	M	38	30	Illness
Ellie	F	20	20	Childbirth
Jack	M	39	27	Overdose
Chad	M	45	30	Overdose
Suzanne	F	67	22	Drowning
Gary	M	47	7	Allergies
Luke	M	40	11	Car accident
Lily	F	39	38	Allergies

Experiences and Aftereffects

The analysis conducted on the eight narratives allowed us to identify three super-ordinate themes: a dark unsettling experience, fighting the frightening, and aftereffects of the distressing NDE. The super-ordinate themes *a dark unsettling experience* and *fighting the frightening* contained descriptions from the NDE itself. Aftereffects dealt with how the participants processed and dealt with the experience afterwards. Each super-ordinate theme included groups of themes called master themes. The master themes consisted of themes from codes from the analysis process (see table 2). Some quotes originally had misspellings. These quotes have been carefully corrected to avoid changing the meaning of the text.

Table 2.

Thematic Framework

Super-ordinate themes	Master themes	Themes
1. A dark unsettling experience	1.1 Distressing feelings	1.1.1 Fear
		1.1.2 Confusion
	1.2 Darkness	1.2.1 Dark realm
		1.2.2 Hell
	1.3 Questioning of worthiness	1.3.1 The judgment
		1.3.2 Self questioning of worthiness
2. Fighting the frightening	2.1 Sense of control	2.1.1 Feeling in control
		2.1.2 Feeling not in control
	2.2 Desperate to be saved	2.2.1 Plea for help
		2.2.2 Rescued
	2.3 The rejection	2.3.1 Rejection
3. Aftereffects of the distressing NDE	3.1 Positive aftereffects	3.1.1 High on life
	3.2 Negative aftereffects	3.2.1 Not being understood
		3.2.2 Negative emotions

1. A Dark Unsettling Experience

All eight participants expressed that their NDE was dark or unsettling in some way. The participants described distressing feelings, experiences of darkness, hell, and a fundamental questioning of their own worth. Three master themes were identified from the data: Distressing feelings, darkness, and questioning of worthiness.

1.1 Distressing Feelings

Distressing feelings were reported by all participants during their NDE. Seven participants felt different kinds of fear, such as fear upon realizing that they were dead and fear of beings or the surroundings since it was not like anything they encountered before. Three participants experienced confusion and panic, while they were struggling to figure out what was happening to them. Lily and Jack were two of the participants who expressed intense fear when realizing that they had indeed died or would.

Lily: I felt a fear so strong that it was suffocating. I've never feared dying, because in the end we all end up dying, but this? It felt different, as if some supernatural force was trying to pull my soul out of my body. It didn't feel like it was my time to go, maybe I was too young- maybe this shouldn't kill me and I vividly remember everything being muffled, like I was underwater.

Like Lily, Jack also felt intense fear and panic when he realized he had died.

Jack: Suddenly I was before myself looking at my body lying there, and realized I was dead. I panicked and thought this shouldn't be happening and I looked all around my apartment for some escape.

In addition to the intense feeling of fear, three participants reported confusion about the state they were in. They were not familiar with the conditions of their experience. Gary expressed this confusion in the beginning of his NDE. He felt calm yet confused but also wanted nothing more than to wake up. He did not understand where he was and why he was feeling the way he did.

Gary: I felt the sensation of a period of time passing, and entered a dream-like state that turned into something of a nightmare that I could not wake up from. There was a strange physical sensation as I was looking down on someone in a bed with doctors working around them. It seemed to be nighttime. I felt calm, but at the same time wanted to wake up. I felt kind of

confused and had not made the cognitive connection as to who that was in the bed.

Ryan also described feeling very confused in the beginning of his NDE. He expressed that it must be a dream and questioned whether his experience was real or not. He was shocked with the way he was treated in his NDE and could not help but feel deeply disturbed.

Ryan: In utter shock and disbelief, I thought to myself 'This must be a dream. This can't be real.' Echoes of laughter came from afar. Maybe not wanting the answers but I could not help questioning what was taking place. 'Not me?' was another thought that raced through my head as I believed the gravity of the situation was beginning to fall on my shoulders. 'Where do you think they send angry fuckin drunks when they die dumbass?' Came from a broken-down man standing about 10 feet in front of me. His words were condescending, but his tone was resolute. I was frozen! The purest and most disturbing form of shock I have ever felt.

This master theme shows how the participants try to make sense of their unknown experience. They have no or little idea as to what is happening, which causes them to both panic and feel intense fear. They felt their emotions more strongly than before, suggesting that the way that they experience emotions in their NDEs differs from how they normally perceive them.

1.2 Darkness

Four out of eight participants described that their NDE had some sort of dark aspects to it. These participants had generally dark experiences, for instance being in a void. Additionally, three out of four reported that they had had outright hell or hell-like experiences. Two expressed that the experience started out being in darkness and turned more hell-like as it progressed. Gary was one of those experiencing a dark void, where it almost felt like he was stuck in darkness.

Gary: At some point I met others, and we were in this dark void. Imagine you are wandering around in a large, dark room and meeting other people along the way, and we are all working together trying to find out what happened and why we are here.

In some ways similar to Gary, Ryan also experienced a strong and powerful darkness in the beginning of his NDE.

Ryan: There was a barrier of pitch-black darkness, darker and denser than the midnight sky, surrounding this God barren landscape. As I got closer to the darkness I felt my body being repelled back from it like the same pole of two magnets meeting each other for the first time. It was impossible! I was stuck!... Random 'people' in the crowd would scream out answers in the distance as if they could read my mind. The first question, of course, being 'what is this place?' 'Hell!!! Mutha Fucka!! Where do you think you're at?' Came from a man in the distance on a balcony of sorts...I guess in order for this hellish game to continue it had to be that way. The only thing I could do was pick up whatever I could find and start hitting back. The speed at which everybody could move was unheard of. They ran like track stars, threw blows like boxers while wielding weapons like warriors. Things moved at such a fast pace! And from what I could see, a lot of the 'people' loved what they were doing. There was pure pleasure in the violence! What could I do but try to defend myself and fight back but there were so many of them and I was the freshest 'meat' on the market and the Vultures were picking away every bit of my 'carcass.' It was relentless.

Like Ryan, Jack also described how he entered a hell-like place in the beginning of his NDE.

Jack: When we walked past the stairwell, the hallway began lengthening and got dark, and they began to taunt me. They were holding my back, and their faces lit up like demons as they disparaged me. We came to a wall of fire, like the opening of a pit, and my face was forced forward with their hands, made to look. I saw bodies in pain, people there who were crying in torment.

This master theme illustrates how the darkness takes over the experiences. Participants find themselves in a dark void or hellish place. They are desperately trying to figure out how to escape or get out of this experience which seems hopeless. There was a sense of wondering what is happening and how come this is happening.

1.3 Questioning of Worthiness

Three participants reported some sort of awaiting judgment or questioning of worthiness, their worthiness was being judged by God or some being, while two participants questioned their own worthiness. Chad was one of them, waiting for something or someone to judge him. He expressed it as "It was like I was in some sort of purgatory of

sorts, and I was waiting for something. I had an eerie feeling of emptiness and sadness.” Chad expressed unpleasant feelings while he was waiting for some kind of judgment. It was like he felt in his gut that something wrong was happening. By contrast, Ryan felt that he was already paying for all his wrongdoings in his life. He described the feeling that his NDE confirmed his belief that he was not worthy in God’s eyes.

Ryan: You know the feeling you get when you get caught doing something you know was wrong... Well, imagine that same feeling multiplied exponentially due to the fact that I was reaping what I had sowed for an entire lifetime... There are no words that can encapsulate the most dreadful feeling that I have ever felt with a single thought. ‘It’s over!’ Oh, even now it makes me want to throw up. Not only will I never see my loved ones again but the God whom I loved throughout my life doesn’t want me. My lifelong assumption that I wasn’t worthy was now verified.

Suzanne also expressed difficult feelings during her NDE. She was levitating (having an out-of-body experience) and questioning her own worth. She expressed fear of not having done enough in her lifetime and thus not deserving to go to heaven.

Suzanne: As I levitated over the bench, intuitively I knew this force was in control. I remember thinking this light must be God. My cloud-like self was shaking with fear. A kind of fear I’ve never experienced before. I was scared that I was going to be judged and found not worthy enough to go into heaven. I was fearful that I hadn’t been living my earthly life to the divine fullest! I was no saint, and I wasn’t all bad either.

This master theme shows how the participants were fearfully questioning their own worthiness. They felt as if they were being punished for not being good enough in their life or not doing good enough deeds. They felt an intense sadness, almost grief-like in nature, over their NDE. They were grieving the fact that the distressing experience indeed proved that they are not worthy nor good enough to be saved by God or another being.

2. Fighting the Frightening

All participants reported some sort of struggle during their experience. The NDE or parts of their NDE felt frightening in some way. The struggle could be about fleeing one’s NDE or trying to gain some sense of control. Three master themes were identified: Sense of control, desperate to be saved, and rejection.

2.1 Sense of Control

Seven participants reported different levels of control during their distressing experience, two felt somewhat in control of their experience, while five almost felt hopeless trying to control the outcome of their NDE. Ryan described how he was fighting to escape during the last moments of his NDE.

Ryan: Nothing or nobody was going to stop me, no matter how hard they tried. And believe me, they were giving it their all. I began to feel the repellent force of the Darkness pushing me back as I got closer to the border. It got so strong that I fell to my knees fighting a force I could not see. Pushing and crawling further and further as I'm being pulled back by what felt like a hundred hands scraping and clawing over every inch of my body. Feeling complete exhaustion begin to set in, I gave one last plunge out into the darkness.

Ryan described having some sense of control, but this was not the case for everyone. Five described how external forces were more in control than they were. Both Ellie and Chad reported how they were forced out from their physical bodies.

Ellie: I saw white hands and arms reach for me out of the OR ceiling and felt calmness for a second, but then the hands grabbed me and removed me from my body. My initial reaction was 'this is it' fear set in and I saw dark shadows around me and the white light. Then I felt a strong shove and I opened my eyes, and my husband was there. I believe still to this day if he didn't walk in, if he wasn't there, I wouldn't have come back.

Like her, Chad was one of the NDEr who also expressed being forced from his physical body.

Chad: I remember being pulled out of my body into the whiteness, and it was very confusing. I didn't know where I was, or how I got there, and I didn't have any shape or body mass, I was just there.

Jack, on the other hand, reported how men came and demanded that he follow them. His experience quickly turned grim as the men became demonic.

Jack: There was a knock at the door. I opened the door and there were three men who said they had to take me away. I explained that they needed to take me to the hospital, as I was lying there on the floor, but they demanded to take me and so I came with them out into the hall. When we walked past

the stairwell, the hallway began lengthening and got dark, and they began to taunt me. They were holding my back, and their faces lit up like demons as they disparaged me.

This master theme illustrates that while the participants were fighting their experience, some managed to feel more in control than others. For some this meant being able to actually affect and change the course of their NDE, for others it meant that outside forces were able to help them escape. Being in control or feeling that someone/something else was in control seems to play some sort of role in how the experience itself is interpreted.

2.2 Desperate to Be Saved

Half of the participants expressed a desperate desire to be saved from their distressing NDE. Two participants expressed a sort of plea to God or some other power to save them from their horrible experiences and two described how religious figures came and saved them during their NDE. Suzanne appealed to God and expressed it as: "I prayed again, 'God, please don't take me. I haven't done enough in your name.' There I was, hanging on for dear life trying to bargain with God to give me more time on earth." Ryan, on the other hand, was one of the two participants who described how a religious figure saved him during his NDE.

Ryan: If I didn't come across this little girl (Angel), who could only have been 3 or 4 years old, I know I wouldn't be here writing this right now... Her calmness gave me solace for that brief moment. She said, 'you haven't been here that long, you can still go back.' A feeling I had already lost and probably forgotten about slowly returned. Hope! How was my only question! She said 'you have to feel it! Feel being back where you were before you got here'.

This master theme shows how important it was for the participants to strive to get out of their distressing experience. They prayed and looked for some higher power to help them get out of their NDE. There was a form of desire to be rescued and to have a second chance to survive and come back to life.

2.3 The Rejection

Out of eight participants, two described feeling rejected during their NDE. It was

like they were not heard or understood, or just plainly left to their own devices. They almost felt invisible. This was frightening on its own since they wanted help during their various distressing experiences. Chad described this feeling thus:

Chad: There was this lingering feeling that I had come too soon... Maybe they were calling to my grandmother because I needed someone familiar to send me back to where I came from? So, it wouldn't scare me as much? However, I was absolutely terrified, and I didn't know what was real and what was fake. One of the most intense parts of it was that nobody spoke, it was just known already in my head what they were saying, and me back. After what was what felt like a strong feeling of rejection, and what I thought was them trying to get my grandmother to come forward for some reason, I literally just ran away desperately trying to get to somewhere else.

This master theme illustrates how distressing it was for the participants to be in an unknown experience. Hoping to make sense of what they were going through, they tried to find something familiar in their environment that would reduce their sense of discomfort. Not knowing what would happen next or experiencing a form of communication they had never experienced before led to confusion and fear. An unfamiliar form of communication and the feeling that no one in their NDE understood or gave any answers as to why they were there made them feel rejected and alone in their experience.

3. Aftereffects of the Distressing NDE

Six of eight NDErs described that their experience profoundly changed their lives afterwards. Some changes concerned their personal attitudes towards life, while others were about changes in their personality. Dealing with the experience and processing it afterwards gave rise to both negative and positive emotions. Two master themes were hence identified: positive and negative aftereffects.

3.1 Positive Aftereffects

A third of the participants who described aftereffects reported positive changes in their personal attitudes toward life. Two participants reported that they felt more open, hopeful, and positive because of their NDEs. Luke expressed it as: "I don't want to sound crazy, but my mind is open, I'm passionate, have super high senses, taste, smell, thoughts. I'm fascinated by people, systems and technology." Gary described a

similar aftereffect: "I remember getting home and walking into my bedroom, the sun was shining through the window, and I felt very positive about the future, very hopeful, and happy to be here. I was high on life." Both participants described a new passion and appreciation for their lives because of their NDEs.

This master theme shows how participants' personal attitudes changed positively despite their distressing experience. It seems that their NDE provided some kind of awakening and an increased appreciation for surviving and having a second chance at life. Surviving and coming back to life led to happiness and a focus on all the positive things the new life had to offer.

3.2 Negative Aftereffects

Five of the six participants who described aftereffects reported negative reactions. They included disbelief from others and an increase in negative emotions. Half of the participants described not being understood or believed when talking about their NDEs to others. They still reported having a strong conviction that their NDE was in fact real. Gary was one of the participants who tried to talk about his experience but received negative feedback in return.

Gary: I've tried speaking of this experience to my family, close friends and girlfriends over the years, and their reactions have taught me to be quiet about it. I guess it's a crazy story after all, and I suppose had I not experienced this for myself I would have a hard time believing such a thing.

Just like Gary, Ryan had a hard time telling others about his NDE. He tried to explain that his experience was real and was convinced that it was.

Ryan: I tried to explain what had just happened to the Doctors, but I could tell it was just falling on deaf ears...Do you think for a second that you are dreaming right now? No? My conviction is just the same!!

Similarly, Suzanne was not believed either when she talked about her NDE.

Suzanne: I was naked, bloody and twisted up in my bathing suit. I laid down on the beach and my boyfriend came to my side. I was murmuring something to him. He replied, 'Don't ever tell anyone that. They'll lock you up in a mental institution.' For years my boyfriend's words kind of froze my resolve. Over the years I experienced a few difficult relationships in my work



and personal life, I believed what people were inferring about me at the time, not being worthy and what I had to say was not valid. That belief only strengthened my ex-boyfriend's warning. But my NDE was real, and I couldn't stop thinking about it every day.

In addition to the feeling of not being understood or believed, there were two participants that felt haunted by their NDE afterwards. Four out of six participants reported strong negative emotions and questioned the circumstances of their survival and life after death. Ellie was one of the participants who reported that she changed vastly after her distressing experience.

Ellie: After everything I started waking up in panic, I have been seeing a woman who looks exactly like me staring at me. Dressed like me, hair like me everything like me. She also pops up randomly out of the corner of my eye or in reflections etc. It started out calming now I am terrified of her. I am scared of the dark and of being completely alone. I can't sleep at night by myself and I am panicking easier. I get real angry real easy and lose my temper more than ever. I am quick to cry and feel guilty after an argument with my husband I am feeling increasingly isolated and reserved. I feel as though something is trying to bring me back that it's evil and hated me for surviving. These feelings have not gone away and are increasing. I AM NOT SUICIDAL THOUGH. In fact I am fighting for my life.

While Ellie experienced a big change in her life, Ryan questioned his beliefs about life and death and was wondering if everything was predetermined. Remembering the experience still brings a lot of discomfort.

Ryan: The Nurses over the next 2 weeks 'enjoyed' hearing my experience and gave me as much comfort as they possibly could. The little girl's voice still echoes through my head as I picture being back in that horrific place. I sometimes wonder if I have endured a lifetime of pain just to die and be delivered to a plane designed for more pain? That little Angel knew my name. I ask myself why? Is it already written? I guess only time will give me that answer.

This master theme shows how difficult it was for the participants to process their experience afterwards. It seemed important for them to be able to tell others about their NDE, and they tried to make their voice heard, but received negative response. This may have contributed to more questions about why they had an NDE because there was no one to acknowledge their experience and their feelings. Many struggled

to get rid of their negative emotions on their own and not having any support or strategies on how to deal with their NDE could possibly have led them to feel very alone.

Discussion

The results show that a distressing NDE includes features such as an experience of a void or hell, distressing feelings, positive, and/or negative aftereffects, as well as a sense of questioning your own worth, a feeling of wanting to be saved, or a feeling of rejection when having a distressing NDE. Experiencers also reported contrasting feelings or descriptions. The narratives suggest that there can be differing levels of sense of control during an NDE and there can be hybrid experiences, in which one participant has both positive and distressing features.

Our participants reported experiencing distressing feelings such as fear, panic, shock, and despair. Although we did not specifically look for the previously described categories of distressing NDEs our results shows that participants had experiences that are similar to previous research about inverted experiences, void, and hellish experiences (Atwater, 1992, 1994; Bush, 2012; Cassol et al., 2019b; Grey, 1985; Greyson & Bush, 1992; Lindley et al., 1981).

Participants expressed that they had had a gut feeling that they should not be experiencing their NDE or experiencing it too soon. This is common when having an inverted NDE. They do not know why they are having an NDE and are confused about what is happening, similarly to what previous research has shown (Bush, 2012; Ring, 1984; Sabom, 1982). As in previous descriptions of void experiences, participants reported feeling trapped and struggling in the darkness. Another thing that confused two of our participants is that they experienced being able to communicate telepathically with beings in their NDEs. Research (e.g., Greyson et al., 2009) shows that reported telepathic communication with other beings can be a feature of an NDE but is rarely mentioned.

