



Comments on

(1) M. A. Maier, A. Vogel, J. Storch, & M. C. Dechamps:
*Non-Classical Correlation Between Subjective and Objective
Color Observations: Change of Effect as a Function of its
Empirical Documentation*

(2) M. A. Maier, A. Vogel, & M. C. Dechamps:
*Macroscopic Complementarity Between Subjective and
Objective Food Image Assessments: A Conceptual Replica-
tion of the Color-Erasure Effect*

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Macroscopic Complementary – Questions and a Conjecture

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Abstract – The remarkable results obtained in the experiments reported here either confirm the hypothesis that it possible to demonstrate macroscopic complementarity or they are excellent examples of e-psi, otherwise termed experimenter effect. The simplicity of the methodology and the clarity of the statistical analysis in the ‘documentation’ experiment do not leave much room for alternative explanations. An investigation of a conjecture which might separate these ‘explanations’ is given.

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Introduction

The two papers under review, a demonstration of macroscopic complementarity using taste stimuli and the effect of documentation on a similar experiment using color stimuli, are the latest in a lengthy series by Markus Maier as first author and his various colleagues concerned with the proposition that volitional autonomous reality construction: “via conscious perception involves a process akin to measurement wherein pragmatic information is conveyed”. This proposal is based firmly on Lucadou’s 1995/2007 Model of Pragmatic Information (MPI), initially a system theoretical derivation but later incorporated into Generalized Quantum Theory (GQT: Atmanspacher et al., 2002; Römer, 2023, 2024) which introduced concepts from quantum theory, particularly entanglement and complementarity into discussions about psychological phenomena. Incidentally and extremely regretfully this reviewer does not speak German so cannot comment on Römer’s (2024) detailed exposition in *Quanten, Komplementarität und Verschränkung in der Lebenswelt. Verallgemeinerte Quantentheorie*. As a result there may be errors in presenting Römer’s latest thoughts on these matters.

The supposition that complementarity could be extended to human psychology and experience was first proposed by Nils Bohr (1928) and the history of the idea, plus the background to the MPI and GQT is given in detail in the introductions to the Maier et al. (2024), Maier & Dechamps (2025) and the present papers. Essentially Römer (2023, p. 148) has defined complementarity within the GQT as an “epistemologically highly significant restriction of simultaneous predictability. It is not possible simultaneously to assign or deny with certainty all of the possible properties (accidentals) of a substance without mutual restrictions.” It could be argued that while the definition of “a substance” is unclear, for this definition to be relevant to psychology it would have to include cognitive events such as an autonomous judgements, volitions and meanings.

The first set of experiments reviewed here employing taste stimuli are attempts to conceptually replicate the very significant and impressive results of the Maier & Dechamps (2025) experiments involving color stimuli. They were designed to examine the GQT contention that subjective experiences and ‘related’ (*reviewer’s term: see below*) objective physical measurements constitute macroscopic complementarity through acausal, non-local entanglement correlations. “Complementarity in this context means the higher the impact of the objective component within the pragmatic information (...) the lower the impact of the subjective-autonomous element will be and vice versa” (Maier et al., 2024, pp. 19–20). This must be read taking account of their term “passive registration” where they contend that: “Objective, deterministic reality, as described by the physical sciences, involves passive registration excluding subjective volition (...) if measurements are passive registrations and therefore constitute objective measures, any

reality constructing intentional phenomena are automatically excluded and cannot be empirically observed.” As the authors further point out, as a consequence of this these phenomena may be claimed non-existent whereas this is not an ontic inexistence but rather a measurement dependent one caused by the act of passive registration.

The second paper being considered in this review has a different if tangential aim which is to provide evidence for a decline in results which support a hypothesis involving acausal, non-local entanglement correlations when no attempt is made to avoid or reduce the firm explicit causal inference or signal such results may contain. Such a decline is seen as the inevitable result of the Non-Transmission Axiom (NT axiom), an essential part of the GQT, which arises from the contention that causal tests, interpretations or signals destroy acausal effects over time. Maier et al. (ibid.) contend that “to provide evidence for a volitionally constructed reality, which arises from an autonomous intentional impulse, one must reduce the confirmation element within the performed measurements (...). Attempting to objectively document volitionally created realities undermines their subjective impact” (Maier et al., 2024, pp. 19–20). In this ‘documentation’ paper the methodology, analyses etc. of the ‘colour’ paper (Maier & Dechamps, 2025) are used to explicitly demonstrate the ‘effect and decline’ when the method used to avoid this effect in the earlier paper is not employed. This avoidance was achieved in both the ‘color’ and ‘taste’ experiments by the deliberate introduction of color/calorific subset confounds within the experimental manipulations before demonstrating through a permutation analysis that the results could not be due to advantageous, chance ‘picking’.

