



ESSAY

Arguments for Recognizing the Future as Non-Probabilistic: Considerations in the Framework of a Hypothesized Precognition Theory

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HIGHLIGHTS

The debate over whether the future is predetermined or probabilistic cannot be resolved purely through physics or philosophy, but it instead requires considering precognition and a higher-level perspective that challenges the conventional concepts of predictability, causality, and reality.

ABSTRACT

The debate on whether the future is predetermined (fixed) or probabilistic (uncertain) dates back to ancient times but is still ongoing. An essential basis in this paper is the view that a conclusive answer can neither be drawn exclusively from physics nor additionally from philosophical modes of argumentation. It is considered necessary to take a transtemporal process of cognition, which is in parapsychology termed *precognition*, into account. This brings in the new aspect that predictability no longer needs to be synonymous with computability and the analytic describability of causal event chains, which also has an impact on the meaning of the terms that are used. Furthermore, this allows a superior timeless perspective that invalidates the logic from the present-time perspective and extends the concept of observability and reality. Since both subjects are interrelated and cannot be considered independently of each other, a psychophysical hypothesis about how precognition interacts with the future is an integral part of this proposal, its experimental verification is described. This encompasses explanations of how logical paradoxes, which are often attributed to precognition, do not exist and how intelligible information can be consistently shared between the present and the future in four-dimensional spacetime. The argumentation for a non-probabilistic, fixed future comprises the physical point of view, referencing special relativity theory and quantum theory, but considers the nonphysical aspects of the mind with the same matter-of-factness. A similar conclusion that the future is deterministic is not asserted since this term combines causality and predictability in an inscrutable way by making complex assumptions that are not precisely and uniformly defined. A closer description of the problem reveals that the frequently used keywords “deterministic” and “probabilistic” lose their usual meaning if the frame of reference given here is acknowledged. Therefore, many reservations that consider only a probabilistic future as reasonable might be unnecessary.

KEYWORDS

Consciousness, deterministic future, precognition, probabilistic future, retrocausation precognition, psi, unconscious.

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INTRODUCTION

Precognition, a form of extrasensory perception (ESP), refers in psi research to the human ability to access information originating from a future point in spacetime. The experimental investigation was carried out in studies under controlled conditions by different researchers across different types of experiments, exemplary listed in Table 1. Historically, beginning in the 1930s, a major part falls into the category of *forced-choice experiments*, wherein the participant blindly attempts to choose the correct choice within a limited set of possibilities, as this became widely known in card-guessing experiments. In precognition mode (Table 1, 1.1), the *target* or sequence of targets is selected by a random process after the participant has made his/her decision. Modern versions use more sophisticated principles, for example, photographic targets as stimuli, where the perceiver's task is to detect a pleasant or to avoid negative future stimuli within a forced-choice procedure (Table 1, 1.2). Bem (2011), who introduced nine different types of this class of experiments called them, "anomalous retroactive influences on cognition and affect."

A subset that is here of major interest, called *free-response experiments*, use different methodologies (Table 1, 1.3 to 1.5, and 1.7) by which the percipient records weak subliminal perceptions or pre-visual impressions, objectified in simple descriptive adjectives and/or sketches on paper, or verbally tape-recorded, in regard to a future target stimulus. Targets can be photographic images, video clips, or geographic locations, randomly selected from a *target pool* after the participant completed his/her task (later referred to as post-tasking). Together with case studies of spontaneous precognition (see, e.g., Sheldrake, 2012) and dream precognition (Table 1, 1.6), all these subtypes have shown, in addition to statistical values, that intelligible and verifiable information about the future is retrievable.

A procedure that has been used to demonstrate the application of precognition to forecast binary event outcomes—e.g., whether a stock-market price will rise or fall within a defined time interval—is Associative Remote Viewing (Table 1, 1.7). It is a separate topic to discuss why monetary success is limited—in any case, the conclusion that this would obviously reflect a probabilistic future is not substantial because there are many different factors involved, related to the participants and the method itself.

Not listed under the term precognition in Table 1, since purely related to the physiological autonomic nervous system, are *anticipatory effects*. They reveal that some physiological indicators (e.g., skin conductance measure-

ments) respond distinguishably in advance to randomly selected future target stimuli depending on whether they represent, e.g., emotional or calm images. The meta-analysis by Mossbridge et al., (2012), containing 26 reports published between 1978 and 2010, indicated statistical significance (in the most conservative estimate, (95% CI = 0.15–0.27, $z = 6.9$, $p < 2.7 \times 10^{-12}$) while considering reporting bias and study quality. The authors stated in their discussion, "though the ES is small [effect size = 0.21], it is important to note that important scientific and health advances have been made by further examination of effects about half the size of this one".

When introducing this data, it is necessary to make clear that the expectation that psi should be equally reproducible, such as physical experiments, does not do justice to the nature of extrasensory perception. Although individual studies sometimes fail to be replicated, meta-analysis and long-term studies in their various forms stubbornly show a reproducible anomalous deviation of the normal distribution, by some researchers neutrally called "anomalous cognition."

The idea of using such experiments in a specifically adapted form to investigate whether precognition reveals a fixed or probabilistic future was rarely realized. Only a few isolated short-term experiments were reported, whose different experimental procedures and results do not even allow preliminary conclusions. For example, Radin (1988) considered from forced-choice precognition experiments the "probable-futures hypothesis" to be confirmed, whereas Targ and Targ (1986) concluded that the percipient saw the actual future in a free-response precognition experiment, which is the opposite result. The problem here is that the experimental conclusion can depend on the type of experiment chosen (this is a point to which I will return later) and the theoretical frame of reference that the researchers are willing to consider regarding the psi mechanism. The implication is that a clearly and extensively formulated mechanism for precognition should be the very basis, and the chosen experimental verification can always be the second step. Therefore, the current paper is motivated by the task of presenting a convincing hypothesis about how precognition works while at the same time answering the question of whether the future is probabilistic or not. In a separate section, experimental proposals for verification are provided that incorporate the premises outlined here.

Clarification of Problematic Terms: Determinism vs. Non-Probabilism

First, it is important to stress that there is a fundamental problem with the term determinism and its mean-