During hellish experiences some of our participants observed the torment and suffering of others, while others also suffered themselves. Our results show that while experiencing a hellish NDE is frightening on its own, there might also be a fear of the fear itself. Having an NDE can be terrifying and frightening since it is usually an unknown situation that can make someone anxious. For some, trusting their own ability to handle any situation and the unknown can aid in reacting and coping with the NDE (Bush, 2012). Our results support that the unknown aspect of the experience can be terrifying, with or without having a hellish experience.

In exploring what it is like to have a distressing NDE we realized that some of our



stories were hybrid experiences that include both positive and distressing features and usually start out distressing and then turn positive (see also Bush, 2012; Sabom, 1982). About half of our participants reported contrasting descriptions of their NDE where they experienced both positive and negative emotions. Therefore, our results show that distressing experiences may not only be distressing but also positive in some sense. Our results make us wonder whether hybrid experiences are more common than we might think and whether we tend to primarily focus on either positive or distressing features of NDEs and miss out the nuances of hybrid experiences.

Preceding research has shown that traumatic events and anomalous experiences can make the world feel chaotic, hard to understand, and control for those experiencing it (Irwin, 2000). When looking at our findings, we have considered whether sense of control could affect the outcome of an NDE and/or its aftereffects. Rotter (1966) defined those who perceive an outcome as due to their own actions or personal characteristics as having an internal locus of control. In contrast, having an external locus of control refers to individuals who think that outcomes are influenced and determined by forces beyond their control. Could it be that internal and external locus of control affect NDEs? Could there be something special about NDEs that makes them harder to control than other experiences?

People experiencing a distressing NDE may also ask themselves why they are experiencing it and question what they have done to deserve being in an unpleasant experience. Bush (2012) briefly mentioned that people seem to question their own value when it comes to painful experiences, especially in the eyes of God. Out of eight, three participants described intense fear of judgment of not being seen as worthy in the eyes of God and thus not going to heaven. Some of them reflected on their past actions and attributed the unpleasant parts of their NDE to punishment or atonement for their sins. We do not know whether the level of self-blame of our participants was affected by the degree of belief in the Day of Judgment or not. However, there seems to be something about the unknown that makes NDErs question themselves in the process. For others who experienced a dark or hellish experience, this belief might have been reinforced.

Bush (2002) has previously discussed that one's mental status and past actions do not affect how distressing or positive one's NDE is. Despite this claim, our participants seem to reason that their previous mental state, beliefs, or actions affected the course of their NDE. Some of our participants felt rejected, forsaken, or abandoned by God or other beings during and after their distressing NDE. Having a distressing NDE might have confirmed their beliefs that they are a bad person and therefore deserve a more distressing experience. It is not uncommon to feel a lasting sense of empti-

ness after a distressing experience. Our results also show that participants can feel a changed worldview after their NDE and question their beliefs about life, God, and the afterlife. Some may blame themselves when they experienced a distressing NDE, since positive NDEs seem to be more common and pleasant.

The findings of this study show that after a distressing NDE participants can have both positive and negative aftereffects, but mostly negative. Previous research has shown that a distressing NDE can cause long-lasting emotional trauma, increased vulnerability, and relational issues (Bush, 2012; Greyson, 2001). Our participants reported increased relational problems and increased anxiety and other negative emotions. About a third of our participants also indicated that they could not stop thinking about the experience afterwards and felt haunted by it. In contrast, there were also those who reported positive aftereffects. About a third of our participants experienced positive emotions after their NDE and felt more open, hopeful, and positive. It seemed that they expressed an increased appreciation of life in general and felt motivated to live their lives in a better way, similar to a recent qualitative study with 4 interviewees who reported an increased sense of meaning in life (Zingmark & Granberg-Axèll, 2023). We cannot say what made some people have negative and others positive aftereffects after their experience. One participant even had both positive and negative aftereffects, showing that it is possible to have both.

Regardless of the content of one's NDE, our results seem to show that many found it challenging to share their experience. The first step to process the distressing experience is to talk about it. NDErs often, however, do not dare to talk about their experience to others and therefore risk developing psychological and social problems. Our participants had tried to share the experience with their family members, friends, or health-care professionals but received negative feedback, were ignored, or told to keep quiet to avoid being locked up in a mental institution. That might have been prevented if the NDE had not been stigmatized. An NDE does not fit most people's worldview and might be difficult to believe.

Strengths and Limitations

Our preconceptions about distressing NDEs might have influenced our selection and interpretation of the data. Even if the participants categorized their NDE or parts of it as frightening, we do not know which parts or whether it was the whole experience that was frightening. To counteract this limitation, we strived to have a structured and systematic selection and analysis, and independent evaluation. We also considered reflexivity throughout the analyzing and writing process.



An important limitation of our study is that the narratives database consists of those who wanted to send their reports and share their NDE. This might be a biased group and unrepresentative of all who experience distressing NDEs. There is also the fact that we could not control what questions were answered and how. Our narratives thus differed in length and thickness, which led to some participants being highlighted more often than others in the results section. Another limitation is that the participants were not specifically asked to describe their aftereffects in their narratives, which means that only six out of eight participants described them. A similar study to ours but with a larger database, like that in nderf.org can evaluate the representativeness of our findings.

A strength of our study is that we are the first to use IPA to study distressing NDEs in a qualitative systematic way. We had a small number of participants, which is a limitation, but used IPA to make detailed analyses rather than draw general conclusions, which may make the smaller number of participants advantageous. Distressing NDE accounts are not always easy to come by no matter which method you use. A strength of our study is that we were able to analyze eight narratives with distressing NDEs, instead of basing our study just on single cases. Our selection of narratives was systematic to include every person who fulfilled the criteria for a distressing NDE. This allowed us to gain a deeper and more nuanced understanding of the different near-death experiences, which we would not have obtained through single cases. Another strength is that we considered internal validity and reliability for qualitative research by doing independent analyses as well as comparing them. We aimed to ensure that the analyses are credible and consistent with data (Smith, 1996; Yardley, 2008).

A limitation in terms of data collection and implementation of IPA is that we were not able to conduct interviews with the participants. Interviews could have led to a thicker description of their experience, but our narratives had a varying degree of thick descriptions. The fact that we were not able to conduct interviews might have resulted in the unevenness between the participants. By not conducting interviews we were also not able to evaluate the participants' body language, tone, and gestures, which Murray and Holmes (2014) describes as important factors in the collection of data in IPA.

Although we did not use interviews to gather our data, we partly compensated for this limitation by using narratives where participants described their experience. Similarly to written narratives, diary entries have also been used in phenomenological research. Using diaries for phenomenological research can provide an insight into a phenomenon without the risk of questions that might alter the description of the experience, also a risk during interviews (Alaszewski, 2006; Morrell-Scott, 2018). Using diaries can offer in-depth information and reflections about the experiences (Cudjoe,

2022). We did not use diaries but narratives written by the participants who did not know what the research questions would be.

When studying anomalous experiences all methods have their strengths and weaknesses (Cardeña & Pekala, 2014). The difference between using diaries and narratives might be that you tend to write down your experience in a diary daily or close to after the event happened, while a narrative might be written years after your experience. Therefore, there might be a risk that the passage of time affects how the NDEs were remembered in our study. Some of our participants experienced their NDE several years before, which may lead to potential bias and affect how detailed the memory was described in the narratives. Nonetheless, Greyson and Bush (1992) have discussed how accounts of NDE were very similar even after being recounted years later.

By highlighting those who have experienced distressing and/or hybrid NDEs, our study contributes to a more nuanced picture and should reduce the stigma around what an NDE can include. It is not a positive experience filled with love and light for everyone. Through a qualitative approach, we have gained a deeper understanding of how a distressing NDE can negatively affect NDErs' mental health. This understanding can help inform people, especially healthcare professionals, in supporting those who have experienced an NDE. Experiencing a distressing NDE may lead to an increased risk of developing trauma or other psychological symptoms, which is why healthcare professionals need to develop interventions that can help NDErs to process their experience afterwards. Being open, understanding and non-judgmental are keys to success.

Our results show that distressing experiences come in many different forms. Our participants experienced distressing emotions, especially fear, during their NDEs, but also some had hybrid experiences, with both positive and distressing elements. After-effects reported by our participants included an increase in negative emotions and not being believed by others when talking about their NDE. Some also experienced positive aftereffects despite having a distressing experience. These features are similar to patterns identified in previous research, but not described in their own words and with more detailed examples as in the current study.

In addition to supporting previous research, our study has revealed new aspects, including speculation about the link between locus of control and the NDE, the experience of feeling judged/abandoned by God, and the increase in negative emotions as aftereffects after a distressing NDE. Future research should focus on exploring hybrid and distressing NDEs and their eventual differences or similarities to positive experiences. It would also be interesting to see research properly studying locus of control and NDEs. A more important and neglected area has been to compare NDE, posi-

tive or negative, with other alterations of consciousness. Just to give an example of what seem to be close parallels, in a study with highly hypnotizable people, there were reports of great darkness and void, with 10 out of 12 participants reporting positive imagery experiences, but the two with the highest scores in dissociation and lowest scores in ego strength having negative imagery (Cardeña, 2005). Similar comparisons could be made between positive and negative reactions to meditation practice or other forms of consciousness alteration.

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La Phénoménologie des Expériences Angoissantes de Mort Imminente et de leurs Séquelles

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Résumé. *Objectif:* Explorer ce qu'est une expérience de mort imminente (EMI) angoissante et les séquelles qui s'ensuivent. *Méthode :* Nous avons consulté tous les récits de NDE pénibles dans la base de données de l'International Association for Near-Death Studies (IANDS) et analysé huit récits individuels à l'aide de l'Interpretative Phenomenological Analysis (IPA). *Résultats:* Les NDE éprouvantes comportaient des caractéristiques telles que des sentiments troublants, des expériences d'obscurité et des images effrayantes sous différentes formes. Des difficultés émotionnelles et sociales ont été rencontrées dans la gestion de la NDE après coup. Des effets secondaires tels que des réactions négatives lorsqu'on parle de l'expérience et des émotions exacerbées ont été rapportés. Nous avons trouvé des expériences hybrides, où l'expérience pénible présentait à la fois des caractéristiques positives et négatives. *Conclusion:* Les recherches futures sur les NDE devraient se concentrer sur les expériences hybrides et utiliser des méthodes mixtes et des recherches plus qualitatives en général.

French translation by Antoine Bioy, Ph. D.

Die Phänomenologie belastender Nahtoderfahrungen und ihrer Nachwirkungen

Amal Ait Melloul Karolina Kinnunen Etzel Cardeña

Zusammenfassung. *Zielsetzung:* Es soll erforscht werden, wie es ist, eine verstörende Nahtoderfahrung (NTE) zu haben, und welche Nachwirkungen sich daraus ergeben. *Methode:* Wir griffen auf alle Berichte über

belastenden Nahtoderfahrungen in der Datenbank der International Association for Near-Death Studies (IANDS) zu und analysierten acht Einzelberichte mit Hilfe der Interpretativen Phänomenologischen Analyse (IPA). *Ergebnisse:* Belastende NTEs enthielten Merkmale wie beunruhigende Gefühle und Erfahrungen von Dunkelheit und beängstigende Bilder in verschiedenen Formen. Es gab sowohl emotionale als auch soziale Schwierigkeiten im Umgang mit der Nahtoderfahrung hinterher. Es wurde über Nachwirkungen wie negative Rückmeldungen beim Sprechen über die Erfahrung und erhöhte Emotionen berichtet. Wir fanden gemischte Erfahrungen, wenn die belastende Erfahrung sowohl positive als auch negative Merkmale aufwies. *Schlussfolgerung:* Künftige Forschungen über Nahtoderfahrungen sollten sich auf gemischte Erfahrungen konzentrieren und generell mehr qualitative Forschung betreiben.

German translation by Eberhard Bauer, Ph. D.

A Fenomenologia das Experiências de Quase-Morte Angustiantes e Seus Impactos

Amal Ait Melloul Karolina Kinnunen Etzel Cardeña

Resumo. *Objetivo:* Explorar como é ter uma experiência de quase-morte (EQM) perturbadora e seus efeitos posteriores. *Método:* Acessamos todas as narrativas de EQMs angustiantes presentes no banco de dados da International Association for Near-Death Studies (IANDS) e analisamos oito narrativas individuais usando a Análise Fenomenológica Interpretativo (IPA). *Resultados:* EQMs angustiantes incluíram características como sentimentos perturbadores e experiências de escuridão e imagens assustadoras de diferentes formas. Houve dificuldades emocionais e sociais posteriores para se lidar com a EQM. Efeitos subsequentes, como receber feedback negativo ao falar sobre a experiência e emoções intensificadas, foram relatados. Encontramos experiências híbridas, onde a experiência angustiante tinha características tanto positivas quanto negativas. *Conclusão:* Pesquisas futuras sobre EQMs deveriam focar experiências híbridas e empregar métodos mistos, bem como mais pesquisas qualitativas em geral.

Portuguese translation by Antônio Lima, Ph. D.

La Fenomenología de las Experiencias Cercanas a la Muerte Angustiosas y sus Secuelas

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Resumen. *Objetivo:* Explorar la naturaleza de las experiencias cercanas a la muerte (NDE) angustiosa y sus secuelas. *Método:* Tuvimos acceso a todos los relatos de NDE angustiosas de la base de datos de la International Association for Near-Death Studies (IANDS) y analizamos ocho relatos individuales con un Análisis Fenomenológico Interpretativo (IPA). *Resultados:* Las NDE angustiosas incluyeron sentimientos per-

turbadores y experiencias de oscuridad e imágenes aterradoras de distintos tipos. Los participantes tuvieron dificultades tanto emocionales como sociales para afrontar las NDE después y mencionaron efectos secundarios como recibir comentarios negativos al hablar de la experiencia y sus emociones intensas. Encontramos experiencias híbridas, en las que la experiencia angustiosa tenía características tanto positivas como negativas. *Conclusiones:* La investigación futura sobre NDE debería centrarse en las experiencias híbridas y emplear métodos mixtos y más investigación cualitativa en general.

Spanish translation by Etzel Cardeña, Ph. D.

The Jesus Personage in Near-Death Experiences: A Reflexive Thematic Analysis¹

Robert A. King

Abstract: *Objective.* The near-death experience (NDE) is an altered state of consciousness in which experiencers generally perceive that they are out of and/or away from their physical body during real or presumed life-threatening incidents and/or near-death circumstances. While this is occurring, experiencers can also sometimes encounter a presumed deity that usually relates to their cultural and/or religious background. The objective of this study was to explore such encounters with the Jesus personage as commonly occurs in Western NDEs in order to generate thematic elements and determine if such encounters are purposeful. *Method.* This study qualitatively analyzed 79 such encounters by means of a reflexive thematic analysis with an inductive approach exploring the manifestation, appearance, and function of such a personage. *Results.* Six themes were generated based on identified patterns in the data. The first theme was that the manifestation and appearance of the Jesus personage can vary greatly, whereas the other five themes were relevant to the personage function toward the experiencer, which can include interacting on a return to life, conveying an unfulfilled purpose, providing comfort and/or affection, instilling virtues, and divulging theological insight or prophetic revelation. *Conclusions.* An implication of these themes is that an encounter with the Jesus personage can result in beneficial effects by increasing the experiencers' desire to live and enhancing their psychological wellbeing. Additional research is needed to explore exactly what occurs when experiencers from different cultures and/or religious backgrounds encounter other presumed deities and personages, and whether an analysis of such encounters generate comparable themes with the possibility of similar beneficial effects.

Keywords: Jesus, near-death experience, Western culture, thematic analysis

The near-death experience (NDE) is a technical term generally understood as an altered state of consciousness in which one often has the perception that one is out of or away from one's physical body during real or presumed life-threatening and/or

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near-death circumstances. The NDE usually includes one or more other common features such as feelings of peace, an altered sense of time, the perception of darkness and/or a bright light, a life review, and an encounter with presumed NDE spirits and/or entities such as divine personages and deceased loved ones (Greyson, 1983; Greyson & Stevenson, 1980; Martial et al., 2017; Martial et al., 2020; Moody, 1976; Ring, 1980; Sabom, 1982).

When there are reports of having encountered various religious personages during NDEs, these are usually in accordance with those that one has been exposed to prior, either directly or indirectly, through one's individual background and/or culture, although some factors such as the appearance, character, or nature of religious personages might differ from what one expected in some ways. Experiencers are unlikely to encounter the specific deity of another culture or religion if they have not been exposed to such a personage at some point in their lives. In other words, those familiar with Western culture and religious concepts would most likely see Western religious personages. Sabom (1998) pointed out that Christians in his research more often identified the being they saw as "Jesus," "Christ," or "Lord," and that those who were just believers in God more frequently identified the being they saw as "God," "Supreme Being," or "Source" (p. 213).

This does not, however, mean that experiencers will always encounter the personage or ideal of God during their NDE exactly as they might have expected or that their perception will be comparable to others. For example, although one experiencer stated, "It was God, a supreme being, the one. He had long white, wavy hair past his shoulders. . . . He also had a long, wavy, soft white beard that went down to the middle of his chest (Long & Perry, 2016, p. 86), another described God differently, stating, "I didn't have the experience of 'God' as an old man in a white robe on a throne, though that's the most prominent image in my mind formerly. . . . I felt 'God' as the Supreme Highest Vibration and Frequency, which felt more like an essence than an old man" (Long & Perry, 2016, p. 179).

One study of NDEs in Thailand reported that instead of visions of Jesus or the Western God, there were reports of the wrathful Yama and/or Buddha, suggesting that this was based on culture-bound influences, which are frequently derived from religion (Murphy, 2001). This is also supported by an examination of the Tibetan delog NDE accounts, that also exhibit at least in part the influence of cultural and religious beliefs of the experiencers with visions of Hindu and/or Buddhist deities and entities (Bailey, 2001). Pasricha and Stevenson (1986) also pointed out that those in India often encounter Hindu deities and spirits, and Purkayastha and Mukherjee (2012), who examined three Hindu NDEs, reported that one of their experiencers went to heaven and saw the trinity of Brahma, Vishnu, and Shiva (p. 104).

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Lai et al. (2007) found that 27.5% (14) of their patients within an Asian population met supreme beings but noted that they only reported encounters with a supreme being that was part of their own religion. Also take for example the NDE of Mellen-Thomas Benedict (1996), who had studied various religions beforehand, and remarked, "I was not committed to one particular religion," and in reference to the being of light he saw, stated, "The Light kept changing into different figures, like Jesus, Buddha, Krishna, mandalas, archetypal images and signs" (p. 42). The cultural aspect of encountering deities based on religious familiarity during NDEs is quite apparent in the research at this point.