(1) Macroscopic Complementarity Between Subjective and Objective Food Image Assessments: A Conceptual Replication of the Color-Erasure Effect

Briefly, using the same method as the Maier and Dechamps (2025) design participants are engaged in an online procedure where they are asked to rate pictures of prepared food dishes for tastiness. As in any on-line experiment there are inevitable concerns about participant compliance but the authors’ participant self-verification process is probably the best that can be hoped for and the large number of participants hopefully dilutes any such inadvertent variation. As in the color studies, limited subsets of food images are randomly selected from a larger pool and fixedly assigned to the experimental conditions within each study, thereby introducing the same deliberate confound that reduces the internal validity of each individual study and attenuates the directness of the causal test. The participants are divided into two groups. For one group the calorific value and stimulus ID are recorded but this is not done for the second (erasure) group. The participants are unaware of this manipulation which constitutes the independent variable

in the study. This procedure is repeated three further times with different stimulus sets. In all four sub-experiments the difference between the two groups in terms of the tastiness measure very significantly support the H1 hypothesis of the authors that participants would rate food images as more appetizing in the non-erasure condition compared to the erasure condition. Lastly, an overall analysis addresses the stimulus-bias confound retrospectively and provides a definitive test of whether the observed effects can be attributed to the erasure manipulation itself rather than to coincidentally favorable stimulus assignments to conditions.

If one agrees with the authors' premise that the measures of taste in this attempted replication experiment can be considered as subjective and objective and therefore, following the logic of Bohr (1928) might be complementary, then the methodologies employed including participant self-regulation, the statistical analyses, the statement of limitations etc., provide *compelling* evidence for their contention that the obtained differences between mean grouped subjective judgements may be due to the presence or absence of objective information about the stimuli of which the participants are unaware.

The experimental design of the experiments is relatively simple and the online assessments look robust with few opportunities for error or manipulation once the self-verification process is accepted. Maier & Dechamps conclude their 2025 paper thus:

Finally, our findings align with the tenets of dual-aspect monism (see Atmanspacher & Rickles, 2022), which postulate a unified reality where in mind and matter exist in a dual yet complementary relationship. It should be noted, however, that the results presented here do not provide a definitive test for this theory. The GQT, with its mathematical and system-theoretical formalization was initially proposed more than 20 years ago (Atmanspacher et al., 2002; Walach & Römer, 2000) to address some of these questions about reality. While the empirical evidence for the GQT is still preliminary, our data suggest a promising outlook for its future.

Questions that Arise from the Methodology

In the present Introduction the reviewer used the term 'related' objective measures of the subjective judgement. This term questions the method and logic by which the objective measures were chosen. In selecting an objective measure of a subjective event, how were the particular taste attributes (i.e. calorific values and stimulus I.D.) chosen? In the 2025 paper Maier & Dechamps suggest that because they considered a color experience "a rather non-normative perception process" it was an appropriate stimulus to use and that various attributes of color were appropriate measures of this. It is less clear in the replication attempt whether taste and the

subsequent relevant objectivity measures conform to that description, and on what grounds: e. g., could the taste experiments have equally well used weight, proportions of protein vs. carbohydrates, or origin of recipe as objectifiers? Furthermore it is unclear on what grounds the direction of difference was established in the hypothesis that “(...) participants would rate food images as more appetizing in the non-erasure condition compared to the erasure condition”. Was that choice an arbitrary one? The authors do refer to the earlier paper by saying the hypotheses were: “based on the theoretical framework of the GQT proposing non-commutability of measurements derived from meaningfully related macroscopic psychophysical subsystems and based on the empirical precedent established by the color-erasure research” (Maier & Dechamps, 2025).

Does the presence or absence of *any* objective measure that could be construed as relevant to the subjective choice affect the subjective measure? If so, do they affect the subjective choices equally etc? It could be argued that to demonstrate the author’s contentions any objectification or absence of same should influence the subjective judgement, so did the choice matter? Laboring this point about whether or not the choices were arbitrary ones made by the experimenters is relevant to the possibility of an e-psi or ‘experimenter effect’ interpretation of these results which is central to the discussion of the second paper (see below). This is pertinent in the light of the authors’ comments that “in order to convince a skeptical community of the existence of macroscopic complementarity (...) etc. (Maier & Dechamps, 2025, p. 21)” and “that the main goal of the research presented here was to provide empirical evidence for macroscopic psychophysical complementary relationship (...) etc.” (ibid., p. 17). These are clear autonomous volitional statements.

The reasons for the ingenious employment of an additional variable which was introduced to give an alternative explanation for the results are given in detail. This was first used and explained in detail in the 2025 color paper. At the suggestion of Römer (2024, p. 56) it was employed to circumvent the supposed effect of clear unequivocal causal inferences from the results. The experimenter’s subsequent employment of a permutation analysis provided compelling evidence that these effects were not due to chance (“lucky”) stimulus assignments. If the NT axiom does indeed affect results as hypothesized, this manoeuvre is very welcome and needs to be recommended.