Table 1. Relevant Studies on Precognition

1.1	Precognitive Forced-Choice (Honorton & Ferrari, 1989)
Scope:	Meta-analysis of 309 studies by 62 investigators (50,000 participants) in the period 1935-1987
Primary Objective:	Investigation of evidence for precognition in a large data pool of forced-choice type experiments
Key-Findings:	A small but highly significant and robust precognition effect, which cannot plausibly be explained on the basis of selective publication bias; "Analyses of precognition effect sizes in relation to eight measures of research quality fail to support the hypothesis that the observed effect is driven to any appreciable extent by methodological flaws..."
StatisticalEvidence:	combined $z = 11.41$, $p = 6.3 \times 10^{-25}$; mean $ES = 0.020$, mean z -score 0.65 over all studies
1.2	Anomalous Anticipation of Random Future Events (Bem et al., 2022)
Scope:	Meta-analysis of 90 experiments from 33 laboratories in 14 countries
Primary Objective:	Discussing the reproducibility on "retroactive influence on cognition and affect" (Bem, 2011)
Key-Findings:	" p -curve analysis, a recently introduced statistical technique, estimates the true effect size of the experiments to be 0.20 for the complete database and 0.24 for the independent replications, virtually identical to the effect size of DJB's [Bem, 2011] original experiments (0.22)..."
StatisticalEvidence:	$p = 1.2 \times 10^{-10}$, $z = 6.4$, $ES = 0.09$ (Hedges' g)
1.3	Precognitive Remote Viewing (Dunne & Bisaha, 1979)
Scope:	8 Experiments collected by 2 inexperienced participants
Primary Objective:	Testing the ability of novice individuals to describe a remote location in a precognitive protocol
Key-Findings:	Successful replication of the earlier Stanford experiment with precognitive remote viewing
StatisticalEvidence:	$p < 0.008$ (one tailed) for the rank order judgements by eight independent judges
1.4	Precognitive Remote Perception (Dunne & Jahn, 2003)
Scope:	336 formal trials in approximately 10 years from PEAR Database
Primary Objective:	Collecting long-term free-response ESP data with analytical refinements
Key-Findings:	Though only about 75% of the data were conducted in a precognitive mode, no significant differences in the effect size (95% confidence interval) were found compared to the real-time and past-related mode; replication of initial precognitive remote viewing via large data pool
StatisticalEvidence:	$p = 1 \times 10^{-10}$ (one tailed), composite z -score = 6.355, $ES = 0.347$
1.5	Precognitive Ganzfeld (Roe, et al., 2020)
Scope:	110 participants in three variations of experiments
Primary Objective:	Confirmation of earlier findings that had suggested that novice participants could perform better than mean chance expectation at a remote viewing task when ganzfeld stimulation was used
Key-Findings:	Replication of precognitive remote viewing with higher effect size and significance compared to the same procedure without ganzfeld stimulation
StatisticalEvidence:	$p = 1.2 \times 10^{-5}$, $z = 4.22$, $ES = 0.4$
1.6	Dream Precognition (Krippner et al., 2002/1971)
Scope:	8 dream transcripts from a single talented research participant
Primary Objective:	Extending ESP dream research specifically on precognitive dreams in a laboratory setting
Key-Findings:	Statistical data supported earlier "anecdotal evidence" from case studies on precognitive dreams
StatisticalEvidence:	$p = 0.00018$, $CR = 3.74$
1.7	Associative Remote Viewing (ARV) to Predict the Financial Market (Müller et al., 2019)
Scope:	48 predictions by 15 participants
Primary Objective:	To determine the hit rate for predictions of the German stock index DAX and to hypothesize what might be influencing factors for the results
Key-Findings:	ARV was confirmed as an applicable approach to predict a binary future outcome above chance level, replicating earlier findings (cited by the authors) beginning in the 1980s
StatisticalEvidence:	$p = 2.3 \times 10^{-5}$, $z = 3.897$, $ES = 0.56$, hit rate 79.17%

ing. According to a widespread understanding, which is a classical one, à la Newton and Laplace, in a deterministic universe would be no coincidence; everything would be programmed like in a hypercomplex clockwork, and nothing can ever happen except what is bound to happen. Negatively emphasized, humans would be slaves in such machinery in which their fate is already programmed prenatal, and no one would have the free choice or “free will” to shape their own life. But, this view is based on an outdated definition since a fully mechanistic causality is a premature assumption that has been smuggled into the word determinism as a matter of course. In mathematical and philosophical papers was already argued that determinism does not require causality (D’Ariano et al., 2014; Romero, 2011). In general, it is appropriate to consider that determinism is characterized by a *lawlike* relationship since not all phenomena regarded as deterministic can be causally interpreted. While it is clear that determinism does not necessarily imply predictability (e.g., in Bohm’s interpretation of quantum mechanics), the premise that knowledge of all causal relationships of a system is the prerequisite for unambiguous predictability is questionable. When considering predictability in the parapsychological sense, there is no reason to uphold such a concept that is based solely on computability. Instead, it will be shown that predictability in precognition is not based on causality. At the same time, the simple term determinism becomes misleading when derived from causality, which should be called *causal determinism* to make the discussion clearer¹.

Because I do not want to confuse the question of causality with the question of predictability, the terms probabilistic vs. non-probabilistic are preferred in this paper to characterize whether there are a number of different possible futures or only one that is certain to occur—reflected in precognitive perception. When the ambiguous term ‘determinism’ still appears in the following sections, this is because it was used in this way in a referenced source or to refer to the concept of causal determinism.

From the Formulation of the Problem to the Essential Point of View

It is acknowledged that physically inspired ESP models, including precognition, have been proposed by physicists (e.g., Costa de Beauregard, 1998; Lucadou, 1995; Marwaha & May, 2015), which are formally well thought out. However, it can be questioned whether they can reach the heart of the matter. I especially miss clear insights into the nature of time and the perceptual process of intelligible information transmission, which cannot be considered of secondary importance. Aside from this

aspect, the hypothesis proposed here starts at the very beginning of the problem by questioning a basic point of view: Of course, an understanding of spacetime that is shaped by the logic of everyday experience compels us to believe in an uncertain future. Our experience and intuition tell us that the smallest “coincidence” can turn an expected future entirely around. When a supposed beginning of a causal chain of myriads of coincidences gradually disappears in ever wider ramifications in the past to nothing, this makes the assumption of a probabilistic and apparently unpredictable future so natural. In addition, many people believe that “free will” is not compatible with a fixed (non-probabilistic) future because it seems to imply that we can no longer control our own destiny. Here lies a further reason to defend a probabilistic nature of time.

But, regardless of whether each smallest distinguishable part of a causal event chain that leads to a specific event is considered fixed (then the final result would be causal-deterministic fixed) or at least some parts of a causal event chain are considered probable or random (then the final result would also be probable), human logic has one stubborn weakness: it is bound on a lawlike sequence of smaller events and decision branches along the course of time. This logic changes completely when considering a larger “reality box” in which a hidden nature of time, conceivable from a relativistic spacetime perspective and time-symmetric interpretations of quantum mechanics (QM) as well, are taken into account.

Brief Summary of Main Argumentation

Beginning with the special relativity theory, (1) an absolute simultaneity of events in spacetime was recognized wrong. (2) Space and time, though different things, are not anymore considered independent; instead, they appeared as already in the Minkowski light-cone diagram in a mathematical relationship to each other, as if merging into one ‘block’, forming spacetime. As a consequence of both, in this block of spacetime, sometimes called the *block universe*, past, present, and future events coexist in atemporal manner on the same footing. Such a block universe is not specific to relativity theory and was probably first mentioned by William James in the 19th century to describe a deterministic world (James, 1956). In physics, the term Minkowski light-cone is more common with the same implication. However, block universe is the preferred term as it was previously used by, e.g., Rietdijk (2007), Cramer (2016), and others to discuss or denote a deterministic conclusion.