Considering that an experient's cultural background has an influence on the specific NDE personages that appear, it is important to better understand this by exploring what actually occurs in such encounters, and eventually determine if the functions of such personages in different cultures are similar or different. I focus here on the reports of the Jesus personage from Western culture because enough cases were available to conduct such a study. I felt this would contribute to the field of NDE research and future studies on other personages from other cultures as NDE research continues to expand and hopefully allow for adequate comparisons to see if they have similar themes or not. In doing so, I hoped that it might help us to better understand the overall ontology of NDEs. The particular questions I hoped to answer were whether or not there were important thematic consistencies in those interactions with the Jesus personage, and, if so, what they were, as well as whether or not they were somehow purposeful.

The research discussed in this paper analyzed the manifestation, appearance, and function of the Jesus personage during Western NDEs by means of a reflexive thematic analysis. After first explaining the methods and materials for this preliminary study, I will expound and explain the generated themes in some detail, followed by further discussion

Methods and Materials

The specific method of qualitative research used in this study was a reflexive thematic analysis with an inductive approach, which enables a researcher to identify specific patterns of meaning within data and generate themes (Braun & Clarke, 2022; Morgan, 2022; Terry & Hayfield, 2021). It is important to point out that in reflexive thematic analysis with an inductive approach, different researchers will not necessarily develop exactly the same qualitative themes from the same data (Braun & Clarke, 2019; Terry & Hayfield, 2021; Wæraas, 2022). It is neither a deductive study nor a quantitative one. There may also be other additional valid qualitative themes, for instance,

and the findings of a reflexive thematic analysis with an inductive approach are instead what particular researchers have inductively generated based on their observations and reflexive analysis of the data. In other words, it is not exhaustive.

Selection of Cases

In order to conduct the thematic analysis, I sought out accounts in available self-reports. I chose to focus on only two different sources for this data: (1) the Near-Death Experience Foundation website (NDERF.org), and (2) the International Association of Near-Death Experiences website (IANDS.org). Both are websites that include a huge amount of self-reported cases posted by experients. The advantage of using these two sources was that they both provided a self-described account and narrative of the NDE as reported by the experient. I conducted a search of all those self-reports on both websites by using the search terms of “Jesus” or “Christ.”

I first read through hundreds of self-reports to discover if they included an actual encounter with Jesus or were using the name or title in some other manner. I then examined those that discussed such an encounter with Jesus in more detail to make sure they met the criteria necessary for this study. It is important to point out that this study was not focused on providing any type of quantitative data on how many NDE reports include Jesus encounters for this goes beyond the scope of this qualitative study. I was simply searching for a reasonable amount of such reports to conduct an inductive thematic analysis.

In striving for the highest degree of accuracy and consistency in this analysis, there were certain specifications for the inclusion of a case in this study. Only first-hand accounts were considered and they had to meet the following four criteria:

1. The perceived encounter with a Jesus personage must have occurred during a presumed or real life-threatening incident and/or in near-death circumstances;
2. included a perceived OBE in which the experient had the impression of being out of or away from their physical body;
3. consisted of a presumed visual perception of a personage—or at least a portion of that personage—at some point that comprised an identifiable form or shape; and
4. was based on a reasonable belief by the experient during and/or afterwards that the personage they encountered was Jesus.



The first criterion was to ensure that there was a consistency in reports in which there at least appeared to be a genuine threat to life of some sort. The reason for the second was to clearly distinguish the NDE in which one has the impression of having ventured into the afterlife in contrast to what might be easily classified in the same category as a common deathbed vision. As for the third criterion, there were some people who felt they only heard and/or sensed the Jesus personage, and/or only saw a light without any type of identifiable shape or form, but these indicate more of a simple interpretation that lacked any clear presumed visual confirmation to indicate that it was in fact a personage. I chose to focus instead on cases that were better supported by presumed visual perception rather than just a feeling or an impression. This, of course, does not suggest that they were seeing through real eyes, but that they perceived the Jesus personage as if it were an identifiable and formulated visual manifestation. The fourth and final criterion ensured a consistency of cases of only those who were convinced they saw Jesus rather than including some who indicated they were not certain.

There were also some exclusion criteria to my selection. For example, if there was any indication that the experient's account was a triggered memory years after the NDE, it was not included. Furthermore, NDE accounts that occurred when the experient was under three years of age were also not included. This was based on the findings from research on childhood amnesia suggesting that most adults cannot remember—or at least have extreme difficulty in doing so—events that occur before 2 to 3 years of age (Peterson, 2021; Wang et al., 2007; Wang & Gülgöz, 2019). A few lengthy disjointed, highly confusing, and/or excessively preachy NDE accounts making it difficult to properly analyze them were also excluded. My purpose in these different types of exclusions should be interpreted as an effort to offer the best quality cases available for analysis. I sought to avoid accounts with possible issues—whether legitimate or not—that could reasonably minimize confidence in the generated themes.

All cases that met the inclusion and exclusion criteria above were accepted for this study. The final count from this selection method consisted of 73 self-reports from the NDERF website and six additional cases from the IANDS website, for a total of 79, which was sufficient for this type of qualitative analysis.

Phases of Analysis

I conducted this study using the six phases of a reflexive thematic analysis, which also entailed a recursive approach to some of those phases when necessary. It should

be pointed out here that a single coder/analyst is typical in reflexive thematic analysis and that the quality of the coding in this type of analysis is not dependent upon multiple coders and/or a consensus between them (Braun & Clarke, 2022).

In this study, I first thoroughly and analytically became familiar with the 79 NDE narratives and their content by closely reading and analyzing each of those narratives without making any effort to develop any themes. Then, after carefully reading through those narratives a second time, I used different color highlights to code them with an inductive approach for features that seemed to be present regarding the presumed visual appearance of the Jesus personage and any functions reported.

Based upon this coding, I again carefully analyzed those narratives, constructing meaningful patterns and developing initial tentative themes based on those patterns. For example, in noticing that there was a function of the Jesus personage actually talking to the experiencers in most of the cases, I analyzed any patterns in those discussions regarding the subject matter and considered whether or not there seemed to be a specific objective in the subject matter discussed. This allowed me to develop a number of tentative themes that varied in their complexity. In another example, coded snippets of the Jesus personage interacting with the experiencers also included patterns of making declarations of love and/or hugging, but these actions also suggested more than these simple observations: after careful thought about the matter when analyzing those observations, a theme that the perceived personage of Jesus was providing affection and/or comfort was generated.

Once the tentative themes were developed, I reviewed them again alongside the narratives, followed by a deconstruction process of some of those themes and rebuilding new ones. For example, there were originally several tentative themes related to the manifestation and appearance of the presumed Jesus personage, but these were eventually combined into one overall prevailing theme that offered the best analysis because of the wide variations. There were also initially two themes regarding Jesus providing certain types of revelatory information that were later combined into one theme. I was eventually able to generate and define six final primary themes based on identified patterns grounded in the data of the analyzed narratives.

Results

The results of the analysis generated six themes based on meaningful patterns in the data—one theme for the manifestation and appearance of the Jesus personage and five themes related to functions:

1. Manifestation and appearance varied: The manifestation and appearance of the Jesus personage varied widely across accounts.
2. Interacting on a return to life: The Jesus personage interacted with the experient about returning to physical life.
3. Conveying an unfulfilled purpose: The Jesus personage conveyed to experiencers that they have an unfulfilled purpose on Earth.
4. Providing comfort and/or affection: The Jesus personage provided comfort and/or affection to experiencers.
5. Instilling virtues: The Jesus personage sometimes instilled virtues such as forgiveness, loving others, and being good.
6. Divulging theological insight or prophetic revelation: On occasion, the Jesus personage divulged theological insight or offered prophetic revelation about the world.

In a reflexive thematic analysis, frequency counts are not the primary basis for the generation of themes (Braun & Clarke, 2022; Morgan, 2022). However, because frequency counts might be helpful in accentuating the generated themes, they will be mentioned below as those themes are discussed. I have also provided frequency counts for the five function themes in Table 1, which can be found in the Appendix.

Manifestation and Appearance Varied

A primary theme was that the manifestation and appearance of the Jesus personage varied widely across all accounts. These encounters occurred in the presumed immediate environment of the physical body, within a void of light or darkness, within or at the end of a tunnel, in outer space, or in some type of otherworldly or paradisiacal environment. There was simply no consistency or overall identifiable pattern regarding where experiencers might encounter the Jesus personage.

The Jesus personage in these narratives was almost always seen with a specific shape that was similar to a human, and in at least 23 accounts it was seen as a form of light, radiating light, or surrounded by light, whereas in the other accounts there was not any such light directly associated with that personage or, as was most often the case, it was unclear. On several occasions it simply appeared as a silhouette or a transparent spirit, and in a few cases only portions of its form were seen. Again, there was no consistency in these forms of manifestation; they varied from case to case.

In the cases in which human features were observed, over a half-dozen experiencers specifically mentioned that the Jesus personage looked similar to the images of

Jesus as generally portrayed in pictures or paintings whereas at least a couple said it looked different. Another asserted that it looked like the Jesus in the movie, “Heaven is for Real” (Missy M NDE, 2017) whereas a different experient instead insisted it resembled a painting that depicts Jesus as seen in a vision by St. Maria Faustina (Beth L NDE, 2005). However, three of the experients stated or implied that the Jesus personage they saw was similar or identical to that portrayed in the Shroud of Turin (John C NDE, 2004; *Pulmonary embolisms*, 2016; Sarah S NDE, 2019). In another case, it was seen with the face of a lion (Charles M NDE, 2005). In at least one case, there was a bit of confusion at first in which the experient stated, “At first, I thought it was my deceased father in his younger years. Then I thought it was my first husband who had passed on in 1981. Then I knew it was Jesus” (Mary L NDE, 2004).

In at least 36 cases some identifiable human facial features (eyes, lips, beard, hair, etc.) were seen, and in at least seven cases they were not, but in most of the other cases this was impossible to determine by the information provided. In fact, the absence of visual facial features on NDE personages of all sorts is quite common (Fenwick & Fenwick, 1995, pp. 203–204; King, 2023, pp. 33–37). Even when facial features were present, they were often not described by the experients. Because of this, it is difficult to identify patterns on the facial features of the Jesus personage. Nevertheless, when they were described, they varied greatly among reports. For example, four experients specifically mentioned that the Jesus personage had blue eyes, one that the eyes were green-blue, and six that they were brown, dark, or black, whereas a couple others reported that the eyes were like flames of fire.

As for the hair color of the Jesus personage, five experients mentioned that it was dark, ten brown, one blond, and three white. The hair was described as short by one experient, medium length by another, and long by 11 others—it was further indicated as down to the shoulders in five of those cases. Five experients mentioned having seen a beard. About a half-dozen described the Jesus personage as having dark or tanned skin tone whereas a couple others indicated that the skin was white. Four remarked that the Jesus personage was tall, whereas another experient described that personage as approximately 100 feet tall (JC S NDE, 2008).

The Jesus personage was reported by 18 as dressed in a robe whereas a half dozen or so others referred to its clothing simply as a gown, a tunic, a toga, or a cloak. Eight of those experients specifically indicated that the clothing was long. Sixteen of them described the color as white and eight others as either of a different color or as consisting of more than one color. One experient described the Jesus personage as wearing a black t-shirt and black jeans with holes in them (Hyacinth probable NDE, 2013). In at least eight cases the feet of the Jesus personage were seen, with five ex-

perients having mentioned seeing sandals. Some experients mentioned having seen the scars or wounds of Christ—presumably from the crucifixion. For example, close to half a dozen experients saw scars or holes in the wrist area with another indicating the hands, and a couple of them also indicated that they saw the same in its feet.

Interacting on a Return to Life

One of the most salient generated themes of this study was that the Jesus personage interacted with the experient about returning to physical life and remaining on Earth in at least 65 of the 79 cases, usually in an authoritative role, as in the following instance:

Then he [Jesus] looked me right in the eye and said, 'So Anthony. What are you going to do?' I looked Jesus right in the eye and said, 'You mean I have a choice?' Jesus replied, 'Of course you do. You were hurt pretty badly in an accident. Nobody would blame you if you stayed up here.' Then I thought, 'What will happen to those people down there I care so much about?' Then Jesus put his hand on my shoulder, turned me around, and without saying anything, told me to look down. I looked down and everybody I loved and cared about was standing all together looking so sad and lost. Then Jesus told me, 'This is what your death will do to the people you love.' (Anthony M NDE, 2005)

This interaction regarding life and death usually occurred with the Jesus personage as the primary speaker using either words or thoughts—frequently with the impression that such words or thoughts were telepathic—but on a few occasions through gestures or facial expressions with or without words or thoughts. The interaction as related to this issue was solely between the Jesus personage and the experient in 52 of such cases, whereas in the 13 other such accounts additional personages were involved in some way with that actual communication, including what were presumed to be deceased relatives, angels, and/or God as a separate entity. In two of those instances, though the Jesus personage was present in the authoritative role, it was these deceased personages who communicated the need for the experient to return, and in another one the personage of God did so.

Although at least 21 of those 65 experients just discussed reported that they were given a choice on whether to stay or return to physical life, more generally it was simply explained that they needed to return with no such choice offered, although in a few additional cases it was unclear whether or not a choice was given.

Even when a choice was clearly offered, the desire of the Jesus personage for the experient to return to physical life was generally apparent and persuasion efforts often occurred by the Jesus personage through communication and/or various forms of past, present, or prospective future visual imagery of one's life and/or loved ones; this occurred in at least 9 of those 21 accounts in which a choice was reported. This even took place in at least four instances in which it could be fairly certain from the narrative that no choice was offered. There seemed to be a preference for autonomy in the experient's will to return to life (see also King, 2022). In fact, in three cases in which the experient indicated they wanted to return—two in which a choice was offered and one in which it was not—there seemed to be an indication of approval from the Jesus personage by means of a smile (Gary D NDE, 2006; Rhea D probable NDE, 2007; Stanley S NDE, 2019). However, there were no indications of disappointment from the Jesus personage when an experient chose to return to life.

The overall pattern of the Jesus personage appeared to be to prepare and encourage experients to return to a state of somatic consciousness and life. In fact, the next generated theme seems to have been related to this function.

Conveying an Unfulfilled Purpose

Another important generated theme in this analysis was that the Jesus personage also conveyed to at least 43 of the 79 experients that there was some type of purpose or reason for them to return to earthly life. The excerpt below is indicative of the typical type of conversation that might ensue:

Jesus was calling my name. I answered him and said, 'I know I'm in heaven.' He said, 'My child, I can not let you come in.' I asked, 'Why?' I was trying to argue with him. I told him, 'I'm 77 years old. Why can't I come in?' He answered with, 'My child, I have more work on earth for you to do for me.' I asked, 'Why?' again. But that's all he said to me. He did tell me he was going to send me back to the work he had for me to do. (Genny H NDE, 2014)

Sometimes this conveyed purpose was directly pointed out to experients with comments indicating that they needed to return for the sake of family members and/or they needed to do something important for either the Jesus personage or the world. However, in close to a dozen cases the experients were simply told by the Jesus and/or other personages that it was not their time. It should be noted that in 2023 I conducted a survey of 110 people who were 18 or over from the general population in the United States (using [SurveyMonkey.com](https://www.surveymonkey.com)) asking them how they would interpret the state-

ment “It is not your time” from a supreme being during an NDE before being sent back to continue living; 77%—but probably more (some answers were unclear)—of them indicated via an open-ended text box that they would interpret this as indicating that they still had some type of purpose to fulfill. Furthermore, it seems that this function of the Jesus personage was primarily meant to convey the concept that there was a purpose for the experient to continue living on Earth rather than necessarily designating too many specifics about what that purpose was.

Providing Comfort and/or Affection

An additional pattern in the data was that the Jesus personage tended to provide comfort and/or affection in at least 37 of the 79 accounts, as indicated in the following case:

His gaze was of acceptance, recognition, and love. His arms reached out to me and his hands were bidding me to come closer. In eagerness, I ran to him. Once I approached him, we hugged but not like a human hug. There were no bones - it was like his spirit went into me and mine into him and I was at total peace. (Roxanne H NDE, 2008)

When generating the theme about this function, I focused on comfort and/or affection provided by mannerisms and interactions from the Jesus personage such as smiling at the experient, hugging them, and/or holding their hand, as well as comments offering love, acceptance, and/or assurances. Of the 37 accounts in which this was reported, at least two dozen included a perception of actual touch.

I did not focus on “feelings” of peace, love or acceptance felt by the experient when generating this theme—which were often present—for the experient’s subjective feelings isolated from actual relevant actions of the Jesus personage during the encounter would not necessarily indicate a function of that personage, because feelings of peace and love are often associated with an NDE regardless of whether or not a Jesus personage is present (Fenwick & Fenwick, 1995, pp. 69–74; Martial et al., 2017; Ring, 1980, pp. 39–45; Royse & Badger, 2020; Sabom, 1982, pp. 206, 18).

When a perceptible intent to comfort and/or provide affection occurred, it was usually in addition to one or more of the other four functions. Furthermore, this was in many cases simply provided in relation to the preparation for the experient’s return to somatic consciousness. Nevertheless, there were some cases in which providing comfort seemed to be a primary function of the Jesus personage. For instance, in one example, the entire episode seemed to be focused primarily on the personage providing

comforting love and assurance to the experient through an extraordinary amount of affectionate touch and statements of love before the impression of sending her back to earthly life (Sarah W probable NDE, 2013).

Although reports of direct actions or words to provide comfort and/or affection were either not mentioned or unclear in a slight majority of the cases, relatedness in the sense of encountering a Jesus personage who was specifically there to individually interact with experiencers in some way should be expected to have provided some sense of comfort or love to at least some of them, and such was the case. However, there was not enough information offered from most of those experiencers on this matter to determine how often this was so. Nevertheless, even such an effect would not necessarily indicate whether this was an actual intended function of the manifestation.

Instilling Virtues

Another generated theme was that the Jesus personage seemed focused on instilling virtues in at least four cases, although this was not common in the reports. What I am referring to with regard to instilling virtues is that the personage specifically instructed experiencers to practice these virtues.

For example, in one particular account in which the experient was being assaulted by her husband (Robyn F NDE, 2014), the Jesus personage told her to forgive him. There was not any discussion about needing to return or being given a choice whether or not to stay in the presumed afterlife in this case. Furthermore, though the presence of the personage may have possibly facilitated some degree of psychological comfort in this case, there was no focus on offering comfort nor any comforting actions or words reported. However, it should be pointed out that the experient noted that the instilled virtues conveyed affected her perspective of the experience almost immediately.

In another account the Jesus personage did in fact provide comfort to an eight-year-old girl while also telling her that she needed to love and forgive others who harm her in life, including an abusive mother, and then she was specifically told that practicing this virtue was her purpose in life as she was told that she had to go back (Denise B probable NDE, 2011). In another case Jesus told the experient to be a good girl (Marilyn R NDE, 2012) and in another to simply love others (Sarah W probable NDE, 2013).

Divulging Theological Insight or Prophetic Revelation

The final function theme was that the Jesus personage divulged theological insight or offered prophetic revelation about the world in at least nine of the 79 cases. There were about a half-dozen incidents of divulging theological insight, in all but one of those incidents it was the Jesus personage simply reacting to questions, thoughts, or incidental distress of the experiencers rather than just trying to teach them spiritual truth for its own sake, such as in the following incident:

At that point my life started flashing through my mind. It sounded like flipping pages through a book. When it finished (seemed like a second), I looked up crying. Weeping actually and said, "Everything that I've done and everything that I didn't do." The man who I know was Jesus spoke and said, "What are you talking about? That doesn't exist here." When he said that the tears on my face disappeared like they had never been there to begin with (Man has reaction, 2022)

These results support Sabom's (1998, p. 217) assertion that reports of receiving religious teachings during an NDE are rare. Furthermore, there were only three cases in which prophetic revelation about the world was offered, but these were exceptionally vague and lacking anything substantial.

In all incidents of this thematic function, the encounter with the Jesus personage also included at least one or more of the other above functions. There is no indication that the personage ever manifested in any of these NDEs just for the specific purpose of revelation. It should also be pointed out that when the Jesus personage was trying to persuade experiencers to autonomously choose to return to life, they were sometimes shown presumed previews portraying the fate of their family members based on whether the experiencer were to live or die—these personal persuasion incidents were not considered as contributory to this theme.

Discussion

Based on the results of this study, the manifestation of the Jesus personage in Western NDEs can occur in various types of perceived locales, such as what is presumed to be in the immediate vicinity of the physical body, in a tunnel or an area of light, in outer space, or in a paradisiacal environment. It can appear as a being of light, as simply radiating light, as similar to a human spirit or person, or a variation of

these forms. When the Jesus personage does appear with visible human features, its appearance can vary widely from one NDE to the next.

For those who believe that these are genuine manifestations of the real Jesus it can, of course, be argued that Jesus—or an NDE personage who only manifests as Jesus—is able to appear in whatever type of setting and in any type of form with whatever features he desires, perhaps to meet the needs of each experient. However, it can also be argued that the manifestation of the Jesus personage is based on neurocognitive and/or psychological factors and conditional variables that differ for each individual experient.

A substantial number of the encounters with the Jesus personage during NDEs in this thematic analysis included interactions conveying the necessity of the experients to return to earthly life, but the manifestation of the Jesus personage in most of those cases also included an indication to experients that they had a purpose in staying alive. Whether one believes that the Jesus personage of the Western NDE is an objective being or a subjectively brain-induced one, it raises the possibility that these two functions might have a beneficial purpose.

I suggest that the primary purpose of the manifestation and interaction with the Jesus personage during many Western NDEs might be to boost the desire of an experient to live. Not only were many of them told with very specific words or gestures that they needed to go back, but they were also persuaded or encouraged in many cases to do so because their presence on Earth was important for some reason or another and so there was still something essential they needed to complete or accomplish. Such a claim from the Jesus personage would certainly contribute toward a sense of meaning, purpose, and significance in being alive. In other words, the function seemed to be psychological in nature in an attempt to boost the will of the ego to survive.

In at least one case the Jesus personage told the experient that she needed to fight in order to live (Pulmonary embolisms, 2016), in two cases it assisted the experients when there was the impression of reintegrating with their body (Bella K NDE, 2011; Sarah W probable NDE, 2013), in another it twice gave the experient a command to live (Irene A NDE, 2007; also see Charles T NDE, 2018), and in yet another there was a struggle motif to return to life after it instructed the experient by gesture to do so (Linda K NDE, 2008). These incidents suggest that one of the reasons the Jesus personage manifested—at least in these accounts—was to encourage experients to fight for life with a psychological focus toward survival.

It should be pointed out that there is some evidence to possibly support that these functions of the Jesus personage are meant to serve a psychological purpose



with an objective to boost the will to live rather than a genuine message from the beyond. There have been some reports that when people are told by NDE personages that they need to go back because it is not yet their time, they do revive for a short period but still die shortly thereafter, suggesting that such efforts are not always successful. One salient case in point consisted of a patient who was declared dead, went to heaven, saw God, and was sent back after having been told he had to continue living because he had not completed his life, only to then die two minutes later (Osiris & Haraldsson, 1977, p. 156; for another example, see also Fenwick & Fenwick, 1995, pp. 72–73, 107–108).

Nevertheless, there generally seemed to be more than this immediate concern to survive in the moment, almost as if there was perhaps a multipurpose psychological objective in boosting the desire to live. For example, this effort conveying a need for the experient to remain living seemed to almost always be strategically concentrated on producing a lengthy effect for persistence of this belief over time through a salient type of ambiguity about the experient's purpose. Many individuals having the impression of having been sent back by an NDE personage with the vagueness of a purpose indicate years or decades later that they still do not know what their purpose is (King, 2022). The encounters with the Jesus personage analyzed in this study also likely supported or boosted confidence in the experients' capability to fulfill their supposed purpose because it was, after all, usually the authoritative Jesus personage who indicated that they did indeed have a purpose, on some occasions reinforced by supposed deceased relatives, angels, and even God.

Nevertheless, although the return to life with the conviction of a purpose seems to be the most common function of the Jesus personage, sometimes that personage did perform other functions. For example, sometimes this included providing some type of comfort and/or affection through touch, gesture, and/or words. There also did seem to be some rare occurrences in which the Jesus personage directly instilled virtues, sometimes without any other apparent function. For example, one can ponder why a manifestation of the Jesus personage was necessary with the focus on the forgiveness of an attacker in the instance mentioned above rather than focusing primarily on the immediate comfort of the victim. The experient in that case indicated that the inspiration of that virtue was almost immediately psychologically transforming.

Limitations. There are various limitations in this study. For example, in some of these accounts the NDE personage did not directly indicate that it was Jesus. Sometimes the experients just simply stated that they knew it was him, whereas in other accounts they mentioned that they simply recognized him from earthly photos and pictures.

Furthermore, this analysis only focused on perceptions of a Jesus personage with a visual form during the NDE, but there are also many self-reports of simply sensing its presence and/or hearing it, as well as simply seeing a light without any type of form, that are sometimes interpreted by the experient as Jesus.

Although this analysis has qualitatively identified specific functions that occur, any quantitative data provided needs to be approached with caution given the possibility that some of the self-reports were sometimes unclear or did not mention a particular function that might have occurred. Therefore, such data should be understood as indicating the minimum amount of how many cases in this study included such a function.

There is, of course, also the possibility that some of these accounts or portions thereof may have been subject to faulty memory, memory decay, recall bias, memory reconstructions, or embellishment, so these results are only as accurate as the content of such self-reports.

Conclusion. The overall implication from this study is that generally the Jesus personage in Western NDEs functioned in a respected authoritative role to prepare the experient to return to Earth, frequently by indicating that they were still needed and that it was not their time yet to die—that they still had meaning, purpose, and significance on Earth. Most often, a thorough explanation of this purpose was not given. Even when it was attributed to family, this was often vague with an unspecified amount of necessary time implied in that purpose. The reason for this might have been to deliberately leave the accomplishment of that purpose as ambiguous and open-ended so that such information would have a persistent and enduring effect that supports survival with a sense of wellbeing. It might do this by leaving the experient in a continual state of feeling that their life here is important even though they may not understand exactly why.

In some cases, the encounter with the Jesus personage seemed instead to focus on offering comfort or affection, whereas at other times such an encounter instilled virtues, both of which also might be seen as psychologically beneficial to the experient. Divulging theological insight or prophetic revelation was quite rare, and did not seem to be the primary function of the Jesus personage, and might even be seen as circumstantial in support of the other functions. Whether or not one believes that these encounters with the Jesus personage are objective or subjective, it does seem that some of these functions might increase the desire to live and help foster greater psychological health and wellbeing.

There are some prospective implications of this analysis for the broader fields of psychology as a whole. For instance, the manifestation of the Jesus personage in

Western NDEs might be an adaptive psychological response to threat of death focused on survival of the human organism with an approach that is shaped by Western culture for maximum effectiveness. Future research might focus on similar analyses on religious figures encountered in NDEs from other cultures that have not been influenced by Western thought. It would be interesting to examine generated themes in regard to the functions of those manifested personages—whether similar or different—coupled with reasonable suggestions of any possible psychological effects. Further research with similar analyses on the impression of having encountered deceased loved ones in NDEs might also be undertaken. It is my hope that this paper will encourage additional research in these directions.

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Le Personnage de Jésus dans les Expériences de Mort Imminente : Une Analyse Thématique Réflexive

Robert A. King

Résumé. *Objectif:* L'expérience de mort imminente (EMI) est un état de conscience modifié dans lequel les participants perçoivent généralement qu'ils sont hors et/ou loin de leur corps physique lors d'incidents réels ou présumés mettant leur vie en danger et/ou dans des circonstances de mort imminente. Au cours de

cette expérience, les participants peuvent aussi parfois rencontrer une divinité présumée qui correspond généralement à leur culture et/ou à leur religion. L'objectif de cette étude était d'explorer les rencontres avec le personnage de Jésus, telles qu'elles se produisent couramment dans les EMI occidentales, afin de générer des éléments thématiques et de déterminer si ces rencontres sont intentionnelles. *Méthodes*: Cette étude a analysé qualitativement 79 rencontres de ce type au moyen d'une analyse thématique réflexive avec une approche inductive explorant la manifestation, l'apparence et la fonction d'un tel personnage. *Résultats*: Six thèmes ont été générés sur la base de modèles identifiés dans les données. Le premier thème était que la manifestation et l'apparence du personnage de Jésus peuvent varier considérablement, tandis que les cinq autres thèmes concernaient la fonction du personnage envers l'expérienceur, qui peut inclure l'interaction à propos du retour à la vie, la transmission d'un but non atteint, le réconfort et/ou l'affection, l'inculcation de vertus et la divulgation d'un aperçu théologique ou d'une révélation prophétique. *Conclusions*: L'une des implications de ces thèmes est qu'une rencontre avec le personnage de Jésus peut avoir des effets bénéfiques en augmentant le désir de vivre des personnes concernées et en améliorant leur bien-être psychologique. Des recherches supplémentaires sont nécessaires pour explorer ce qui se passe exactement lorsque des personnes issues de cultures et/ou d'horizons religieux différents rencontrent d'autres divinités et personnages présumés, et pour déterminer si l'analyse de ces rencontres permet de dégager des thèmes comparables, susceptibles d'avoir des effets bénéfiques similaires.

French translation by Antoine Bioy, Ph. D.

Die Jesus-Persönlichkeit in Nahtoderfahrungen: Eine reflexive thematische Analyse

Robert A. King

Zusammenfassung: *Zielsetzung.* Die Nahtoderfahrung (NTE) ist ein veränderter Bewusstseinszustand, in dem die Betroffenen im Allgemeinen wahrnehmen, dass sie sich während tatsächlicher oder vermuteter lebensbedrohlicher Vorfälle und/oder Nahtodsituationen außerhalb und/oder entfernt ihres physischen Körpers befinden. Während dieses Vorgangs können die Betroffenen manchmal auch einer vermeintlichen Gottheit begegnen, die in der Regel mit ihrem kulturellen und/oder religiösen Hintergrund in Verbindung steht. Das Ziel dieser Studie war es, solche Begegnungen mit der Jesus-Persönlichkeit, wie sie in westlichen Nahtoderfahrungen häufig vorkommen, zu untersuchen, um thematische Elemente zu beschreiben und festzustellen, ob solche Begegnungen absichtlich erfolgen. *Methoden.* In dieser Studie wurden 79 solcher Begegnungen mittels einer reflexiven thematischen Analyse mit einem induktiven Ansatz qualitativ analysiert, um die Erscheinung, das Aussehen und die Funktion einer solchen Persönlichkeit zu untersuchen. *Ergebnisse.* Auf der Grundlage der anhand der Daten identifizierten Muster wurden sechs Themen bestimmt. Das erste Thema war, dass die Erscheinung und das Aussehen der Jesus-Persönlichkeit sehr unterschiedlich sein kön-

nen, während die anderen fünf Themen sich auf die Funktion der Persönlichkeit gegenüber dem Erlebenden bezogen, die eine Interaktion bei der Rückkehr ins Leben, die Vermittlung eines unerfüllten Zwecks, die Bereitstellung von Trost und/oder Zuneigung umfassen kann,, Tugenden zu vermitteln und theologische Erkenntnisse oder prophetische Offenbarungen zu verbreiten. *Schlussfolgerungen*. Aus diesen Themen ergibt sich, dass eine Begegnung mit der Jesus-Persönlichkeit positive Auswirkungen haben kann, indem sie den Lebenswillen der Betroffenen steigert und ihr psychisches Wohlbefinden verbessert. Weitere Forschungen sind erforderlich, um zu untersuchen, was genau geschieht, wenn Menschen aus anderen Kulturen und/oder mit anderem religiösen Hintergrund anderen vermeintlichen Gottheiten und Persönlichkeiten begegnen, und ob eine Analyse solcher Begegnungen vergleichbare Themen mit der Möglichkeit ähnlicher positiver Wirkungen hervorbringt.

German translation by Eberhard Bauer, Ph. D.

A figura de Jesus em experiências de quase-morte: Uma análise temática reflexiva

Robert A. King

Resumo: *Objetivo.* A experiência de quase-morte (EQM) é um estado alterado de consciência no qual experienciadores geralmente percebem que estão fora e/ou longe de seu corpo físico durante incidentes, reais ou presumidos, de risco de vida e/ou circunstâncias de quase-morte. Enquanto isso está ocorrendo, os indivíduos também podem, por vezes, encontrar um ser compreendido como divino que, geralmente, se correlaciona com sua formação cultural e/ou religiosa. O objetivo deste estudo foi explorar os encontros com a figura de Jesus que comumente ocorrem em EQMs ocidentais, a fim de identificar elementos temáticos e determinar se tais encontros são significativos. *Métodos.* Este estudo analisou qualitativamente 79 desses encontros por meio de uma análise temática reflexiva, com abordagem indutiva, que explora a manifestação, a aparência e a função de tal personagem. *Resultados.* Seis temas foram gerados com base nos padrões identificados nos dados. O primeiro tema foi que a manifestação e a aparição da figura de Jesus podem variar muito, enquanto os outros cinco temas foram relevantes quanto a função do personagem em relação ao experienciador, o que pode incluir interagir em um retorno à vida, revelar um propósito ainda não cumprido, oferecer conforto e/ou afeto, despertar virtudes, e sugerir um insight teológico ou revelação profética. *Conclusões.* Uma implicação de tais temas é que um encontro com a figura de Jesus pode resultar em efeitos benéficos, aumentando o desejo de viver dos experienciadores e ampliando seu bem-estar psicológico. Pesquisas adicionais são necessárias para explorar exatamente o que ocorre quando experienciadores de diferentes culturas e/ou origens religiosas encontram outros personagens e entidades consideradas divinas e se uma análise de tais encontros gera temas comparáveis, com a possibilidade de efeitos benéficos semelhantes.

Portuguese translation by Antônio Lima, Ph. D.

El Personaje de Jesús en las Experiencias Cercanas a la Muerte: Un Análisis Temático Reflexivo

Robert A. King

Resumen: *Objetivo:* La experiencia cercana a la muerte (NDE) es un estado alterado de consciencia en el que los experimentadores generalmente perciben que están fuera y/o lejos de su cuerpo físico durante incidentes o circunstancias real o potencialmente mortales. Mientras esto ocurre, pueden encontrar a una supuesta deidad que suele corresponder a sus antecedentes culturales y/o religiosos. El objetivo de este estudio fue explorar encuentros con el personaje de Jesús, como ocurre comúnmente en NDE occidentales, con el fin de generar elementos temáticos y determinar si tales encuentros tienen algún propósito. *Métodos:* Este estudio analizó cualitativamente 79 de estos encuentros usando un análisis temático reflexivo con un enfoque inductivo que exploró la manifestación, apariencia, y función de dicho personaje. *Resultados:* Se generaron seis temas basados en los patrones de los datos. El primer tema fue que la manifestación y apariencia del personaje de Jesús pueden variar enormemente, mientras que los otros cinco temas son relevantes para la función del personaje para el experimentador, que puede incluir comunicar sobre un retorno a la vida, transmitir un propósito incumplido, proporcionar consuelo y/o afecto, inculcar virtudes, y divulgar una visión teológica o una revelación profética. *Conclusiones:* Una de las implicaciones de estos temas es que un encuentro con el personaje de Jesús puede tener efectos benéficos al aumentar el deseo de vivir de los experimentadores y mejorar su bienestar psicológico. Se necesita más investigación para explorar exactamente qué ocurre cuando los experimentadores de diferentes culturas y/o trasfondos religiosos encuentran a otras presuntas deidades y personajes, y si un análisis de tales encuentros genera temas comparables con la posibilidad de tener efectos benéficos similares.

Spanish translation by Etzel Cardeña, Ph. D.

Appendix

The Functions of the Jesus Personage in NDEs

All 79 NDEs in this study were closely analyzed in an effort to identify any possible meaningful patterns of function for the Jesus personage. I was able to generate five themes related to function: (1) Interacting on a return to life, (2) conveying an unfulfilled purpose, (3) providing comfort and/or affection, (4) instilling virtues, and (5) divulging theological insight or prophetic revelation. I then thoroughly re-examined all the cases several times again to provide some type of quantitative results related to these five functional themes, which are reported below in Table 1.



Table 1

Functions of the Jesus Personage (N = 79)

Functional Theme	Yes	No Mention or Unclear
Interacting on a return to life	65	14
Conveying an unfulfilled purpose	43 ^a	36
Providing comfort and/or affection	37	42
Instilling virtues	4	75
Divulging theological insight or prophetic revelation	9	70

^aAll accounts also included an interaction with the Jesus personage about returning to physical life.

Past-Life Memory Sources of Dreams: Angela Grubbs' Recollections of Francine Donovan, Recorded Before Verification¹

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Abstract: Like memories of the present life, apparent memories of past lives may be incorporated in dreams. Past-life dreams seldom furnish enough information for a previous incarnation to be identified, but occasionally they do. The dreams of Angela Grubbs are exceptional in their extensiveness and consistency with what is known about the life of a deceased individual, a nurse named Francine Donovan who died in 1923. The memories are largely episodic rather than fragmentary autobiographical memories. Although many elements cannot be substantiated, the dreams contain no demonstrable distortions. The dreams of Grubbs are rendered more important by her having recorded them in emails before their details were verified. The majority appeared shortly after she saw the movie, *What Dreams May Come*, which may have served as a catalyst for them. This case not only adds to the growing evidence for reincarnation, it contributes to the study of the memory sources of dreams. The function of memories in dreams may involve more than memory consolidation. A key aspect may be subliminal emotional processing of past experience that includes past-life experience if it is relevant to, or remains unresolved in, the present life.