It is not asserted that these coexisting tenses in the block universe view are equally real for us or that past

events are “since ever, for ever” “frozen in the block,” as always appears when the philosophical term *eternalism* comes into the discussion. Nevertheless, as formulated clearly by Costa de Beauregard (2000, p. 285), the “non-existence of the future” falls with the advent of the relativity theory.” The assumption that the future does not exist until time has progressed is not true in a special sense when the progression of time is not an absolute, simultaneous phenomenon. The actual controversy is the question of what exactly is meant by “existence” when the non-existence of the future should be reconsidered. Here, not the future events are referenced directly, but the mental content of a future observation of the event. If “mental” is believed to be reducible to the physical, any thinkable exchange between the present and the “already existent” future runs into the problem of forbidden superluminal backward-in-time signaling. Taylor (2014), who adopted rather the materialist view in which conscious awareness is considered to occur only as an epiphenomenon of the neural processes involved, used Bohm’s concept of the implicate order as an approach in attempting to solve the issue of signal transmission. Here, a different approach is taken that refers explicitly to the nonphysical properties of the human mind within a bidirectional process between the unconscious and consciousness, representing an atemporal and temporal milieu, respectively, that allows to consider a connection between the present and an actual future perception which cannot be probabilistic at the same time. In the following sections, this assertion is reasoned in detail, beginning with the physical background. Lastly, it is argued that atemporality might also be attributed to quantum mechanical phenomena, which thus no longer contradict a non-probabilistic conclusion of the future.

DETAILED REASONING FOR THE NON-PROBABILISTIC CONCLUSION

Rietdijk² (1966) published a well-known paper in which he argued in favor of determinism on the basis of the *Relativity of Simultaneity*, which is a central aspect of the special theory of relativity. In his abstract is asserted: “...Only an extreme positivism: ‘That which cannot yet be observed does not yet exist’, can possibly withstand the conclusion concerned. Therefore, there is determinism, also in microphysics.” (p. 341) Ignoring the fact that Rietdijk did not differentiate determinism and non-probabilism, the non-observability concession (on which many complex criticisms are reducible in essence) can be eliminated insofar when observation, in addition to other arguments given here, is replaced by precognitive perception of a future observation. This is the first new aspect

while I otherwise share the same basis—the relativity of simultaneity—as a consequence of the non-existence of a universal time and the inapplicability of a privileged observer.

The meaning becomes clearer in Penrose’s thought experiment³, the *Andromeda paradox* (Penrose, 1989, pp. 260-261), which challenges the common-sense view of an uncertain future. It illustrates the relativity of simultaneity as a relativistic effect even for slow velocities if the distances become extraordinarily large: Suppose two people are walking past each other in the street, then each person is on a different connecting *now-line* in relation to the Andromeda galaxy. At this distance (light needs more than two and a half million years to reach Earth), the time shift to the common moment “now” can differ a couple of days to both people, with respect to Andromeda, only caused by the different direction of the velocity vector when walking past each other in the street. To give this theoretical speculation a more concrete and dramatic effect, Penrose imagined that a space fleet launched from Andromeda Galaxy with the intent to wipe out life on Earth. While for one person, the space fleet is already on its way, for the other, the very decision about this plan has not yet been made!

Now, the question arises of whether there was any uncertainty about the future at all or how to argue that the future was not already fixed for both individuals. Penrose is silent on that question, however, physics can only answer that the future information, if considered “existing” via the common now line, is in no way accessible (so this seems rather a philosophical subject). Physics forbids this because the simultaneity between separated spacetime points is not *Lorentz Invariant*. According to the usual point of view, the relativity of spacetime refers to clocks indicating whether more or less time has elapsed relatively between two distant spacetime events. One aspect is measurable in the well-known time dilatation at high velocities, allowing bodily time travel into the future. Physics permits this only “without a return ticket”, and measurable effects need a high energy input. In the other direction, traveling bodily into the past, is impossible, and under the same paradigm, bringing information back in time from the future seems an impossible scenario as well. This will not be contradicted using the established paradigm of physics, but this is not the only paradigm that can be considered without violating the rules of physics.

Inclusion of a Perceptual Process Beyond the Physical Paradigm

It is out of the scope of this paper to present a rationale for considering the human mind (including the un-

conscious) not only as nonphysical in nature but also as not derivable from physical/biochemical processes alone. Surely, most scientists prefer the view of physicalism that an increasingly better understanding of nerve cell structures and functions can one day explain consciousness. One reason might be that it is difficult to consider something as real or existent, which is neither matter nor an energetic structure that can be objectively measured (to which physics refers). Another reason seems to be the consequence of the mind-body problem that has a long history and became known in *Cartesian Dualism* as one formulation of the problem. René Descartes, who defended this position, was not able to explain in scientific terminology how the mental, considered a reality of its own, can interact with the physical, considered another reality of its own. Four centuries later, quantum dualistic proposals to this problem were introduced by Beck and Eccles (1992) and differently by Stapp (2004; 2011a), however, without a broader recognition due to the lack of evidence for quantum mechanical processes in the brain and the unresolved controversy about whether or not consciousness is related to the quantum mechanical measurement process.

Nevertheless, there are alternatives to avoid physicalism that are less controversial. According to Atmashpacher (2014), “at least since Spinoza, there is a tradition of dual-aspect thinking in which both the physical and the mental are construed as aspects of an underlying reality, which is itself neutral with respect to the mind-matter distinction.” Dual-aspect monism (or double-aspect theory) was later adopted in a similar form by well-known physicists and philosophers (e.g., Eddington, Nagel, Pauli, Wheeler). Libet (2004, p. 182) pointed out that “this theory seems untestable because there is no way of getting directly at the unitary substrate that allegedly exhibits this double aspect.” On the other hand, Jung and Pauli’s version, in particular, offers additional argumentative features in the given context, to which I will return at the end of this article. Libet (2004, p. 172) argued instead that his own proposal, the *Consciousness Mental Field* (CMF) theory, “makes crucial predictions that can, at least in principle, be tested experimentally.” Outside the above categories, CMF also considers the mental domain as nonphysical and non-reductionistic.

Here, it is not essential to take a seemingly correct position among the referenced hypotheses and others not mentioned. Instead, it is sufficient to argue that the mental realm and the attention to “inner signals” is not necessarily subject to the laws of physics, as it is often tacitly presumed in physical inspired psi theories.

Relation to Relativistic Spacetime

Under the above consideration, the question is allowed: What speaks in favor of “mental time travel,” in which information is received from the future with our nonphysical mind, for which physical laws are not responsible, but at the same time, physics could provide the basis for an explanation? To enlighten this question, I submit a similar thought experiment like the Andromeda paradox, which applies the relativity of simultaneity again and is valid in both directions of time: Now an astronaut, Alice, is just reaching in a spaceship the orbit of dwarf planet Pluto. It often seemed to happen that Alice shared a telepathic bond with her twin brother Bob, whom she had left behind on Earth. She calculates by using the formula for the Lorentz transformation, based on the distance and velocity vector related to the Earth, that the common now line between her and her brother indicates a three-second time shift on the Earth’s timeline. Alice thinks to herself: “Now I can ‘read’ my brother’s thoughts three seconds in the past—but on my return journey, moving toward Earth, I can perceive what my brother will think or perhaps see three seconds into the future. So, I can be connected to the actual future on Earth!”

The intention of this thought experiment is to show, in the paradigm of parapsychology, that it is incorrect to argue no inherent meaning can be assigned to the simultaneity of distant events. Though this view cannot yet directly argue for precognition in which neither relativistic quantities are effective nor telepathy is needed, the gap present in the “telepathic astronaut” can be closed. The first part of the solution lies in the assumption that the unconscious mind has a timeless quality, as previously seen in the coexistence of past, present, and future of the block universe model—without claiming that there is a direct connection between both. Support for this assumption is given by Maier et al. (2014) who concluded, based on their experiments and theoretical considerations, that the arrow of time has no direction during unconscious processing states. The second part to form a solution, which can finally explain the mechanism for precognitive perception and argue for a non-probabilistic future at the same time, follows in the next section.

Unconscious—Conscious Feedback Loop

Though a future event does not exist now, the “future is coming” and definitely will exist for the perceiver if observed by him/her in the future. In the case of *feedback-induced precognition*, the perceiver’s future feedback time of the observation (of the event or a target) and the present pre-perception time can be coupled in a process beyond the physical domain, as will be explained in the following with reference to Figure 1.

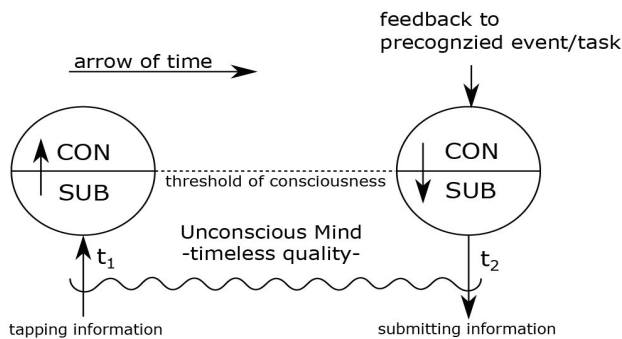


Figure 1. Feedback-Induced Precognition Model. Intelligible information transmission from t_2 to t_1 via crossing the bidirectional threshold between consciousness (CON) and unconscious (SUB).

As is known from basic psychological processes, the consciousness can pass (submit) information to the unconscious (as in the case of repression or information relocation that is not anymore conscious) and vice versa, the unconscious can pass information to the consciousness (as in case of intuitive thoughts or the re-emergence of repressed memories). In the case of precognition, a specific future perception or gained knowledge can establish a connection to the unconscious from where this information can be tapped by the conscious mind at a prior time—because of the timeless property of the unconscious—if triggered by an emotional stimulus.

To understand this model correctly, it is of crucial importance to recognize that the information is transferred only “vertically” across the threshold of consciousness, but neither horizontally along the timeline in the conscious (time-progressing) milieu nor horizontally in the unconscious (there is no distance in time). Accordingly, no information is transferred across spacetime in the usual sense. This is one major difference to quantum mechanical *observational theories*, as recommended by Houtkooper (2002), which simply refer to consciousness. It might be criticized to understand the unconscious process as “mental” since this can be considered an additionally unproven hypothesis; however, as Libet (2004, p. 100) already argued, “there are reasons for regarding the unconscious as a mental feature, as one that better describes the known attributes of unconscious functions.”

Thus, under special conditions, the precognized state (t_1) is connected with a future mental state (t_2) via feedback in a closed loop. The future event at t_2 is already given a reality status when precognized at t_1 , whereas this is not claimed with the same logic for all other future events outside the feedback loop, as this is generally not the case for the past. Note that the emphasis is not on a fixed

future event per se, but on the registration of the event by a conscious observer at a future time that definitely takes place (if not, nothing can be said).

In summary, this allows the view that the perception of events is not longer limited to perception “now,” as long as we are talking about the world line of the percipient toward his/her own future observation (feedback). Only for the conscious mind that is synchronized to physical events taking place along the arrow of time when “time goes by,” the instantaneous moment is the only one in existence. The unconscious mind, on the other hand, resembles a real natural tunnel through consciously experienced spacetime.

LOGICAL CONSISTENCY AND ELIMINATION OF TIME PARADOXES

The basic model, according to Figure 1, is now supplemented with a “signal” terminology, which, however, still does not refer to external physical signals. The term signal is used here to indicate from where an action takes place, toward what direction with respect to the arrow of time, and as an indicator of information clarity, analogous to a signal/noise characteristic in electrical engineering. There can be a strong signal (caused) from the future if there is meaningful emotional feedback, and no signal if there is no feedback. A probable future is excluded because an uncertain signal is logically inconsistent to generate a closed time loop. Signaling can only occur if a closed loop is realized, similar to an electric current that requires a closed loop.

To perceive the actual future is relatively easy to accept for the experimental situation of the first type, termed *alpha-type*, in which the task of a free-response experiment is, for example, to describe an unknown everyday item in the closed box. At the feedback time, the percipient is always confronted with the only possible feedback—to what has been put before in the box. But, because this can also be understood as realtime perception (if the psi mechanism would allow direct access to the inside of the box), the correct experimental setup when arguing for precognition requires a post-tasking process in which the target is selected via a random process after the experiment has already been carried out. In some simplification, this is considered to be the same type as to predict future real-world events, termed the *beta-type*. Now, there seems to be a conflict between the precognitively received future and the actual future that may be changed or prevented through the acquired knowledge, and so could invalidate the precognized event based on feedback. But in addition to the initial argument above, this scenario is impossible because the precognitive re-

ceived information refers to the causes and to the effects in both directions of time simultaneously; i.e., the percipient is, so to say, “mentally bilocated” between present and future and can only pre-cognize what he/she later will recognize. Thereby, the transferred information backward-in-time is balanced to be logically consistent, like the behavior of liquid in communicating vessels is balanced by a connection that is effective in both directions.

Precognitive Perception vs. Influenceability

Next, it is essential to relate precognitive perception to influenceability of precognized events since both are in opposing dependency (like, e.g., absorption and reflection in physics). Logical inconsistencies are excluded since a high degree of accuracy or amount of future knowledge in precognitive perception can only take place on the condition that “the knower of a future event” stands outside the sphere of significant influence. This cannot be an on-off logic. If the influence is partially given (through our actions), a prediction must be correspondingly less accurate/higher interpretable or less extensive. At a critical point, the possibility of influence becomes significant enough that the future is no longer perceptible, and a potential perceiver would only produce “mental noise.” This relation, reflecting the overriding principle that “a percipient can’t kill his/her source” (a future observation), can be represented qualitatively in a diagram as Maximum Signal Relation (Figure 2). It visualizes, in compliance with external causality, how much information can pass the border of the unconscious to become part of consciousness without causing inconsistencies.