Keywords: dreams and dreaming, episodic memory, exotic dreams, extraordinary dreams, memory reliability, past-life memory, reincarnation

Highlights

- Like memories of the present life, apparent memories of past lives may be incorporated in dreams.

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- The dreams of Angela Grubbs are exceptional in their extensiveness and consistency with what is known about the life of a deceased individual, a nurse named Francine Donovan.
- Grubbs' dreams are rendered more important by her having recorded them in emails before many of their details were verified.
- Grubbs' dream memories are largely episodic rather than fragmentary autobiographical memories and contain no demonstrable distortions.
- Grubbs' dreams suggest that dreams involve subliminal emotional processing of past experience that includes past-life experience if relevant to, or unresolved, in the present life.

Episodic memories of the present life are estimated to appear in 1–2% of dream reports (Fosse et al., 2003), much less commonly than more fragmentary autobiographical memories do (Malinowski & Horton, 2014b). Apparent past-life memories sometimes surface in dreams as well, albeit rarely, accounting for only 0.9% of a cross-cultural sample of exotic dreams collected by Krippner and Faith (2001). With children, past-life dreams typically are less important than waking memories, whereas with adults, dreams are likely to be the main or sole vehicle for the recollections (Matlock, 2019a, 2019b). Dreams alone seldom furnish enough information for the previous incarnation to be identified—one reason there are many fewer “solved” adult cases than child cases (Wehrstein, 2017)—but occasionally, dreams have furnished sufficient information to permit identifications (Grubbs, 2006; Matlock, 2022; Rawat & Rivas, 2021, 88–91; see also Hassler, 2018, although here, along with dreams, there were waking flashbacks).

The dreams of Angela Grubbs, a Georgia-born lawyer now residing in Tennessee, are exceptional in their extensiveness and consistency with what is known about the life of a deceased individual, a nurse named Francine Donovan (Matlock, 2019a). Grubbs's dreams are rendered more important by her having recorded them in writing before many of their details were verified. Grubbs's case is one of fewer than three dozen reported cases in which past-life memories were documented prior to verification, what Schouten and Stevenson (1998) called “before” cases (Matlock, 2021).

Unfortunately, because Grubbs (2006) related her story in a fictionalized format designed for a general readership, it is not well known by the research community. Hassler (2020) discussed the case, but his analysis is limited by sources available to him at the time. Although my investigation came over 20 years after Francine Donovan's identification, I am able to correct distortions in Grubbs's (2006) novelistic ac-

count, drawing on contemporary emails and documentation she provided me, along with interviews with her, her parents, her ex-husband, and a friend who accompanied her on a visit to Lexington, Kentucky, the site of Donovan's life and death, in April 2003. In early September 2023, I visited Lexington in the hopes of tying up loose ends. I argue that Grubbs's dreams represent scenes from Donovan's life as reflected in marriage notices, obituaries, and other items. A secondary concern of the paper is to improve our understanding of the past-life memory sources of dreams.

Francine Donovan died in 1923, 48 years before Grubbs was born. In childhood and later, Grubbs had dreams of an apparent intervening life as a Spanish-speaking girl. Although this intervening life seemingly has had an influence on Grubbs, primarily in her attraction to the Spanish language and interest in Latin America, her memories of it are much less well developed than her memories of Francine Donovan and the girl has not been identified. Consequently, I focus on Grubbs' reminiscences of Francine Donovan. A timeline of developments in the case is presented in Table 1.

Waking Memories and Dreams of Francine Donovan

Angela Grubbs was born on December 18, 1971. As a young child, she played at nursing and was obsessed with medical paraphernalia and practices, to the point that her mother was convinced she would go into the medical profession as an adult. At an early age, she showed herself to be solicitous and caring for her family. Growing up, she was attracted to articles from the early 20th century. When she was about 10, she began collecting replica Steiff teddy bears from that era. Beginning when she was 20 and started living on her own, she has decorated natural Christmas trees in the Edwardian fashion, with vintage-looking lacy ornaments and pearls.

Angela was obsessed with old automobiles and exhibited a difficult-to-account knowledge of them. From about age 4, she would talk about car rumble seats and search everywhere for one. When she was 7, her parents took her to a vintage car show, where she spotted a car with a rumble seat. The owner allowed her to sit in it. "Mama, look!" she exclaimed. "This is where you ride when you get married!" (Grubbs, 2006, pp. 80–86).

Table 1*Timeline of Events in the Case of Angela Grubbs*

Date	Event
January 31, 1895	Francine Donovan born in Lexington, Kentucky.
before 1915	Francine trains to become a nurse.
April 22, 1919	Francine marries Augustine Klair Weitzel.
October 15, 1919	Klair purchases house on East Maxwell Street in Lexington.
March 17, 1920	Margaret Elizabeth Weitzel born.
June 3, 1922	Charles Jerome Weitzel born.
February 24, 1923	Francine dies in Lexington, Kentucky, at age 28.
December 18, 1971	Angela Grubbs born in Atlanta, Georgia.
c. 1975-c. 1985	Angela has recurring Honeymoon Dream.
c. December 1999-c. May 2001	Starting at age 28 when she is pregnant with her first child, Angela has a series of other dreams she gradually realizes are from the same person's point of view.
mid-May 2002	Angela emails accounts of five of her dreams about Francine to her friend Liz.
c. May 25, 2002	Angela has Park Dream, hears names Francine Donovan, whose husband's name is "Claire" or "Cal."
c. May 27, 2002	Angela begins searching for Francine Donovan.
May 28, 2002	Angela contacts Franklyn Prieskop, Francine's great-grandson-in-law, who is doing genealogical research on his wife's family.
c. July 8, 2002	Liz goes to Lexington, Kentucky, on a business trip, visits cemetery and photographs the graves of Francine and Klair Weitzel.

July 10 and 15, 2002	Angela emails Prieskop texts her dreams of Francine Donovan, including the Park Dream, for his appraisal.
April 11–14, 2003	Angela travels with Liz to Lexington. While there, they determine the accuracy of several details of Angela’s dreams about Francine Donovan.
2006	Angela self-publishes <i>Chosen to Believe: Present Dreams, Past Lives</i> , in which she tells her story in a slightly fictionalized narrative.
July 27, 2023	Independent investigation of case begins.

During the same period, Angela dreamed of being a young woman, walking down the hall of an opulent hotel, her right arm locked in her new husband’s left arm. On her husband’s right was an important man from the hotel. Somehow she knew that her husband’s family was in the hotel business and that they had arranged this tour. The hotel man was talking, but she was not paying attention, wanting only to savor the moment. Suddenly a fire alarm sounded and she was instructed to go outside and wait. She was separated from her husband, which made her unhappy, although she had the feeling that they were not in any real danger. Over the years, as this dream recurred, it came with different endings. In one ending, the woman saw her husband walking with other women and felt angry and scared of being alone. In an alternate ending, she was greatly concerned about something she had left in the closet of her room. She came to refer to this as her “Honeymoon Dream.”

Angela had five related dreams starting in early 2000, when she was 28 (the age at which Francine Donovan died) and pregnant with her first child. The dreams began shortly after she went to see the 1998 movie, *What Dreams May Come*, the story of a man who dies in an automobile accident, then discovers that his wife has killed herself out of grief over his loss (<https://www.imdb.com/title/tt0120889/>). Angela uncharacteristically had a crying fit and had to leave the theater because she was so upset, apparently the only audience member to have such a reaction. She missed the end of the movie and refuses to watch it again.

Angela wonders whether *What Dreams May Come* acted as a subliminal prompt for her memories of Francine Donovan, which surfaced in dreams over an 18-month period beginning soon after the movie screening and continuing through the sum-

mer of 2001. Angela is not certain of the order of the dreams, so I have arranged them chronologically in terms of Francine's life. The narratives I present below are drawn from Angela's emails to historian and genealogical researcher Franklyn Prieskop on July 10 and 15, 2002. These accounts were based on a dream journal no longer in Angela's possession. Before emailing Prieskop, Angela sent similar accounts to her friend Liz, but although Liz confirms having received them, she has lost the electronic files; thus, these early records are not extant, either.

Potatoes! I am in a cellar. I have been sent down by my sister to get potatoes. They always send me down to get potatoes because they don't want to get their aprons dirty. I'm not real happy about getting mine dirty either! My apron is white. It's damp down here. There are stairs over to my left.

Next: I have the potatoes gathered in my apron. I am at the end of an elongated kitchen. There are women around me. My attention is drawn to a woman leaning over the sink, scrubbing potatoes. In front of her are windows. It is daylight. The windows are unique. They are smaller than normal windows and run from in front of the sink along the counter towards me. Not the entire counter beside the sink, but most of it (it's not that big). I am taking the potatoes to her.

Shopping for Shoes. I am walking on a sidewalk. I am looking down at my hand. I have on white gloves and there are 3 large gold coins in my hand. I am looking at the coins, but my attention is drawn to my wrist. The sleeve to my dress at the wrist has a pretty blue trim. I added the trim to the dress. I am dressed in my best clothes. I am going to buy shoes. The store is ahead of me to the left.

I look up and see the city. I am walking along the left side of the street on the sidewalk. People are crossing the street back and forth. They are crossing in the middle of the street. Ladies are dressed up with hats and colorful long dresses. The buildings are short and boxy. None appear to be over 4 stories. There is no intersection at the end of the street, the street just seems to end into nothing.

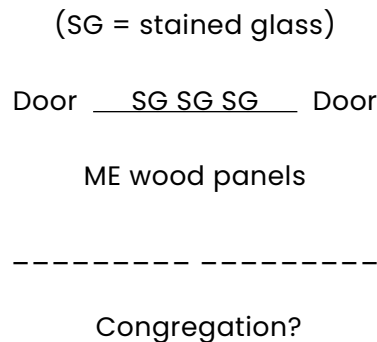
I am in the shoe store. I am lacing up a pair of pumps on a stool.

The Church. I am in a church. I am holding out my left arm straight to my side. My left arm is covered in white draping material. I am touching the wall. This is my wedding day. I look down and see all the material. I am at the entrance to the church, just inside. I know that when I entered, I turned

left. People are fixing my dress behind me. I look up to my left and see tall beautiful stained glass windows. They are narrow and tall (elongated). I feel Catholic. I feel very happy and at peace.

The stained glass is incredible. It looks like it is glowing! Underneath the beautiful stained glass (that starts right above the head level) are dark wood (mahogany?) square panels on the wall. The wall to my right ends with an open space and begins on the other side closer to the other door (like the congregation would be to my right after the wall ends). There is another door on the other side of the church in the direction I am facing. That door is open. I can see light pouring in on the other side of the church. Other than the glowing stained glass and other open door, it is kind of dark.

Here is a rough drawing (I hope it transmits right).



(With this diagram Grubbs meant to convey that as she was standing in the church foyer, she looked up and saw tall, narrow stained glass windows on the front wall, above her head. The wall of the foyer beneath the windows was faced with dark wood panels, with exterior doors on the left and right. An opening in the interior wall of the foyer led into the sanctuary, where the congregation sat).

The Train. I am on a train. There is wood paneling and I can feel the vibrations of the train. I am upset with my family. I feel alone and a bit abandoned. I am on my honeymoon and my husband has decided to have a business meeting on the train. He's older than I am and a bit serious. I'm upset with my family because they were worried about the safety of the train. I'm also upset because they didn't come along with us. I say to myself that trains are nothing new and they shouldn't be so backwards. My husband's family is not like this. (I get the feeling that my family is from a lower class than his.)



I see my husband coming. He has on a white long-sleeve shirt with a high neck collar—almost like a tux, but no real fold on the collar. His shirt is slightly unbuttoned and he’s relaxed. He knows I’m upset. We are in a narrow hallway of some sort. He says not to worry, that this meeting is important—business related—and he’ll return shortly. I’m so tired of trains and business/work talk in general. He places both hands on my shoulders and presses me against the wall and gently leans down to kiss me. I literally think to myself that his kisses reach my soul.

Next scene: I am on the train. I’m alone again and turning right into a room or around a corner. There is an oval mirror with gold leaf trim on the wall to the left and I can see myself. This is not me. I’m taller, thinner, and have long dark straight hair. I have on a long white cotton gown-like dress with an open square-shaped opening at the neck/chest area, with long sleeves. I can see my shoulder bones at my neck.

Next: I’m in a room, being “lectured” by my husband’s aunt. I have told her about the business meeting my husband went to. (I cannot tell if I’m still on the train.) I’m in a room with dark furnishings. I care for her and like her a lot. I respect her opinion. She’s telling me about a woman’s place and how I have to allow my husband space to develop his career. He will support the family and I have to support him. She is very made-up with hair up off her shoulders. She is a little overweight.

Next: We are in a wild town. I don’t like it. I don’t feel safe. I hear myself say that, “This is no town for a respectable woman.” My husband is out and I am worried. I am going back to my room to wait for him, but I know I shouldn’t be out walking unaccompanied. I feel lost and stuck in some kind of circular pattern. I believe I am staying with his family for the night—his aunt? I believe I am in New Orleans.

The Empty House. I am in a kitchen. It is the daytime. This kitchen is empty. My husband is behind me. I am looking to my left at the walls. They are painted in bright colors! I hear myself complaining about the paint color to my husband, “who paints a kitchen this color?” In front of me (connected to the kitchen) is another small room—almost like an open pantry/closet area. I step over something when I enter this small area. It is painted a different color than the kitchen. Unbelievably tacky. My husband says it can be painted again and indicates it is no big deal. He is laughing at me.

He has picked out this house and wants me to look at it. It doesn't have any furniture. The previous owners have moved out. I go through the little open closet/pantry into a formal dining room. There is a window in front of me. To my left (standing in the middle of the dining room) is the foyer area. The front door is between the dining room and a living room area. The stairs are in front of the front door to the right. The staircase curves slightly at the bottom. I think this is a really nice house.

We begin up the stairs. My husband is still behind me. As I begin up the stairs, I feel myself reach down and lift my dress. I only make it 4 or 5 steps before I'm almost knocked down by two kids (a boy and a girl) running down the stairs playing and laughing. They almost knock me over and I think how rowdy and misbehaved they are. My attention is drawn to the girl (she's the last one running down the stairs). She has brown straight hair and has on a long dress, but it's short enough that she doesn't have to lift it to run down the stairs. She is holding onto the banister, laughing, as she runs down the stairs. She looks to be about 7. I am pushed up against the wall.

I reach the top of the stairs and then turn left (towards the front of the house). Then, I turn left again. I am in the master bedroom. The master bedroom is in the front of the house over the living room. There is a large (double?) window to my right. My husband is still behind me. I go over to the window and look out. There is a large tree slightly to the left of the window. I look down and I can see some grass and then the street. I think to myself that we are close to the street.

I then feel my husband's arms wrap around me and he kisses me on the side of my neck. I laugh and tell him to stop—that the kids might see us. I turn around and look up at him—although he's not that much taller than me. He is the same one from the train. I wrap my arms around his shoulders and just look at him. He smiles and says, "I'm remembering too." This jolts me awake.

Few of these dreams recurred, as had her childhood Honeymoon Dream, but all stayed with Angela after waking, unlike her regular dreams. All presented from a field perspective, as if she were the person undergoing the experiences. In many instances, images were accompanied by related thoughts and emotions. Several of the dreams featured the man she felt to be her husband, bringing the realization that all were connected. She did not know who these people were, but could not shake the feeling of relation to them, and was disappointed when the dreams stopped coming for over a

year. She began to be concerned that she was going mad or developing a dissociative identity disorder. Finally, in mid-May 2002, she confided in her friend Liz and emailed her copies of the dreams. She appealed to God to either stop the dreams or to reveal who they were about, so she could comprehend them. It was at this point that she had what she calls her Park Dream, an account of which she sent to Franklyn Prieskop on July 15, 2002.

The Park. I am in a park. It is so beautiful and peaceful. I am sitting in the grass on a blanket/throw even though I am aware that there are benches. I don't care about the benches. I want to sit on the ground. I have on a long dress and I'm sitting on my side, leaning on my left arm. Behind me and to my right is a winding sidewalk. The park is well manicured and big. The curving sidewalk (inside the park) disappears behind a large bush to my right. In front of me is a little girl playing in the grass. She is of toddler age. She is leaning over, examining the grass. I know she is my daughter. Behind her is a black iron fence. On the other side of the fence is a road with houses facing the park. I can smell the grass and hear the birds. I am waiting for my husband to get off work and meet us here.

I look to my right and feel excitement when I see someone come around the bush on the walkway. It is my husband. I call to my daughter. I hear myself say "Greta." When he begins to get to us I can feel my pregnant body.

At this point the dream begins to become lucid and I become very aware of a separation of reality and this dream. I immediately get angry and ask myself, "what's my name?" Very clearly I understand/hear/just know my name is "Francine Donovan." I'm starting to wake up and I look again at my husband coming down the walkway. He is smiling and walking towards me. I am stopping this dream. "What is his name?" I hear "Kal." I wake up completely and immediately write down the names.

In a note on this dream made in late 2003, Angela says: "I did not include the entire name 'Klair' in my email to the genealogist [Franklyn Prieskop] because I did not want to scare them away. And, by the time I sent this email, it was already known to me that his name was 'Klair.' I did however record the names 'Claire' and 'Cal' in my personal dream journal." In *Chosen to Believe* (Grubbs, 2006), she supplies additional details:

[Francine] looks over to her husband, now completely in front of the bush with his arms outstretched and a smile on his face. With newfound confi-

dence, [Angela] demands to know, “What is his name?” as a cloud of [her] consciousness begins to cloud his image.

He comes closer and his face becomes clear again. “Claire,” she hears a voice say just as clearly as it named Francine Donovan.

“No,” Angela says in her dream, “that’s a girl’s name. What is his name? Please!” she calls out in desperation. “Cal” she hears in response. She awakens just as Cal is starting to kiss her on the cheek. (p. 96)

Investigations and Verifications (2002–2003)

Within a day or two of her Park Dream, Angela began searching online for Francine Donovan. She quickly found the rootsweb.com record of a Francine Donovan, born January 31, 1895, in Lexington, Kentucky, who married Augustine Klair Weitzel on April 22, 1919, when she was 24. The couple produced two children, Margaret Elizabeth Weitzel, born March 17, 1920, and Charles Jerome Weitzel, born June 3, 1922. Francine Donovan Weitzel died on February 24, 1923, at 28, when her daughter was not quite three years and her son nine months old.