The left side in Figure 2 refers to uninfluenceable events (e.g., such as an earthquake), whereas the right far end refers to fully controllable event outcomes, i.e., free decisions which are not accessible for the acting

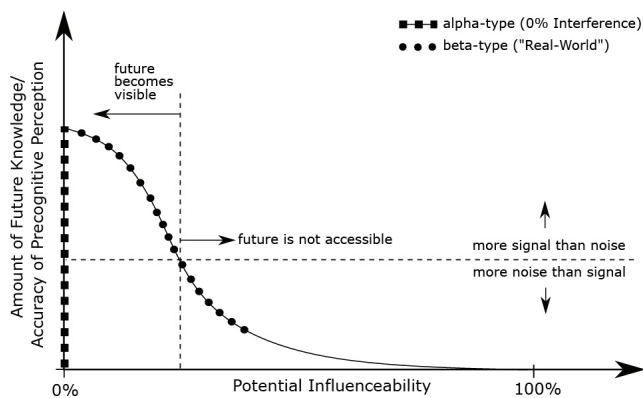


Figure 2. Maximum Signal Relation. Qualitative illustration of how much intelligible information is perceivable in dependence of the potential influenceability of the precognized event.

person by precognition (this is logically excluded by the feedback mechanism). Based on this logic, events beyond our personal sphere, especially those of global significance, would be more concretely perceived in precognition because their influenceability is very low or zero. This can include useful information gathering. For example, it may be advantageous for someone to experience precognitively that a certain company will become the leading manufacturer of hydrogen distribution in order to invest successfully in this company. This can happen without significant interference and, therefore, without causing logical paradoxes. In a personal situation, in cases of higher but still moderate influenceability, it might be possible to benefit from future knowledge if—in the context of the understandable part of the precognized information—the portion of the noisy/ambiguous information can be “exchanged” into a slight influence of the equivalent amount on the actual event by us. This would also result in a back influence (in the easier example of the stock company, simply because they have sold more shares). But this has still nothing to do with a probabilistic future we have now concretized or even changed. We can just become participators of events that would become reality as precognized. Our influence is already in there and cannot be greater than the inaccuracy of the description to preserve what has been perceived. Of course, there are also other mechanisms (part of the mental process) that limit accuracy additionally, which are not discussed here. Accordingly, Figure 2 illustrates a theoretical maximum—for this reason, termed the ‘Maximum’ Signal Relation.

Open Decision Paths Do Not Contradict a Non-Probabilistic Future

Someone might use a definition of a ‘non-probabilistic future,’ according to which there is no point in time at which several possibilities of the course of the world are open. This can easily be misunderstood because, at any time various decision paths are open, leading into different potential futures, until a decision has been made (not open decision paths could be only a requirement in a fully causalistic universe). This seems probabilistic, but as made clear from the outset, what counts is the final status of a factual perspective connected to future feedback related to the final result. Because this open, final decision is not precognitively accessible for the acting person, someone might interject that exactly this describes “probability clouds.” However, these “clouds” can principally be cleared in accordance with Figure 2 if another person finds out the answer via feedback-induced precognition and is not in the sphere of influence of the acting person who has to make the decision. So, knowl-

edge can potentially be retrievable but not available to everyone under every circumstance.

Consideration of More Complex Factors

For example, in cases of dream precognition, the situation can become more complex than can be represented in Figure 2. The precognitive signal may be used by the dream mechanisms to pick up an important fragment of what someone will experience at a later time (i.e., a fixed event), but at the same time, unconscious intelligence (or the “dream composer”) may add something, e.g., that someone saw himself/herself at a place where a catastrophe happens (since he/she considered to be there), but warned by the dream the person would decide to stay away from the location. Thus, it is possible to take personal advantage of a non-probabilistic considered event, and it does not matter for the correctness of the predicted event which decision the percipient takes.

The Meaning of Non-Artificial Processes

Finally, it is important to recognize the difference from an artificial process, in which a physical-based feedback or detector model (usually assuming a signal transmission across spacetime) is hypothesized. This can be illustrated by using the example of a fictitious physical device for receiving future camera signals, utilizing, e.g., advanced waves. Such a device would generally run into causal paradoxes and, therefore, not work in principle. In contrast, a human being incorporates “receiver and sender” as a participator of life who can only perceive future signals that are logically consistent in accordance with Figure 2. The previously required “inclusion of a perceptual process beyond the physical paradigm” makes this possible.

NECESSARY EXTENSIONS TO THE MODEL

This section serves to eliminate potential gaps in the argumentation from a broader perspective of psi research. At the same time, this is an indispensable precondition for selecting the appropriate test procedures that can reflect the proposed precognition mechanism and the non-probabilistic conclusion. In this regard, it is first of utmost importance to understand the putative contradiction that though various experiments and experiences suggest feedback as a prerequisite for successful psi perception (see e.g., Honorton & Ferrari, 1989; Puthoff et al., 1978, p. 13; Targ & Harary, 1985, p. 27), some were feedback-free (precognition included) and nevertheless yielded significant results. Two answers are given to explain this observation:

1. Time-Independent Telepathy

As introduced in Figure 1, the precognition of the future does not require a direct connection to the outside world because the information comes from the perceiver’s own future experience. This makes the model simple, but so far, it is not conclusive in terms of the requirements that should be placed on the experimental research side. Consistency is achieved when “precognitive telepathy” (using the classic term; Rhine, 1953) is also taken into consideration. Then, the right “bubble” in Figure 1 represents a second mind/brain that, alternatively, can close the feedback loop at a future time without necessarily feedback to the perceiver. The analyst, who is also deeply involved during the analysis of the percipient data—after the experiment (at t_2), and the percipient (at t_1) can be timelessly coupled. The question of whether the perceiver actively picks up the information from the analyst’s mind in future time, or whether the analyst “offers” the information to a passive perceiver by a backward-in-time influence loses its meaning in the atemporal perspective: It is just possible to say that the analyst can “infiltrate” the timeless unconscious-channel with his/her knowledge, which the perceiver can pick up in addition or instead to his/her own missing feedback signal. Two important sub-conclusions are derived from this (for a more detailed background, see Dahmen, 2023):

- 1.1 In the experimental situation, it is not appropriate to test the feedback mechanism by comparing precognition experiments with and without feedback to the perceiver. Besides the problem of distinguishing a possibly psychological need for feedback from future feedback experience as a source of information, there is also the problem that a retroactive influence by the analyst can replace feedback as a source of information for the perceiver, leading to incorrect interpretations. However, it can be statistically validated that the perceiver’s description relates to a future experience of seeing the target (selected by a random process in the future) by the perceiver or the analyst (as I will describe later).
- 1.2 A *comparative analysis*, as it was used by Puthoff and Targ (1977) within rank-order analysis or as applied necessarily in ARV (see Table 1, 1.7), should be excluded because of the risk of a time-independent telepathic connection to the analyst who handles targets that are part of the comparative analysis in addition to the actual assigned target. Thus, the percipient may access this target material in addition, which may lead to an inconsistent description of the actual target or the description of one of the other targets that the an-

alyst has in mind during the comparative analysis. A direct evaluation of the degree of correspondence between the percipient's descriptive data and the actual assigned target is therefore mandatory and possible with, e.g., rating scales.

Note that I do not claim that the existence of telepathy is equally plausible to explain or to prove as precognition. In the first place, telepathy is considered a necessary precaution to account for all possible unknowns that may affect the interpretation of the results (see above). However, my understanding is that instead of the transmission of mental content that is always specific, subjective, and bound on individual experience, the telepathic interaction would work like addressing and activating a common intersection of a similar mental pattern latently present in both minds.

2. Forced-Choice vs. Free-Response Experiments

In parapsychological research, it is usually taken for granted or tacitly assumed that both types allow the same theoretical and experimental considerations. But, there are good reasons to assume that forced-choice experiments follow another mechanism. Factually, each choice is meaningless, and only in a sufficiently long statistic can an anomalous deviation from the normal distribution be tested, whereas in precognition, in which intelligible information is accumulated, the single result is evaluable. Regarding the former, instead of feedback on each choice, confirmation of the mental intention (the overall result) by the percipient, analyst, or experimenter might be more or fully relevant in the case of significant deviations from the normal distribution. This is exactly reflected in the "principle of a sufficient reason" (Stapp, 2011b). It is striking that Stapp's hypothesis, as a similar one described by Walker (2015/1974), both quantum mechanical observational theories, refer to forced-choice methodologies, and only in this context their explanations seem conclusive. This may explain why, especially in forced-choice experiments, success is sometimes indicated without feedback to the perceiver and the experimenter, while to the best of my knowledge, in free-response experiments, this is only reflected with low statistical evidence and without replication in the result from Targ et al., (1985), who applied a special procedure to exclude time-independent telepathy.

Precognition vs. Micro-Psychokinesis (PK)

It is of further importance to recognize that there are interpretational problems with forced-choice experiments. Since this type of experiment has been car-

ried out, the question came up as to whether, for certain types of random generation, significant deviations from the normal distribution are the result of a mental psi influence on the random generation process. Especially when a quantum mechanical Random Number Generator (RNG) is used, the 'consciousness causes collapse interpretation' of QM cannot be ignored. It is, e.g., possible to hypothesize that the act of observation may not only trigger the collapse of the state vector to a random output. A concentrated mind focused on either "0" or "1" for a sufficiently long time might also be capable of producing significant statistical deviations from an expected uniform distribution, called (micro)-psychokinesis (PK). Again, the hypotheses from Stapp (2011b) and Walker (2015/1974) appear applicable. Regardless of this speculation, Helmut Schmidt, who was one of the researchers dedicated to such experiments (which are of the forced-choice type), concluded that precognition, PK, and realtime ESP are not clearly distinguishable (Schmidt, 2002, p. 189). Others (see e.g., May et al., 1995) suggested, based on their own experiments, that a force-like interpretation (i.e., PK) is more likely to be ruled out.

Whatever the right answer is, these interpretation problems do not arise in free-response precognition experiments, which tell us whether or not the outcome is potentially related to a future experience (potential, since a statistically validated reproducibility in addition to a proper evaluation is always needed).

Finally, it is briefly noted that Schmidt (1993) demonstrated under highly controlled conditions also that the deviation in a pre-recorded random distribution can correlate to the intention of a subsequent "influencer," attempting to shift the random output (the sequence of red and green light flashes) in a certain direction, even though the participants observe the sequence in playback mode. This retroactive form of micro-psychokinesis seems to be the equivalent to precognitive telepathy because not the brain is affected by another brain in the future; instead, the RNG appears now to be a kind of receptive device from a future influencer. How this can make sense and follow the non-probabilistic conclusion is suggested in the second last section, 'How Quantum Physics Fits Into the Picture.'

To summarize the here considered psi forms in a common figure, a future-centered perspective is beneficial (Figure 3). In terms of consistency, precognition (now retroactive influence on cognition), precognitive (now retroactive) telepathy, and retroactive-PK can be summarized as *mental retrocausation*. But the reader is reminded that the future-centered perspective, according to Figure 3, reflects only a physical logic and simplification, excluding the bidirectional process between consciousness and

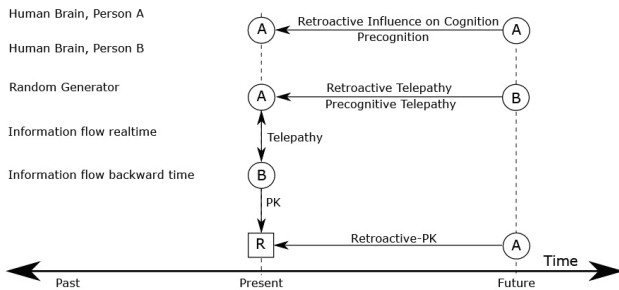


Figure 3. Future-centered perspective to summarize psi forms in a common scheme.

the unconscious. The functionally correct model to consider intelligible information transfer, therefore, still requires the “vertical information exchange,” as illustrated in Figure 1.

EXPERIMENTAL TESTING

According to my description of the problem, the concept of observability and reality is extended by the cognition of Intelligible Information from the future via confirming feedback in a process that is called precognition. This requires free-response methodologies for testing, while forced choice-experiments do not meet these requirements and additionally pose problems that were described in the section ‘Necessary Extensions to the Model.’

Before outlining two different experimental procedures which can complement each other to test the non-probabilistic future hypothesis in line with the proposed mechanisms, it is helpful to point out that indirect conclusions from known experimental procedures and results are already possible—they are just not available in a systematic organized experiment.

Indirect Conclusions from Known Experiments

Although the majority of free-response experiments were not conducted in a precognitive protocol (selecting the target after the experiment), they could be considered precognitive, induced by feedback, if it could not be argued at the same time that there might be only a psychological requirement for feedback. Nevertheless, even then, feedback-induced precognition can be justified under certain conditions as a mechanism, describing a time leap in consciousness to the actual future experience:

In contemporary free-response ESP experiments, e.g., remote viewing, digital target pools containing a large number of digital images are typically used. Each image file is either stored in this pool under a predefined

neutral random number, or the computer program assigns a random number when one of the image files is selected by a random process. This random number is considered the “address” or reference by which a perceiver attempts to obtain target information. In such experiments, the computer is the physical system that contains potential physical information that can become actual physical information if a code is used that allows the computer program to reproduce a pattern of pixels on the screen. The human mind is capable of recognizing this as a picture with a certain meaning at the feedback time. Until this happens, the computer’s hard drive is physically a configuration of clustered bit sequences arranged on randomly fragmented, magnetized sections, ultimately spin states of electrons. It is highly unreasonable to claim that the mind or any process in the brain can read information directly from this “entropy soup.” Moreover, it is also well-known that the psi mechanism is insensitive to digital information. This *zero-information status* should allow no realtime information transmission from where the target is stored. It is only reasonable to assume that the task must be in someone’s consciousness at some point in time. But, when a sufficiently large target pool is used, realtime telepathy is impossible (because no one can have an idea about the content encrypted in the randomly selected image file).

The conclusion is, first, receivable information must be in relation to later access when the “empty black box” is opened and the picture on the screen is created, from where the information is understandable to a human conscious observer. Second, this logic also requires that it does not matter whether the target is selected before (pre-tasking) or after the experiment (post-tasking). This view of the problem makes it reasonable to regard a future physiological perception of the target as necessary, at least in such kinds of experiments to explain positive results. The test procedures for a systematic study are as follows:

Proposal of Experiment 1

In a double-blind study of free-response experiments, photographs as targets are selected randomly from a large digital target pool. A second random process determines at the beginning of each run whether the assignment happens in a pre- or post-tasking mode, but in such a way that both types are counterbalanced at the end of a test series. A statistically significant result is predicted for the pre-tasking and post-tasking process, with no significant difference between them. For a specific random choice type with geographic locations instead photos, this was already indicated in the database by



Dunne & Jahn (2003). The current experimental proposal would substantiate the detailed conclusions made above.