Further research on the family led Angela to a blog post by Franklyn Prieskop, married to Margaret Weitzel’s daughter, who was doing genealogical research on his wife’s family. Angela first wrote to Prieskop on May 28, 2002, declaring her interest in Francine Donovan and asking if he knew if Margaret was called “Greta” and what name Francine’s husband went by. Prieskop replied that as far as he knew, Margaret had been called “Tag,” short for “Tag-along,” a name bestowed by her elder cousins, whom she regularly followed around. Francine’s husband had been known by his middle name (his mother’s maiden name), Klair.

Angela inquired also if the Weitzels had been involved with railroads and if the couple might have ridden on a train on their honeymoon. To this, Prieskop replied that although the Weitzels had no connection to railroads, the Donovans did. Francine’s father and three of her brothers were employed by the railway. He thought he recalled that after their wedding, Francine and Klair had taken a train, but he would have to confirm his memory of this. Later, he wrote to say that the honeymoon train trip he recalled from a newspaper article concerned Francine’s half-brother. He could not confirm that Francine and Klair also had travelled by train on their honeymoon, although neither could he rule out the possibility.

Francine’s name is spelled “Francina” in her official baptismal record but “Fran-

...
cinea" in the Donovan family Bible, Prieskop reported. It is given variously as Francine, Francina, and Franciana in other sources. The most common variant is Francine, which may have been the name she went by, even if her baptismal name was different. Francine was born in Lexington, and grew up there. She completed a nursing program by 1915 (she is listed as a nurse in the Lexington city directory beginning with its 1914–15 edition), probably at Lexington's Good Samaritan Hospital (whose nursing program was initiated in 1893: <https://kyhi.org/good-samaritan-hospital/>).

Francine and Klair likely met at St. Paul's Catholic Church in Lexington, where Francine was baptized and they were married. The Weitzel and Klair families were politically and financially prominent in Lexington in the day; Klair's maternal uncle, William F. (Billy) Klair, was the city boss during these years (Bolin, 2000). Judging by their wedding notices in local newspapers, Francine and Klair were well-respected socialites. Francine was said to be "one of the most popular graduated nurses of the city" and Klair "a prosperous young business man of the city." They travelled to Cincinnati and Chicago on their honeymoon (<https://www.wikitree.com/wiki/Donovan-180>).

Francine died while having teeth extracted "under the influence of gas." The dentist had drawn four teeth without difficulty, but when he was about to pull a fifth, Francine suddenly stopped breathing. An autopsy attributed her death to "a blood clot on the brain, a stroke of paralysis or apoplexy," according to her obituary (<https://www.wikitree.com/wiki/Donovan-180>). Following Francine's death, Klair appears to have spiraled downward emotionally and physically. He left the children to be raised by Francine's sister Margaret, and in his will made Margaret the children's "statutory guardian." He gave up their house, never remarried, and lived by himself in an apartment building adjacent to Margaret's home until his death at 49, from an unspecified illness, on September 10, 1936. He was the proprietor of a restaurant at the time of his death, Prieskop informed Angela (December 8, 2003).

In July 2002, Liz went on a business trip to Lexington. After her meetings concluded, she visited Calvary Cemetery, where Francine and Klair were buried, and located their graves. The name on Klair's headstone was A. Klair Weitzel, confirming that he was known by his middle name. Francine's marker was next to his. From the cemetery, Liz drove to the address recorded on the back of their plot card in the cemetery office. It proved to be a commercial building, and she was able to go in. She described the interior to Angela, but its layout did not match either of the houses of her dreams, nor was it near a park (Grubbs, 2006, pp. 114–121). When Angela relayed the address to Franklyn Prieskop, he informed her that this had at one point been Francine's mother's home. He had another address for Francine and Klair, 207 Woodland Avenue, not far from Woodland Park (Franklyn Prieskop to Angela Grubbs, July 11, 2002).

Angela and Liz traveled to Lexington for four days of research in April 2003. As they entered the city, Angela felt a strong sense of familiarity and directed Liz, who was driving, to make a series of turns that took them to St. Paul's Catholic Church. Over the weekend and the following Monday morning, they visited Calvary Cemetery, the municipal library, the court house, and key addresses in Lexington, compiling a large dossier of materials bearing on Angela's dreams (Grubbs, 2006, pp. 138–196). Angela organized these materials in a binder copied them for me to review in August 2023. She had earlier shared the same materials with Dieter Hassler; they served as the basis of his discussion of the case in 2020.

Follow-up Investigations (2023)

At the start of September 2023, I visited Lexington, Kentucky, in order to see for myself places that figure in Angela's dreams, and try to obtain documentary support for details she had not yet verified. I located Francine's and Klair's graves in Calvary Cemetery and went by St. Paul's Catholic Church and the Good Samaritan Hospital. I walked the length of Curry Street, where Francine had lived with her family before her marriage; drove along East Maxwell Street on the route she would have taken from her home to Woodland Park; and inspected the northeast corner of Woodland Park, where she would have waited for Klair. I did research in the special collections department of the University of Kentucky library and at the Lexington Public Library. The Lexington History Museum unfortunately was closed the days I was there.

I had hoped to obtain the date of Francine's confirmation at St. Paul's, but was told that there was no record of it between 1914 and 1919, the date of her marriage; the church confirmation records did not go back before 1914. Nor was I able to determine the date Francine received her nursing diploma, or where, although in the Lexington city directory I found her identified as a nurse from 1914–15 onward. Unfortunately, records preserved by the University of Kentucky, which has absorbed Good Samaritan Hospital, do not include a list of students in the nursing program in the 1910s: <https://exploreuk.uky.edu/fa/findingaid/?id=xt7m901zd842>.

I was unable to find photographs of Woodland Park in the 1910s, although the public library did have a book with a chapter on the history of the park (Birchfield & Birchfield, 2022) which suggested that its appearance then would have been consistent with Angela's dream, and saw for myself that a city street bordered the park from close to its corner near the terminus of East Maxwell Street. Also, a search of archival photographs posted online by the University of Kentucky turned up a picture of North Limestone Street,

showing a shoe store at the end of a block, with the cross street under construction beyond it, consistent with Angela's Shopping for Shoes dream (see below).

Later in September, I interviewed Angela's parents and her ex-husband. I had already spoken with her friend Liz. The chief purpose of my interviews was to assess the validity of Angela's story as told in *Chosen to Believe* (Grubbs, 2006). Consistent with what Angela had told me, I concluded that the book is a lightly fictionalized autobiographical account. All names other than Angela's are changed and her ex-husband's nationality is altered, but except for minor, insignificant details, the story it tells of Angela's fundamentalist Baptist upbringing, her dreams about Francine Donovan, and her attempts to verify them stood up well. I discovered nothing to make me believe that the narrative had been altered in any important way.

Franklyn Prieskop responded to my email queries in October 2023, supplying new details about Francine's life. Francine's granddaughter, to whom he had been married, was then deceased. However, as Francine and Klair's principal heir, Prieskop's wife had received some of their furniture as well as monogrammed silverware and china in a pattern Angela recognizes as similar to hers. Klair decided to expand their tableware to "at least a setting of 12," Prieskop wrote. Angela reports that she had "always thought silver and china is stupid unless you actually use it."

Correspondence of Angela Grubbs' Dreams to the Life of Francine Donovan

In this section, I discuss Angela's dreams in relation to what is known about Francine Donovan, beginning with her childhood Honeymoon Dream.

The Honeymoon Dream. Angela had the feeling that this dream was about her honeymoon, for which Francine and Klair are known to have gone to Cincinnati and Chicago. No record of a 1919 hotel fire in either city has been located, perhaps because it was too minor to make the news. Angela's sense in the dream that Klair's family was in the hotel business is confirmed: Two of his uncles owned the Leland Hotel in Lexington, although they sold it about this time (Grubbs, 2006, p. 167).

Potatoes! The 1914–15 and 1917 Lexington city directories show Francine living with her family at 410 Curry Avenue. When Angela and Liz tried to find this address in April 2003, they discovered that the house had been replaced by a gas station. The houses along the street were similar to one another, however, and at least one had a series of unusual half-windows of the sort Grubbs had dreamed about. The 1917 city direc-

tory records nine people living at 410 Curry Avenue—these were Francine, three of her elder sisters, and their mother, consistent with a kitchen occupied by several women. By September 2023, all but one of the Curry Street houses were gone, replaced by a construction site. The siding and windows of the remaining house had been replaced, so no half-windows were to be seen, but it was built on a slope with indications of a basement at the rear.

Shopping for Shoes. The shoe store to which Francine was headed was very likely Feeney's Shoe Store on North Limestone Street. This store is shown in a photograph dated 1920–21, situated on the left side of North Limestone, at the end of a block, with a cross street then under construction (https://exploreuk.uky.edu/catalog/xt7qrf5k-b01p_185_1?q=Shoe+Store&format%5D%5B%5D=images&per_page=20). City directories list a William Feeney under the heading of Shoes–Retail Sales with an address (perhaps a home address) three blocks from the store, from 1914–15 onward. Thus, although we cannot document the existence of the Feeney Shoe Store in the last block of North Limestone before 1920, it is possible that it had been in existence for some years at that date. Angela was impressed with the consistency of this photograph with her dream; it even showed the shoe store was at the end of the block, she said, although since this detail was not included in her dream, I have not counted it as a hit.

In her dream, Angela recalled seeing three gold coins in her hand as she approached the store. Several gold coins were in circulation in the 1910s, in \$2.50, \$5, \$10, and \$20 denominations (<https://www.jmbullion.com/coin-info/us-gold-coins/>). The detail of adding blue trim to her sleeves is noteworthy, because Francine wore a blue travelling suit for her wedding, suggesting that blue was her favorite color. In fact, in Angela's images of Francine, she was regularly dressed in white and blue, Angela's favorite colors.

The Church. Angela was able to confirm several elements of this dream in April 2003. Standing in the church foyer, Francine looks up and sees tall, narrow stained glass windows on the front of the church. The lower interior of the foyer, beneath the windows, has dark wood paneling. Except for paneling on the front wall, none of this matched the appearance of the church foyer in April 2003, but Angela encountered a woman on the building's historical preservation committee who took her behind the renovations completed after 1923. They climbed a flight of stairs to a choir loft, from which Angela saw a pair of tall, narrow stained glass windows that had once graced the front wall of the church. An opaque protective film covering the windows meant that the stained glass was no longer visible from outside and a ceiling added to the foyer made the windows invisible from below in 2003 (Grubbs, 2006, pp. 149, 172–175).

The church was closed during my visit in August 2023, and I was unable to enter to see the current layout of the foyer.

Although Angela interpreted this dream to be about Francine's wedding, Francine's wedding dress was blue rather than white, and Liz suggested the dream may have been about Francine's confirmation instead (Grubbs, 2006, p. 192). According to canon law, Angela would have had to have been confirmed before being married in the church, but the date of her confirmation is unknown. St. Paul's church has no record of it between 1914 and her marriage in 1919. Hassler (personal communication, November 2023) points out that it is "draping material" that is said to be white; Angela did not note the color of Francine's dress, so it is possible that this dream does indeed depict preparations for Francine's wedding.

The Train. Although it has not been possible to verify that Francine and Klair rode the train on their honeymoon to Cincinnati and Chicago, it seems possible that they did, inasmuch as one of Francine's brothers is known to have ridden the train on his honeymoon. In her dream, Angela was aware that Klair was in a business meeting on the train. She felt "so tired of business/work talk." She also had the impression that Klair was older than she was and that he came from a better family than she did. Klair was indeed a few years older than Francine; he was born in 1887 and she in 1895. His family was prominent on the Lexington business as well as political scene and their wedding announcement identified him as "a prosperous young business man of the city." Francine was the only professional woman in her family, which had a distinctly lower social status than Klair's.

Angela recalled seeing Francine reflected in a mirror, looking very different from herself. Unfortunately, it has not been possible to obtain a photograph of Francine, so what she looked like is not known. When Angela saw a photograph of Klair's uncle Billy Klair, she was struck by his close resemblance to Francine's husband, as he appeared in her dreams. Francine's Klair had an aunt, Mary Slavin, who was active in her community and described as a "quintessential socialite" (Grubbs, 2006, pp. 166, 167).

Francine's being upset about her family's concern about trains seems odd, given that her father and three of her brothers were railway employees (her father was a flagman; her brothers were locomotive engineers). There is no known connection of the Klair family to New Orleans, the city Angela felt was associated with the dream's last scene. However, the Louisville and Nashville (L&N) Railroad system connected New Orleans as well as Cincinnati to Lexington: https://en.wikipedia.org/wiki/Louisville_and_Nashville_Railroad#/media/File:1901_Poor's_Louisville_and_Nashville_Railroad.jpg.

The Empty House. The building Franklyn Prieskop identified as Francine and Klair's residence, 207 Woodland Avenue, turned out to be a commercial property in 2003, as well as earlier. The 1923 Lexington phone directory, organized by street, lists this address as the American Shoe Hospital, with other businesses flanking it. In the Lexington courthouse, Angela and Liz discovered the record of Klair's purchase of a two-story brick house at 135 East Maxwell Street, on October 15, 1919, six months after his marriage to Francine (Grubbs, 2006, p. 188). The house has since been replaced by the University of Kentucky Good Samaritan Hospital Diagnostic Center, but the general description of the house Klair purchased matches the house in Angela's dream.

The children who figured in the dream running down the stairs and pushing Francine aside could not have been her children. Her daughter Margaret was not born until March 1920, and Klair had no children by a previous marriage (he was a bachelor when he married Francine, then a spinster). In the dream, Francine did not feel them to be her children. Perhaps, as Angela suggested in an email to Franklyn Prieskop (July 15, 2002), they were relatives Francine and Klair had with them on that day, but there is an unrealistic feel to the account that suggests that this element may have been introduced by Angela's dreaming consciousness.

The Park. When they visited the area in April 2003, Angela and Liz discovered a 19-acre urban park, Woodland Park, whose northeast corner is near the end of East Maxwell Street, a few blocks from where Francine's and Klair's house stood. The appearance of the park was different in some respects from Angela's dream. Although the park was bordered by streets and houses, it had no iron perimeter fence and there were no benches. In the century that had passed since Francine's time, many changes evidently had been made. The park, however, was in existence in her day, the grounds having been acquired by the city of Lexington in 1902 (Birchfield & Birchfield, 2022, p. 132). A wooden perimeter fence was dismantled after 1904 and the city considered replacing it with a wire fence (Birchfield & Birchfield, 2022, p. 133, citing a local newspaper story), although it is not clear that this was done.

In the Spring of 1922, Margaret would have been two years old and Francine would have been pregnant with Charles, who was born in June of that year. It is possible that Francine visited Woodland Park regularly and waited there for Klair to return from work. The name by which Francine called her daughter is not known, but she may well have used a nickname, because Francine had a sister named Margaret, and Margaret also was their mother's name. The "Tag" sobriquet which followed Margaret (Greta) in later life was given to her by the cousins with whom she began to live following Francine's death in February 1923.

Table 2*Correspondence of Angela Grubbs' Dreams to Francine Donovan*

Memory Detail	Correspondence to Francine Donovan
The Honeymoon Dream	
There was a minor fire in the hotel in which she stayed on her honeymoon.	Unconfirmed, but conceivable.
Her husband's family was in the hotel business.	Correct; two of Klair's uncles owned the Leland Hotel in Lexington.
Potatoes!	
She was sent down to the basement to collect potatoes.	Unconfirmed, but conceivable. A house in the same street had indication of a basement in 2023.
There were many women in the kitchen.	Unconfirmed, but plausible. Francine lived with eight other family members, including two older half-sisters and two older full sisters, as well as her mother.
The kitchen windows were unusually narrow.	Unconfirmed due to the house having been removed, but plausible. At least one other house on street had a series of half windows on one side in 2003.
Shopping for Shoes	
She had three gold coins in her hand.	Unconfirmed, but plausible. Several gold coins were in circulation in the 1910s.
She had added blue trim to the sleeves of her dress.	Unconfirmed, but plausible.
She was headed for a shoe store on the left side of a street.	Unconfirmed, but plausible. A photograph from 1920-21 shows Finney's Shoe Store on the left side of East Limestone St.
The street ended without a cross street.	Unconfirmed, but plausible. The 1920-21 photograph of East Limestone St. showing the shoe store shows the block ending without a cross street, which was then under construction.
Men and women walked back and forth across the street.	Unconfirmed, but plausible.

Women wore colorful dresses.	Unconfirmed, but plausible, given 1910s clothing styles.
She tried on pumps in a shoe store.	Unconfirmed, but plausible, consistent with 1910s fashion.
The Church	
From the foyer, one could see tall stained glass windows.	Correct for Francine Donovan's lifetime, confirmed by sight in 2003.
There was dark wood paneling on the walls beneath the stained glass.	Correct for Francine Donovan's lifetime, confirmed by sight in 2003.
She was wearing white draping material over her dress.	Unconfirmed, but conceivable. Francine's wedding dress was blue, but she could have worn white draped over it.
It was her wedding day.	Unconfirmed, but conceivable, if Francine wore white draping material over a blue travelling suit.
The Train	
She was on a train during her honeymoon.	Unconfirmed, but plausible. The rail line through Lexington extends north to Cincinnati and Chicago, where Francine and Klair traveled on their honeymoon.
Her husband was a little older than she was.	Correct. Klair was 8 years older than Francine.
Her husband was conducting business on the train.	Unconfirmed, but plausible. In their marriage announcement, Klair was called "a prosperous business man."
Her family was concerned about the safety of the train.	Unconfirmed, and although conceivable, rather odd, because several men in her family were employees of the railway; however, it is possible that they therefore had more concerns about trains than the general public.
Her husband was dressed in a long-sleeve shirt with a high collar.	Unconfirmed, but plausible; appropriate men's attire for period.

Reflected in a mirror, she (Francine) had a very different appearance than her present self (Angela).	Unconfirmed, but conceivable. No photographs of Francine have been found that could show whether or not there is a resemblance between Francine and Angela.
She was wearing a long white cotton gown-like dress.	Unconfirmed, but plausible; appropriate women's attire for period.
She was lectured by her husband's aunt.	Unconfirmed, but plausible; her husband is known to have an aunt.
This lecture may have occurred in New Orleans.	Unconfirmed, and although conceivable, unlikely. The L&N rail line through Lexington reached New Orleans. However, the Klair family had no known connections to New Orleans
The Empty House	
Her husband has picked out a two-story house for her to look at.	Unconfirmed, but plausible. Klair purchased a two-story house in November 1919, 6 months after he married Francine.
Going up the stairs, she is almost knocked down by two children.	Unconfirmed, and although conceivable, rather odd. Although it is possible that these were the children of relatives, they would not have been Francine and Klair's children.
The Park	
She is in a large park waiting for her husband to get off work.	Unconfirmed, but plausible. The northeast corner of 19-acre Woodland Park is a few blocks down the street from where Francine and Klair's house stood.
The park was surrounded by an iron fence.	Unconfirmed, but conceivable. Fence not present in 2023, but might have existed earlier.
There was a curving walkway.	Unconfirmed, but conceivable. In 2003 and 2023, Woodland Park was observed to have curving walkways.
There was a bush by the walkway.	Unconfirmed, but conceivable. Small bushes as well as trees were observed in 2003 and 2023.