Proposal of Experiment 2

An extended and systematic study of the type of experiment Targ & Targ (1986) have carried out, in which was tested whether the presence of a 50% likely target interferes with the ability to describe a 10% likely target in a free-response set up, should continue to show no interference, which could substantiate the assertion that the percipient describes always the actual future.

This second experimental proposal can be carried out in subgroups with 1.) digital target pools (containing digital images), 2.) sealed box target pools (containing analog photos or objects), and 3.) pools in which real geographic locations are addressed. In both experiments, the target pool should contain targets that differ from each other as much as possible (in content and emotional reaction potential) since this enhances the significance of the analysis and is (based on general experience) most attractive for the participants.

HOW QUANTUM THEORY FITS INTO THE PICTURE

Quantum mechanical randomness and the uncertainty relation have often been presented as a counter concept to the fixed future implication from the relativistic block view, which seemingly represents merely one outer edge area, becoming relevant at a large scale. This easily promotes the comfortable, supposedly modern view that the future is uncertain in any sense. However, in this specific context again, the idea of “non-computability = “uncertainty” is only conclusive if computability is a universal criterion for predictability, which cannot be claimed for precognition. It is not contradicted that a quantum mechanical state comes into being with the completion of the measurement, and beforehand, only probability statements are possible—by means of physics. But, this is at the same time not incompatible with the assertion that the future quantum state is already fixed in the sense of predictable by parapsychological means under certain conditions when associated with psi-sensitive targets like pictures (this requirement can be implemented in both of the suggested experiments).

A more far-reaching argument against the conventional view is concealed in the interpretation of quantum mechanical laws. In the last decades, a few physicists pointed out that random events in QM must not be really random events “out of the blue,” instead, they can have constraints to future conditions. Rietdijk addressed in some of his work in regard to Heisenberg’s uncertainty

relation (e.g., Rietdijk, 2007) the view that retroactive influence is responsible for defining details within such margins. Aharonov & Tollaksen (2007, p. 3) concluded in their Time Symmetric description of QM (TSQM) using a two-state vector concept, “we are able to change the meaning of uncertainty from ‘capriciousness’ to exactly what is needed in order that the future can be relevant for the present, without violating causality...” CITATION AND PG So, we might see uncertainty to allow a choice in the future to affect the present— or provocatively put ‘not to disturb what is bound to happen’. According to the two-state vector concept of QM, “time propagates forward from the past boundary condition and backward from the future boundary condition.” (Aharonov et al., 2010, p. 32).

This applies to experimentally observable effects of *weak measurements* its “outcome anticipates a future choice, yet this anticipation becomes apparent only after the choice has been actually made.” (Aharonov et al., 2016, p. 53). Though the interpretation that a future choice affects a past measurement’s outcome is not claimed as superior to more conservative one-vector formulations of quantum mechanics (Aharonov et al., 2015), it offers unconventional answers. As soon as it becomes clear that backward-in-time causation can be logically completely intact, this cannot only explain the measurement problem more satisfactorily; it explains why it appears so incomprehensible from the present time perspective.

Another significant indication that a quantum system can respond to a future decision offers the delayed-choice experiment (referring to the free decision to measure at which slit the particle enters the detector or to measure the reference pattern, after the particle has already entered the slit(s) which was proposed by John Wheeler and experimentally carried out by Jacques, et al. (2007). Decades before, Wheeler stated in regard to his macroscopic equivalent thought experiment (referencing a quasar as light source and a galaxy as gravitational lens, billions of light years away from the quasar): “...we decide what the photon shall have done after it already done it.” And he further emphasized, “Our decision today can determine the past of a particle that was emit long before there was life on Earth” (quoted in Kaiser, 2011, pp. 78-79). Possible loopholes to reject a retrocausal explanation are sometimes discussed, but to my knowledge, they have all failed to additionally consider the implications of retroactive-PK, as mentioned previously with reference to Schmidt (1993). Costa de Beauregard’s models include retroactive-PK (see, e.g., Costa de Beauregard, 2000). Using his words, retroactive-PK never means reshaping the past, but it does mean shaping the past. “Shaping” refers to the future that influences the present within uncertainty margins, resulting in a small shift of the normal

distribution. This seems retroactive because the effect of the attempt to shift an outcome more to “0” or more to “1” correlated to a free choice in the future. It can be called non-probabilistic in the sense that the decision about which choice is finally used is fixed in the future by the already-given arguments related to any future event. The small effect sizes but clearly significant p-values in such PK-experiments are a consequence of compliance with external causality; they are not an argument for a probabilistic future.

A further viewpoint allows the *Transactional Interpretation* of John Cramer, applying time symmetry based on relativistic wave mechanics, inspired by the absorber theory of Feynman and Wheeler that proposed advanced waves running backward-in-time (Feynman & Leighton, 1985). In this interpretation, a future free choice is confirmed by an advanced wave originating from the future, whereas “the process itself is atemporal, and the only observables come from the overall superposition of all of the steps that form the final transaction, which is essentially an advanced + retarded standing wave across spacetime, connecting emitter and absorber” (Cramer, 2016, p. 64). This approach relates most clearly to atemporality. However, it excludes the observer and, therefore, also a psychophysical interaction, whereas the two-state vector concept is open for a future conscious causes collapse interoperation, even though Aharonov and colleagues do not consider consciousness. More clearly, the point of view by Costa de Beauregard (1976) is that the consciousness aspect can naturally appear in a quantum-relativistic and, at the same time, symmetric approach.

It is worth noting that Aharonov, Cohen, and Shushi (2016, p. 53) referred to an “*already existing future* [emphasis added] that does not exclude free will nor invoke paradoxes.” So, they adopted the language of relativistic physics into time-symmetric quantum mechanics. As atemporality seems present in both theories, this is suggested as a common basis, and there is no need to dramatize their differences. Instead, this requires a re-think of the concept of time and causality and what this implies. Not all physicists have to agree on this because “no consistent interpretation of quantum mechanics can be tested experimentally” (Cramer, 2016, p. 181). It is only important to note that TSQM is consistent with all experimental results and theoretical predictions but additionally can give an answer to the “why question,” which is all the more important in a larger frame of reference than physics currently draws.

Commonalities and Differences in the Context of Precognition

Aharonov and Tollaksen (2007, p. 48) stated in TSQM, “the destiny vector cannot be used to inform us in the present of the result of our future free choices.” This is exactly the same as for precognition (Figure 2, 100% influenceability). It has been made clear that an open decision path, as seen from the present, is not a contradiction to a non-probabilistic future for someone who has to make a decision. Again, this logic is in full compliance with TSQM. As the authors stated: “Freedom-of-will and destiny can ‘peacefully coexist’ in a way consistent with the aphorism ‘All is foreseen, yet choice is given.’” The point is that the atemporal perspective, from where the future “already exists,” is superior to the present perspective but, however, not unrestricted inspectable. Their statement in the same paper: “Not knowing the future is a crucial requirement for the existence of free-will” is from the quantum perspective, generally correct, but too strong in the here given context. Tapping fractions of the future can be possible as an exception—only knowing too much about the future would make life impossible. It is important to consider this in order to recognize the limited nature of precognition, which is understood as the reflection of a non-probabilistic future.