There were benches.	Unconfirmed, but conceivable. Benches were not present in 2003 and 2023, but could have existed earlier.
She had a toddler daughter.	Correct for Francine in Spring of 1922. Francine’s daughter Margaret was born on March 17, 1920.
Her daughter’s name was Greta.	Unconfirmed, but plausible. Florence likely called Margaret by a nickname, as Margaret was also the name of one of her sisters and their mother.
She was pregnant.	Correct for Francine in Spring of 1922. Her son Charles was born in June of that year.
Her name was Francine Donovan.	Correct.
Her husband’s name was Cal.	Unconfirmed, but conceivable. We do not know if Francine used “Cal” as a pet name for her husband. At the time she wrote out this dream, Angela was aware that the name was Klair. Elsewhere, she says she heard the name in the dream as “Claire,” which would be correct.

Details of the apparent memories abstracted from Angela’s dreams are listed, along with their correspondence to Francine, in Table 2. Of the 37 items, none are demonstrably false. Eight (22%) are judged Correct and 29 (78%) Unconfirmed, in regards to what is known about Francine’s life. Of the 29 Unconfirmed details, 16 are plausible and 13 are conceivable, although three of the conceivable items seem odd (Francine’s family’s purported fear of railroads; the children in the House dream) or unlikely (meeting with Klair’s aunt in New Orleans).

Discussion

The oldest written accounts of Angela’s dreams—her dream diary and her emails to Liz—have been lost. The earliest extant written accounts appear in emails to Franklyn Prieskop on July 10 and 15, 2002, six weeks after Angela identified Francine Donovan as the protagonist of her dreams. There are no extant records from before Francine Donovan was identified, so if that is the standard of a “before” case, Angela’s case does not qualify. However, Angela sent accounts of the dreams to Prieskop before she verified many of their details, so her case does meet the (some might say lesser) standard of documentation before verification. Angela verified many details of her

dreams through research at the Lexington public library and in the Lexington courthouse in April 2003, and I verified others in September 2023. The materials Angela and I collected are important for what they tell us about the life of Francine, Klair, and their families. Over half (18 of 33) of published “before” cases include documents supporting the previous-life side of the case, obviating reliance solely on witness testimony for confirmations (Matlock, 2021). Angela’s case is another case with documentation on both sides.

In addition to verifications through documents, several details of Angela’s dreams were supported by observations in Lexington by Angela and Liz in April 2003 and by me in September 2023. Two of the houses Angela dreamed about were no longer standing in April 2003—one having been replaced by a gas station, the other by a hospital building—but known or plausible architectural features of both are consistent with her dreams. Angela’s dream of the church foyer and stained glass windows matched the configuration of the foyer before renovations. Her dream of the shoe store on the left side of a street that ended without a cross street is confirmed by an archived photograph. She recalled placing white “draping material” over her wedding dress, which should not have been necessary had the dress itself been white. Angela also displayed behaviors consistent with Francine’s time and place, well before she knew her name, although none except Angela’s childhood play at being a nurse can be related to Francine. The play, however, is a significant datum (see Stevenson, 2000, on children’s play consistent with their past-life memories).

Taken together, the many congruities between Angela’s memories and behavior and Francine’s life are hard to dismiss as chance, and the credibility of various sorts of social construction is undermined by the “before” records. Nonetheless, reincarnation faces obstacles to its acceptance, given its a priori unlikelihood from the point of view of materialist science, and the lack of theoretical understanding of how it might work. Matlock’s (2019b) processual soul theory can help here. Matlock conceives of what reincarnates as a stream of consciousness continuous with embodied life. The stream of consciousness in Matlock’s view is duplex, composed of both conscious and subconscious strata. Clairvoyance, telepathy, and psychokinesis, operating from within the subconscious, provide the basis of perception, communication, and action for a disincarnate consciousness, supporting the persistence of personal identity after bodily death.

A key feature of Matlock’s model is the idea that memories, personality, behavioral dispositions, and other kinds of information are recorded in the subconscious stratum of the consciousness stream. When the consciousness stream possesses a new body, there is a reset at the conscious level and experiences begin to be mediated by the new brain, but at the subconscious level the totality of the previous identity

is retained and continues to influence the new incarnation from within. Under certain circumstances, memories of previous lives may rise into conscious awareness. In Angela's case, we see subconscious influence on her childhood play (and perhaps in her interest in vintage cars, in replica Steiff teddy bears, and in Edwardian Christmas tree decorations), with autobiographical memories of Francine surfacing in her dreams.

Matlock (2019b, pp. 123–136) discusses ways past-life memory retrieval is similar to present-life memory retrieval. Both past- and present-life memories may be cued by sights, sounds, and similarities of circumstance. Often the onset of past-life memories is in response to some event, such as Angela's viewing *What Dreams May Come*. Past-life memories, like memories of the present life, sometimes present as flashbacks and sometimes as episodic memories. Like memories of the present life, past-life memories show recency effects and reminiscence bumps and they tend to be emotionally tinged. They may have either positive or negative valences that vary in their intensity.

Emotional waking-life experiences of the present life seem to be preferentially incorporated in dreams (Malinowski & Horton, 2014a), a characteristic also of past-life dreams. Angela judges all of her dreams to be highly salient emotionally, with a positive valence, although in some she was irritable. She felt "bitchy" when Francine's sisters sent her to the basement for potatoes, on the train before Francine was joined by Klair, and during their tour of the empty house, when Francine was pregnant. Angela's series of dreams is unusual not only for their number and detail, but also for their overall positive emotional tone. This is due perhaps to Francine having died under anesthesia: Angela did not have a traumatic death to recall, unlike Scott Perry, who suffered from recurrent nightmares about a sudden death by drowning (Matlock, 2022); Udo Wieczorek, who dreamed of a man shot during the First World War (Hassler, 2018); or Christina K., who dreamed of dying of smoke inhalation in a burning house (Rawat & Rivas, 2021).

We are only at the start of studying putative past-life dreams, but already it is apparent that comparing them to dreams incorporating memories of present lives is a productive approach. Angela's dreams contain many accurate or plausible images, but this is not generally the case with memories in dreams, most of which constitute autobiographical reconstructions (Hartmann, 2010; Malinowski & Horton, 2014b). Even most replicative posttraumatic nightmares contain inaccuracies (Esposito et al., 1999; Levin & Nielsen, 2007). It is not clear why Angela's dreams should be more accurate than most dreams with memory content (regarding past-life dreams, see Matlock, 2019a). The sole identifiable distortion is the children running down the stairs in the empty house, and even that is not demonstrably wrong. Might the unusual degree of

accuracy in Angela's dreams have to do with her manner of death? The dreams of neither Christina K. (Rawat & Rivas, 2021) nor Udo Wiczorek (Hassler, 2018) include major distortions, however. We do not yet know how to explain why some memories are incorporated in dreams faithfully, whereas others are not, or how the degree of accuracy is related to episodic versus fragmentary autobiographical memories,

The function of memories in dreams also requires clarification. In mainstream research, dreams are believed to play a role in memory consolidation, but this is probably only part of the answer, even if memories are consolidated in the subconscious rather than in a neurological substrate. Past-life memories arising in the waking state typically express "unfinished business" or unresolved psychological conflicts (Matlock, 2019b), so it is probable that past-life memories play similar roles in dreams. Perhaps not coincidentally, Angela experienced her long series of dreams when she was 28. Francine died at 28, leaving two young children and a husband with whom she appears to have been deeply in love. A key function of memory in dreams may be an emotional processing of past experience that includes past-life experience if it is relevant to, or remains unresolved in, the present life.

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Les Sources des Rêves dans la Mémoire de la Vie Passée : Les Souvenirs d'Angela Grubbs sur Francine Donovan, Enregistrés Avant Vérification

James G. Matlock

Résumé: De même que les souvenirs de la vie présente, les souvenirs apparemment liés à des vies antérieures peuvent être inclus dans les rêves. Les rêves de vies antérieures fournissent rarement suffisamment d'informations pour permettre l'identification d'une incarnation antérieure, mais il arrive qu'ils le fassent. Les rêves d'Angela Grubbs sont exceptionnels par leur étendue et leur cohérence avec ce que l'on sait de la vie d'une personne décédée, une infirmière nommée Francine Donovan qui est morte en 1923. Les souvenirs sont en grande partie épisodiques plutôt que des souvenirs autobiographiques fragmentaires. Bien que de nombreux éléments ne puissent être corroborés, les rêves ne contiennent pas de distorsions manifestes. Les rêves de Mme Grubbs sont d'autant plus importants qu'elle les a enregistrés par courrier électronique avant d'en vérifier les détails. La majorité d'entre eux sont apparus peu de temps après qu'elle ait vu le film « *What Dreams May Come* », qui a pu servir de catalyseur. Ce cas ne vient pas seulement s'ajouter aux preuves de plus en plus nombreuses sur la réincarnation, il contribue à l'étude des racines mnésiques des rêves. La fonction des souvenirs dans les rêves pourrait aller au-delà de la consolidation de la mémoire. Un aspect essentiel pourrait être le traitement émotionnel subliminal des expériences passées, y compris les expériences de vie antérieure si elles sont pertinentes dans – ou non résolues par – la vie actuelle.

French translation by Antoine Bioy, Ph. D.

Erinnerungen an frühere Leben als Traumquellen: Angela Grubbs' Erinnerungen an Francine Donovan, aufgezeichnet vor der Verifizierung

James G. Matlock

Zusammenfassung: Wie Erinnerungen an das gegenwärtige Leben können auch scheinbare Erinnerungen an frühere Leben in Träumen enthalten sein. Träume aus früheren Leben liefern selten genug Informationen, um eine frühere Inkarnation zu identifizieren, aber gelegentlich tun sie es. Die Träume von Angela Grubbs sind außergewöhnlich in ihrem Umfang und ihrer Übereinstimmung mit dem, was über das Leben einer verstorbenen Person bekannt ist, einer Krankenschwester namens Francine Donovan, die 1923 starb. Bei den Erinnerungen handelt es sich weitgehend um episodische und nicht um fragmentarische autobiografische Erinnerungen. Obwohl viele Elemente nicht belegt werden können, enthalten die Träume keine nachweisbaren Verzerrungen. Grubbs' Träume gewinnen dadurch an Bedeutung, dass sie diese in E-Mails aufzeichnete, bevor ihre Einzelheiten überprüft wurden. Die meisten erschienen kurz nachdem sie den Film *What Dreams May Come* gesehen hatte, der möglicherweise als Katalysator für die Träume diente. Dieser Fall untermauert nicht nur die zunehmenden Beweise für die Reinkarnation, sondern trägt auch zur Untersuchung der Gedächtnisquellen von Träumen bei. Die Funktion von Erinnerungen in Träumen kann mehr als nur eine Gedächtniskonsolidierung beinhalten. Ein Schlüsselaspekt könnte die unterschwellige emotionale Verarbe-

itung vergangener Erfahrungen sein, die auch Erfahrungen aus dem früheren Leben einbezieht, wenn sie für das gegenwärtige Leben relevant sind oder dort noch nicht verarbeitet wurden.

German translation by Eberhard Bauer, Ph. D.

Memória de Vidas Passadas como Fonte de Sonhos: Lembranças de Francine Donovan por Angela Grubbs, Registradas antes da Verificação

James G. Matlock

Resumo: Assim como as memórias da vida presente, memórias aparentes de vidas passadas poderiam ser incorporadas aos sonhos. Os sonhos com vidas passadas raramente fornecem informações suficientes para que uma encarnação anterior seja identificada, mas, ocasionalmente o fazem. Os sonhos de Angela Grubbs são excepcionais em sua extensão e consistência em relação ao que se sabe sobre a vida de um indivíduo falecido, uma enfermeira chamada Francine Donovan, que morreu em 1923. As memórias são extensamente episódicas (pessoais), ao invés de memórias autobiográficas fragmentárias. Embora muitos elementos não possam ser comprovados, os sonhos não contêm distorções demonstráveis. Os sonhos de Grubbs se tornam ainda mais significativos por ela tê-los registrado em e-mails antes que seus detalhes fossem verificados. A maioria apareceu logo após ela ter visto o filme *What Dreams May Come*, o qual pode ter servido como catalisador. Este caso não apenas se soma às crescentes evidências acerca da reencarnação, mas também contribui para o estudo das memórias como fonte dos sonhos. A função das memórias nos sonhos pode envolver mais do que a consolidação da memória. Um aspecto chave pode ser o processamento emocional subliminar de experiências passadas, incluindo de experiências de vidas passadas caso relevantes para, ou não resolvidas na, vida presente.

Portuguese translation by Antônio Lima, Ph. D.

Recuerdos de Vidas Pasadas como Fuentes de Sueños: Los Recuerdos de Angela Grubbs sobre Francine Donovan, Registrados Antes de su Verificación

James G. Matlock

Resumen: Al igual que los recuerdos de la vida presente, los recuerdos de aparentes vidas pasadas pueden incorporarse a los sueños. Los sueños de vidas pasadas rara vez proporcionan información suficiente para identificar una encarnación anterior, pero ocasionalmente lo hacen. Los sueños de Angela Grubbs son excepcionales por su cobertura y coherencia con respecto a lo que se sabe de la vida de una persona fallecida, la enfermera Francine Donovan que murió en 1923. Los recuerdos son en gran medida episódicos y no recuerdos autobiográficos fragmentarios. Aunque muchos elementos no pueden corroborarse, los sueños no contienen distorsiones demostrables. Los sueños de Grubbs adquieren mayor importancia por



haber sido registrados en correos electrónicos antes de que se verificaran sus detalles. La mayoría aparecieron poco después de que Grubbs viera la película *What Dreams May Come*, que puede haber servido de catalizador. Este caso no sólo se suma a la creciente evidencia de la reencarnación, sino que además contribuye al estudio de las fuentes de memoria de los sueños. La función de los recuerdos en los sueños puede implicar algo más que la consolidación de la memoria. Un aspecto clave puede ser el procesamiento emocional subliminal de experiencias pasadas, incluyendo experiencias de vidas pasadas, si son relevantes para la vida presente o no se han resuelto en ella.

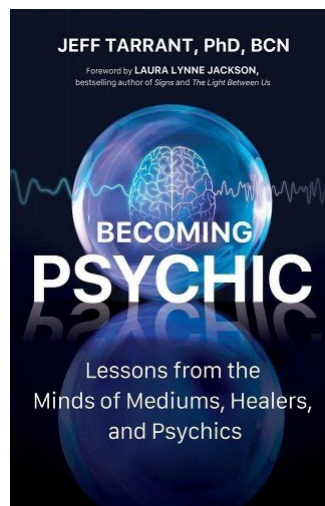
Spanish translation by Etzel Cardeña, Ph. D.

Hacking the Brain for Psi¹

Diane Hennacy Powell

A review of

Becoming Psychic: Lessons from the Minds of Mediums, Healers, and Psychics, by Jeff Tarrant. Health Communications. 2023. Pp, 300. \$17.95 (paperback)



As the title *Becoming Psychic* suggests, one dominant theme in Tarrant's book is his personal experiments with trying to experience anomalous cognition. In it, the author encourages readers to try to develop their abilities by giving some basic exercises and instructions in meditation techniques to quiet their minds for better access to their intuition. His expertise in quantitative encephalograms (qEEGs) also enabled him to look at the changes in his and others' brain waves under experimental conditions that allegedly promote psi experiences such as: sensory homogenization using ganzfeld, holding various crystals such as quartz, being in a psychomanteum (a dark chamber with a mirror), receiving high and low light frequencies via special glasses, and the application of a transcranial magnetic stimulation device to select areas of the brain. The book also tells of Tarrant's personal story of conversion from a skeptic to a believer who proclaims, "I am now convinced that energy healing, mediumship, ESP, telepathy, and psychokinesis are real." (p.xx).

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Like many other books written for a popular audience, the back cover makes overstated claims: “As a “scientist and skeptic, his rigid ideas were gradually worn away as he repeatedly witnessed and experienced things that simply should not be possible.” Tarrant’s account comes across as honest and sincere, but the actual shift in his perspective is far less dramatic than advertised. I wondered early on in the manuscript whether he was ever really a rigid skeptic. For example, Tarrant was fascinated by the supernatural as a young child and confesses to having become “fixated on the idea of alternate realities and magical powers” (p. xiv) after reading Madeleine L’Engle’s *A Wrinkle in Time*. He also reported having regularly read his grandmother’s *National Enquirer* as a child and stated, “I have always felt that I had some untapped potential in the psi world” (p.63).

Tarrant’s “skepticism” began to shift after meeting Janet Mayer, the mother of a student who was assisting him in a biofeedback program at the University of Missouri. Years before meeting Tarrant, Janet had reportedly started speaking an unknown language while doing holotropic breathwork. The mysterious tongue was eventually identified as an extremely rare Amazonian dialect called Yanomami by Dr. Bernardo Peixoto, a shaman from the Uru-e-wau-wau tribe who was a native speaker and an advising anthropologist at the Smithsonian Institute. Although it is hard to know what to make of Janet Mayer’s xenoglossy, her brain mapping with qEEG while engaging in it showed increased theta activity in the frontal lobes and a “hot spot” (p.13) in the right superior parietal lobe.

The most remarkable demonstration of anomalous cognition given in the book is by Laura Lynn Jackson, who wrote the book’s forward. Jackson is a professional “medium” who can allegedly speak with the deceased. She is also reportedly “psychic” in that she has made accurate predictions about the future and known things about people without having been told. She gave Tarrant both kinds of readings while he obtained her qEEGs. Jackson surprised him with her extremely detailed and accurate descriptions of his family members, prediction of his move to Oregon, and knowledge that his grandfather was named Giuseppe. Intriguingly, Jackson’s qEEG was entirely consistent with her reports of seeing psychic information in her left visual field and mediumship information in her right visual field. During the psychic reading her brain exhibited increased fast brain waves (high beta and gamma) in the right occipital lobe (left visual field) and a decrease in fast activity in the frontal lobes. During the mediumship reading it showed an increase in slow brain wave activity (delta, theta and alpha) in the left occipital lobe (right visual field) and a pronounced shutdown of both frontal lobes.

Tarrant’s results with Jackson suggest that brain mapping might be able to dis-

tinguish between different types of psi, such as telepathy (“reading” someone’s mind) and remote viewing (accessing visual information from a distant location). This is an intriguing possibility because parapsychologists often debate whether psi skills all share the same fundamental process. I am an advocate for exploring this question by testing as many individuals with verifiable skills in one or more category as possible. Towards that aim, Tarrant gives his preliminary qEEG results with three mediums other than Jackson. His data implies that, at least to some extent, the brain patterns associated with these tasks might be idiosyncratic to individuals. However, there was one commonality: they all showed increased gamma waves in the posterior brain where the visual cortex is located. Even though this is a very small data set and he doesn’t provide further evidence to support it, he goes on to recommend an herbal tincture prepared specifically for sale by his institute that will allegedly increase gamma waves in the right hemisphere to induce psi.

In his analysis, Tarrant references my book, *The ESP Enigma* (Powell, 2008), where I noted that the neuropsychiatric conditions in which psi was reported the most all exhibited the same reversal of the usual waking brain activity. This reversed pattern includes a reduction in frontal lobe activity (Muzur et al., 2002), which in turn disinhibits the posterior sections of the brain, and a right hemisphere dominance over the left. Together these reversals suspend the judgement of what one thinks is possible. These reversals are seen during dreaming sleep when people who are not normally considered “psychic” can ostensibly get communications from someone in distress at a distance or visitations from the recently deceased (Rhine, 2018; Ullman et al., 1974).

This reversed pattern is also likely to be especially prevalent in autistic children with savant skills. This is because their frontal lobes have not been fully myelinated, their language skills are impaired (left hemisphere deficits), and their savant skills are either visual-spatial or use gestalt processing (right hemisphere). Like Jackson, many savants claim to visualize the answers. That was the case with John and Michael, the autistic twins studied by Oliver Sacks (1985). They could not do simple math, but could do calendar calculations spanning thousands of years and spit out consecutive prime numbers in up to twenty-digits because they just saw the answers.

Tarrant’s book includes my initial testing of “Elisa”, a 13-year-old autistic girl whose family had recently contacted me because they believe she can read minds. Reports of telepathy appear to be a common experience among non-speakers who have recently learned how to communicate by “spelling” on letter boards. They all use a technique called rapid prompting method (RPM), otherwise known as “spelling to communicate” (S2C). RPM was developed by Soma Mukhopadhyay for her autistic son Tito. The method’s rationale comes from the fact that many nonspeaking chil-



dren have intact receptive language but they have a sensorimotor issue that causes an expressive aphasia in which they struggle to use their oral musculature to speak. Similarly, they have difficulties using their upper extremities to write or type. RPM works because it uses pointing on letter and number boards to spell out answers and doesn't require the same level of fine motor control as typing. Over time, the motor abilities of some improve to the extent that they can graduate onto a keyboard.

RPM is a controversial communication method labeled scientifically invalid by the American Speech-Language Association (ASHA) because it requires prompts on the part of the facilitator who holds the letter board. The aim of the prompts is to keep autistic individuals on task because they often have a tendency to fixate on a particular letter or number when spelling out their answers. Due to the active role of the facilitator, the communications obtained by RPM are considered by most speech therapists to be the facilitator's and not their child's. This is not always a correct assumption, because occasionally the child goes on to type independently and eventually proves that they were indeed the communicators. Furthermore, RPM has had some major successes and enabled some non-speakers to go to college. Perhaps the most famous is Elizabeth Bonker. She gave a commencement speech at Rollins College in Florida as class valedictorian.

The issue of telepathy is a hot potato among the spelling community. Mukhopadhyay has actively discouraged it for understandable reasons. She has been working hard to convince the mainstream educational and medical communities to accept these children's communications as their own. Understanding the issues for the non-speakers becomes even more critical when you realize that the numbers of autistic children have soared during the past forty years. The incidence was only one out of every 10,000 children in 1985, but is one in thirty now. Announcing that these children are telepathic could undermine the credibility of Mukhopadhyay's method, so choosing the right course of action in reporting my research has been a fine balance.

Another issue with Elisa is the potential for subtle cueing. Being touched would be considered a red flag from the standpoint of skeptics. However, when many children are first learning RPM, they do best while being touched by a parent. At the time of testing, Elisa had been using the RPM boards for such a short period of time that she required far more assistance from her mother to communicate than desirable. Anxiety also played a role in creating more need for tactile support. That is particularly the case in initial experiments being filmed on camera. To avoid the issues caused by RPM, I have primarily tested under controlled conditions autistic children who are able to speak and/or type independently (Powell, 2015a, Powell 2015b). However, the documentary filmmaker following my research wanted to start by filming

experiments that were being set up for the first time and all of my untested children were using RPM.

Tarrant briefly mentions the concerns I raised over touching and how it could be construed as a source of subtle cueing, but he was also convinced that what he saw was indeed telepathy. I cannot fault Tarrant too much for considering Elisa telepathic. After our experiments the entire sound and camera crew walked away with the same impression. No one visually detected an obvious pattern that could be considered cueing. All told, there were at least ten witnesses, some of whom were filming from multiple camera angles. Nonetheless, the conditions were clearly not optimal for proving telepathy and we cannot definitively say that there was no cueing without more tests and a detailed analysis.

Tarrant's book is primarily written for people who want to have more psychic experiences. Unfortunately, his experiments on himself employ loose criteria for judging whether he had success, or a hit. For example, he tried a ganzfeld protocol in which one of the targets was Princess Diana. He saw a dark-complected man with a beard and mustache. It wasn't until later that he thought about Diana's boyfriend who was killed alongside her and decided that it was a hit. Similarly, he saw a dark-haired man when the target was Mother Teresa and concluded it might have been a hit because he envisioned a man who, like Mother Teresa, had also lived a "simple life" (p.68).

Approaches like meditation that Tarrant recommends are generally very beneficial for many people, but some of the other approaches could do harm. For example, he gives suggestions for ways to try to hack one's brain chemically with drugs like ketamine and/or electromagnetically with a transcranial magnetic stimulation device. I particularly have concerns about the enthusiastic promotion of electromagnetic devices and psychedelic substances that have not been sufficiently tested, especially if someone tries to use them all together and/or without supervision. Tarrant does include a disclaimer that people with conditions such as seizure disorders and mental illness should be cautious, but the warning appears perfunctory and people with undiagnosed mental illness usually do not think of themselves as such. Also, that disclaimer is likely to be ignored by many of today's youth who are accustomed to television advertisements for medications that show their benefits visually while the audio component tells us their potential side effects.

As a clinician with over 40 years of practice, I have treated people who have suffered severe clinical consequences as a result of engaging in self-experimentation with drugs. If someone is very rigid in their thinking, psychoactive drugs can be a

solvent to open them up. The problem is that the group of individuals most attracted to experimentation often includes people who need glue and not solvent. I have seen how easy it is for some people to lose touch with reality, which includes not realizing that they are delusional. One of my patients was in her early twenties when she worked with a shaman and was given Ayahuasca. Her shamanic journey destroyed her life, because she became plagued by visions of demonic creatures for years afterwards and had to go on antipsychotics to control them.

Overall, this book is an easy read and contains some intriguing findings. However, Tarrant's results under various experimental conditions to induce psi are modest and the quality of evidence he gives for anomalous cognition is patchy. Also, his brain mapping is based on a small dataset and the results tend to vary on an individual basis. Furthermore, his book crosses a line or two that gives me great pause to recommend it. My concerns are not just as a clinician worried about unsupervised experimentation. As a parapsychologist, my primary concern is that his criteria for judging one's own abilities are so loose that they could encourage the connecting of dots that are entirely random and unrelated. It is understandable that the author does not want people to become discouraged too easily, but to consider the men he envisioned to have been hits for Princess Diana and Mother Teresa is problematic from multiple standpoints. Perhaps there will be a new generation of gifted individuals who try his techniques and discover their own hidden abilities after reading *Becoming Psychic*, but I suspect that many of the readers already know of their gifts and will primarily find his book a form of validation.

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- Powell, D. H. (2015a). Autistics, savants, and psi: A radical theory of mind. *Edgescience*, 23, 12- 18.
- Powell, D. H. (2015b). Evidence for telepathy in a nonverbal autistic child. *Mindfield*, 8(1), 30- 32.
- Rhine, L. E. (2018). Subjective forms of spontaneous psi experiences. *Journal of Parapsychology*, 82(Suppl.), 54-86.
- Sacks, O. (1985). *The man who mistook his wife for a hat and other clinical tales*. Summit Books
- Ullman, M. & Krippner, S. with Vaughan, A. (1974). *Dream telepathy: Experiments in nocturnal ESP*. Penguin. [Original work published 1973]

Recent Publications of Note 4 (2)¹

Etzel Cardeña

Lund University

Anomalous Experience

Irving, A. J., Nikolova, N., Robinson, S., Ionita, I., Kelly, S. W., Kirsch, I., Mazzoni, G., Venneri, A., & McGeown, W. J. (2024). The relationship between transliminality, hypnotic and imaginative suggestibility, and other personality traits, *Acta Psychologica*, 243(104125). <https://doi.org/10.1016/j.actpsy.2024.104125>. The construct of transliminality, often used in psi research, correlated with measures of absorption, fantasy proneness, dissociation, and various forms of suggestibility. See also Roxburgh et al., below.

Roxburgh, E. C., Vernon, D. & Schofield, M. B. (2024). Sensory processing sensitivity, transliminality, and boundary-thinness as predictors of anomalous experiences, beliefs, and abilities. *Current Psychology* (2024). <https://doi.org/10.1007/s12144-024-06619-9>. Sensory processing sensitivity related to transliminality, boundary-thinness, and having anomalous experiences. See also Irving et al., above.

Sandilands, O., & Ingram, D. M. (2024). Documenting and defining emergent phenomenology: theoretical foundations for an extensive research strategy. *Frontiers in Psychology*, 15, 1340335. <https://doi.org/10.3389/fpsyg.2024.1340335>. A call for a more systematic discussion of the phenomenology of alterations of consciousness.

Anomalous Cognition

Freedman, M., Binns, M. A., Meltzer, J. A., Hashimi, R., Chen, R. (2024). Enhanced mind-matter interactions following rTMS induced frontal lobe inhibition, *Cortex*, 172, pp. 222-233, <https://doi.org/10.1016/j.cortex.2023.10.016>. An important follow-up, and published in a mainstream journal, to a previous study with neurologically damaged participants. In this study, transcranial magnetic stimulation inducing frontal lobe inhibition resulted in a significant PK effect.

¹ This regular feature summarizes 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



Pehlivanova, M., Weiler, M., & Greyson, B. (2024). Cognitive styles and psi: Psi researchers are more similar to skeptics than to lay believers. *Frontiers in Psychology, 15*, 1398121. <https://doi.org/10.3389/fpsyg.2024.1398121>. Measures of open-minded thinking and need for closure found academic psi researchers being similar to academic and lay skeptics in these measures, with lay psi believers being less open-minded than the other groups. These results are based on volunteers and aggregate (average) data, but I think that there are very close-minded exemplars of both pro- and anti-psi positions. See Cardeña, E. (2011). On wolverines and epistemological totalitarianism. (Guest editorial). *Journal of Scientific Exploration, 25*, 539–551.

Silva, J., & Moreira-Almeida, A. (2023). Controlled experiments involving anomalous information reception with mediums: An analysis of recent studies. *Journal of Scientific Exploration, 36*(4), 749–759. <https://doi.org/10.31275/20222575>. An analysis of the recent (few) systematic studies with mediums, reports that supportive results are more likely with previously successful selected mediums, motivated sitters, giving the medium some information about the deceased, allowing him/her to speak freely, using scores for overall reading and individual items, and avoiding a large number of readings.

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JAEX Thanks the Reviewers for Volume 4

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Bruce Greyson, M. D.

Mark Leary, Ph. D.

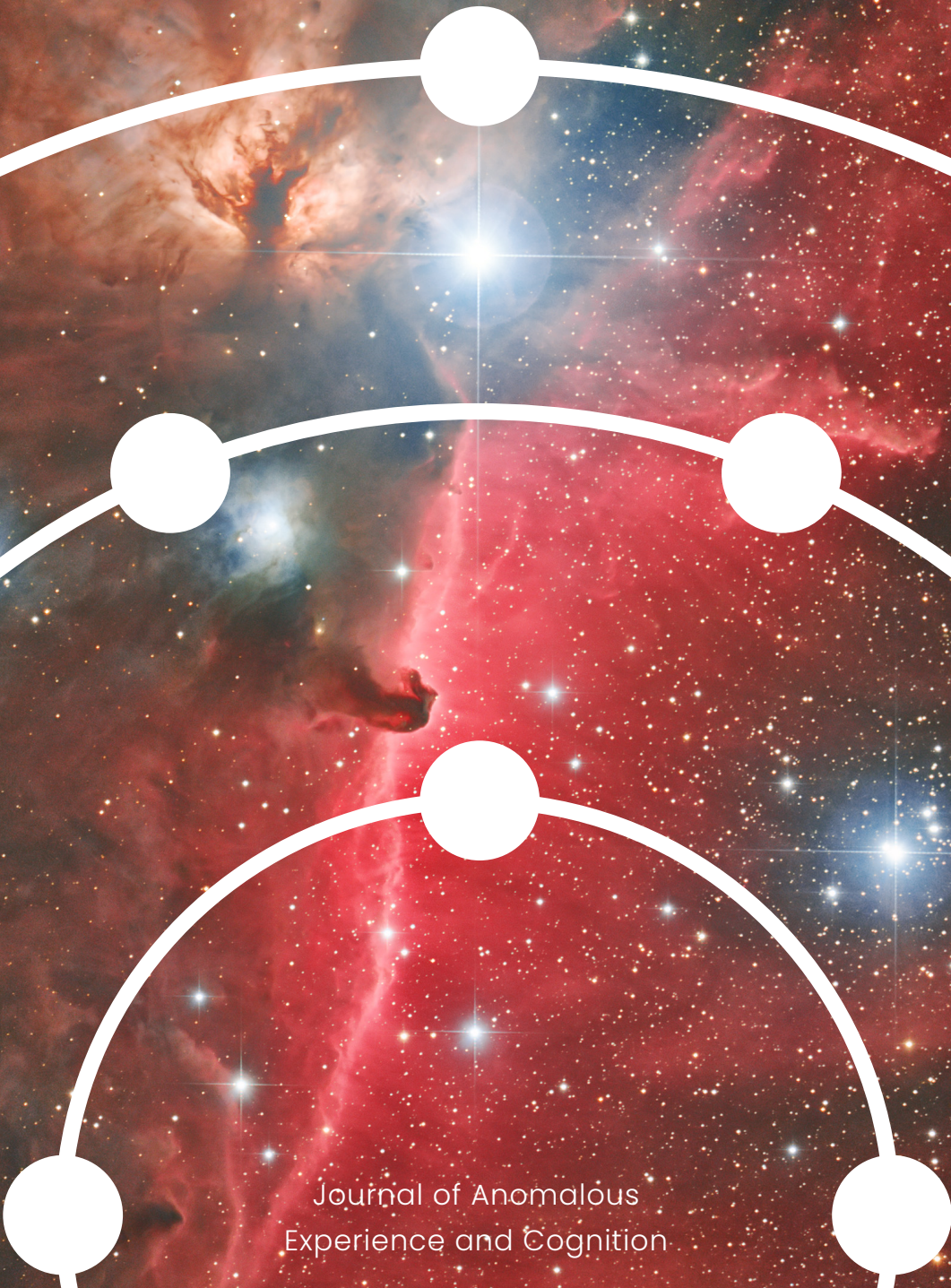
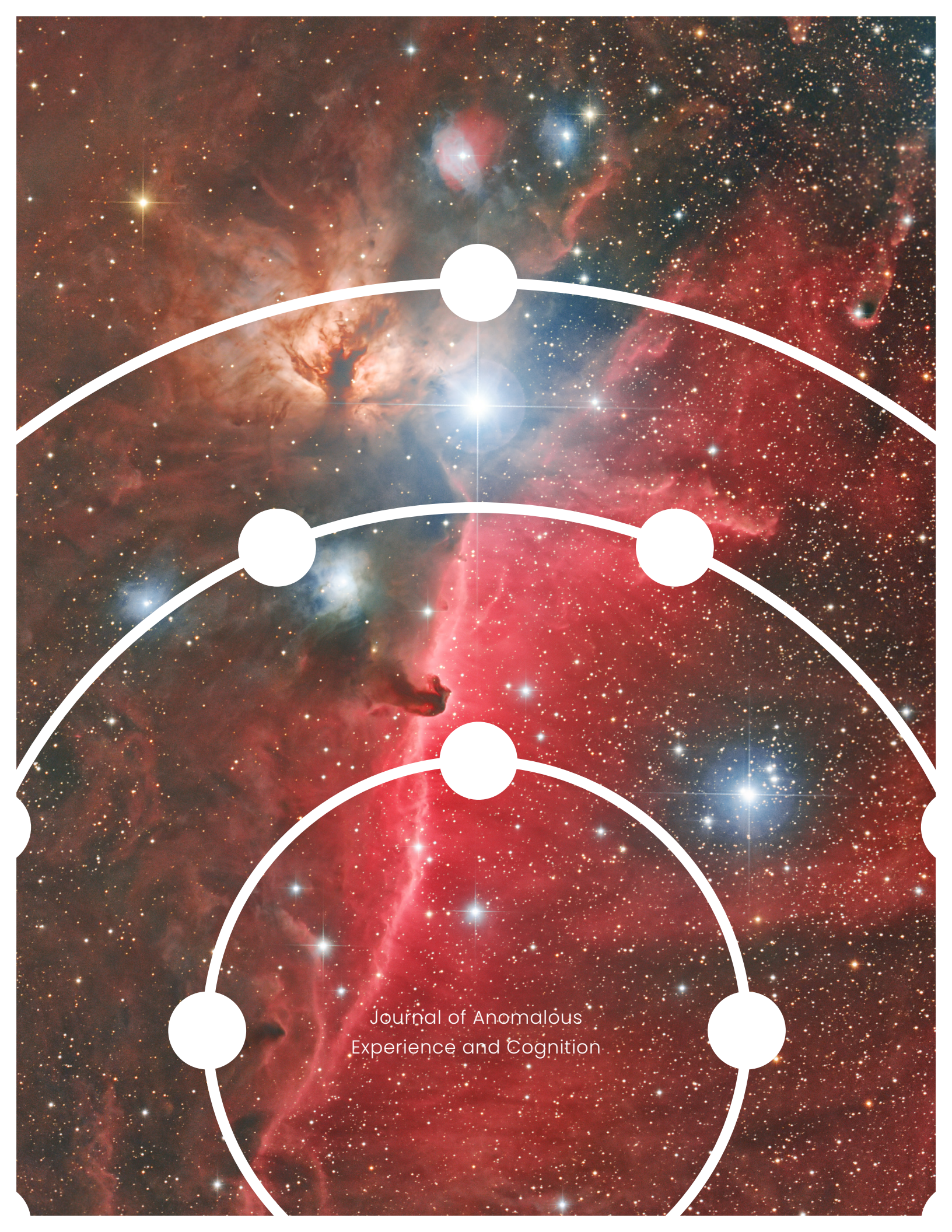
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