IMPLICATIONS AND APPLICATIONS

Integration Into a Larger Picture

In a lecture given at Chapman University, Yakir Aharonov summarized a noteworthy part of his work as a theoretical quantum physicist to the audience by saying:

...Now we could carefully suppose that there will be a future physics, another revolution in physics in fact, in which time will appear in a different way—time will appear in such a way that, for example, the decision we make in the present is not only affected by the past, but it is also affected by the future...The whole logic of what a decision is—and what freedom is—is going to be changed. In which way is going to be changed, I don’t know yet—because we don’t have the revolution... (Institute for Quantum Studies, 2016, timestamp 48:28)

The question arises as to how this view on time and retrocausality, originating in experimental and theoretical physics, fits in the context of the present work which argues for a non-probabilistic future, and furthermore whether it is possible for psi research and physics to converge.

Atemporality appears first in the block universe view as a consequence of the relativity of time, and it appears

again in time-symmetric interpretations of quantum theory where it can explain how a measurement is affected by future boundary conditions (e.g., as in the delayed-choice experiment). Atemporality has been introduced here also as a property of the unconscious mind to explain the access of future information. A “timeless physics”, as described by Barbour (1999), is not agreed to, but it might be reasonable to assume a hidden atemporal reality as the ultimate law that matters to the deepest fundamentals of physics and for unconscious mental processes as well. Using the Jung/Pauli version of dual-aspect monism (see Atmaspacher, 2014; Gieser, 2005), the physical and the psychical are two branches joining at its crossing point into the *unus mundus* (“one world”) I would suggest as a possible “location” of this timeless structure. This transcends physics, but it is not necessary to call it philosophical or metaphysical. Note Pauli’s statement in a correspondence with C.G. Jung: In his opinion, what Einstein thought was an incompleteness of wave mechanics within physics was actually an incompleteness of physics within life—and Bohr, the major figure besides Heisenberg, would have immediately agreed to this formulation of the problem. Later, Pauli justified this as the opposite pair of completeness vs. objectivity which cannot be valid simultaneously (Meier, 1992, p. 121). Is this not a physical conclusion, which calls, out of itself, for an extra-physical (i.e., nonphysical) perspective in addition? If so, I conclude that psi research and physics have a chance to converge as soon as physicists no longer insist that physics must fully describe psi.

What stands behind a non-probabilistic future—atemporality and arising from this retro-causality—could be a key element in solving some of the most fundamental questions in physics. The question of what was before the birth of the universe (or will be after a final end) appears in a different light and cosmic evolution may be explainable beyond conventional thinking. As an example, the physicist Paul Davies, who refers to Wheeler’s “self-excited universe” (e.g., Kaiser, 2011, p. 79) was cited in a *New Scientist* article, suggesting that if retrocausality exists, “the presence of conscious observers later in history could exert an influence on those first moments shaping the laws of physics to be favourable for life. This may seem circular: life exists to make the universe suitable for life. If causality is forward and backwards, however, then consistency between the past and present is all that matters” (Barry, 2006).

Applicability to Other Psi Hypotheses

In the introduced model, precognition appears as the concrete and demonstrable manifestation of accessing

the future, with which the concepts of observability and reality can be extended to derive a non-probabilistic future. However, the same model is also applicable to other hypotheses that still require a conclusive explanation.

Stanford and Thompson (1974) and, similarly, May, et al. (1995) suggested that unconsciously effective ESP can influence decisions for one’s own benefit or desire. This is explainable according to Figure 1 when a future experience or retroactive telepathy (at t_2) can feed the unconscious intelligence with future knowledge that is not transmitted to the conscious mind but becomes manifest as gut feelings or “ideas out of the blue”—up to inner impulses that could lead to affective decisions (at t_1). This should be distinguished from the psychological concept of intuition, even though the distinction is often difficult to make. At least under artificial experimental conditions (see e.g., Bem, 2011 & Maier et al., 2014), there is some evidence for a retroactive future influence on affective decisions. While debatable, the special meaning of *unconscious precognition* would be that any conscious interference is strongly reduced, and this could generate a greater benefit—since, as already clarified, free conscious decisions and precognitive information about the final free decisions are mutually exclusive.

At the same time, the hypothesized precognition theory makes it obvious to assume that a direct realtime target access beyond the telepathic concept (clairvoyance) can be completely replaced by mental retrocausation since all provable ESP-related information is connected to a future access either by the perceiver or a subsequent analyst. Nevertheless, this should not be a definite argument against clairvoyance-type perception since there might be other mechanisms that are more difficult to understand.

Non-Probabilism Potentially Implies More but Not Less Freedom

The arguments in this paper are not based on a scenario as they are sometimes expressed in the metaphor of a Laplacian superintelligence having the capacity to compute the future based on completely causal deterministic physical laws from the past and present state. The “lack of uncertainty,” as illustrated in the Andromeda paradox, does not depend on the model of “what makes events happen” (e.g., fully causal or non-causal⁴). Instead, it is only appropriate to recognize that the mind can “overtake” events in time. Consequently, there is no reason that the “already existing future,” reflected in the block universe and the unconscious mind as well, curtails our “free will.” Indisputably, our fate or destiny is to some extent the result of so-called free decisions; however, in

the context of genes, the time we were born into, our experiences, positive and negative accidents, etc. Regardless of more complex philosophical discussions, it is up to everyone whether they call this free, predetermined, or something in between. But, in case we can benefit from the knowledge about future events in the here introduced understanding, it is additionally appropriate to conclude that a non-probabilistic future, as the basis of the precognitive mechanism, could give us even more freedom under certain circumstances.

ENDNOTES

- ¹ Some further viewpoints in this regard are discussed by the Spanish philosopher Gustavo Bueno (see <https://www.fgbueno.es/ing/gbm.htm>).
- ² The same author (Rietdijk, 2007) later published a paper that referred to nonlocal determinism beyond the scope of local causality, in which psi phenomena, such as precognition, occur naturally in the context of the block universe view.
- ³ To be formally correct, this describes a theoretical proposition inaccessible to experimental scientific knowledge or empirical scrutiny. However, the term thought experiment has been used in a similar or identical manner by many other authors.
- ⁴ The term non-causal is here not necessarily used in the sense without any cause at all, but without “mechanistic causes”: This can relate to human free decisions, which AI (artificial intelligence) cannot mimic and some researchers relate to QM. There might be also deeper causes, hidden in nonlocal causality. Synchronicity (see, e.g., Gieser, 2005) might be referred here as well, if events are connected acausal to a mental experience by a meaning, perhaps as an indication of a deeper hidden cause that exceeds the analytic, physical understanding.

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