However, a somewhat abstruse corollary to this observation depends on whether causality necessarily requires an observer to establish that relationship. In describing their ingenious technique to “attenuate the direct causality test” they are assuming that the audience for their methodology which “leaves room for the alternative explanation” is presumably someone other than themselves. That is, while acknowledging the possibility of an alternate (chance) explana-

tion for differences their writing indicates that they do not share its likelihood. This rather odd observation looks deep into “the deep structure of meaning” and requires more examination. It is possible that it is covered by Römer (2024) which is unfortunately a ‘closed book’ to this reviewer. However, in the present context, this too would be relevant if an e-psi (experimenter effect) interpretation of the results is considered.

Question Arising from the Conclusion

More generally though – and this is a difficult point to make without sounding superficially adversarial – do the authors believe the effect they have clearly proven in their experimental design applies outside their laboratory and the specific settings of this experiment? The BF_{10} values confirming the H1 are very high, so one might assume the principle, the effect of objectification or otherwise on subjective judgement, to have real substance. If so, why has it not affected many, many different events and outcomes outside their experimental setting, in the world at large? This argument is based most obviously on the familiar appeal to evolution. If indeed complementarity affects subjective volitions, expectations and judgements depending on relevant objectification, that principle should confer either advantage or disadvantage to some reliable degree which, in a world where billions of such volitions or judgements are made each day, should be evident in everyday life. One might consider lottery betting choices where an individual’s number choice is selected by that individual (with several types of objectification: e.g. ticket, either paper or on-line) or left to a random ‘lucky dip’ process logged minimally by an anonymous computer (minimal objectification). This returns to the question raised above – is the degree of objectification evident in the complementarity effect? In betting should these variables affect success? If so, it is highly likely that such bias would have been evident and exploited given the prizes involved and the number of tickets sold. The question about generalizability of these findings is not a trivial one once the veracity of the reported results is accepted, which this reviewer does.

(2) *Non-Classical Correlation Between Subjective and Objective Color Observations: Change of Effect as a Function of its Empirical Documentation*

Very usefully, the experimenters in this series of experiments chose to test whether the results obtained in a simpler version of the color experiment, where the attempt to avoid an explicit and clear causal signal was *not* made, would result in a decline effect or more precisely an ‘effect and decline’ as described in the present Introduction. In this second experiment, in order to test the implications that follow from the Non-Transmission (NT) axiom, an integral part of

the GQT, they deliberately looked to demonstrate an ‘effect and decline’ pattern in the pattern of BF_{10} support for the hypothesized difference between the group subjective judgements about color, when for one group various objective measurements, hue and lightness, are made and recorded but erased for the other group. Erasure took place immediately after each participant completed their study. This was undertaken over a very large number of trials (6000+).

In passing, the timing and method for data erasure taking place requires further examination. In an early test of the MPI using spontaneous cases (Watt & Tierney, 2013) the computer program used to run the experiment, as in the present study, collected then erased the information. In retrospect it might have been a clearer manipulation for the key presses which obviously have to be functional at each participant’s level not to be accepted by the collation program. The relevance of that point lies in when erased material ‘existed’, before or after it *potentially*, but not actually, comes within the experimenters’ purview.

Predicted Pattern of Decline

It could be argued that within parapsychology the most reliable finding in the last 100 years has been the non-replication effect allied to the ‘effect and decline’ one. This has led to the identification of what Kennedy (2003) has labeled as “the capricious, actively evasive, unsustainable nature of psi.” Since its inception the NT axiom has been virtually the only cogent and coherent explanation for the replication problem and reported ‘effect and decline’ pattern (decline effect) in experimental parapsychology results, once fraud, questionable research practices, and error are ruled out. As mentioned previously, Walter von Lucadou’s MPI, including the associated NT axiom, developed from its early 1980s formulation as a systems-theoretical description, to its close association with GQT (Atmanspacher et al., 2002; Römer, 2023, pp. 146; in passing, this reviewer is puzzled by Atmanspacher’s silence about the NT axiom in his major writings referencing the GQT since the 2014 Pauli-Jung Conjecture papers). However, demonstrating that the predicted decline effects can be isolated has proved extremely difficult, both practically and conceptually. Perhaps the most problematic element has been understanding why the decline effect, if the NT principle is axiomatic, should be a gradual ‘effect and decline’ in significant results rather than an abrupt cessation. In several comments in the present papers Maier et al. use the term ‘gradual’ or ‘ultimately’ e.g. “Lucadou’s ‘non transmission’ axiom suggests that attempting to objectify subjective phenomena ultimately leads to their destruction”. Why ultimately and not instantly?

The question arises: – when in any test of macroscopic complementarity, or indeed any test for psi effects, does the instrumental pragmatic information (attribution of ‘cause’) develop? It

cannot be solely and initially at the time of a further formal attempt at replication but should also occur during the initial testing period, depending on various factors. In this regard the wording of the prediction in the present paper is very welcome: “Given the experimental conditions outlined the erasure dependent likability effect should be found initially and later drastically decline.” Logically, two further questions arise: how long does this decline last and why should it recover? Although it was not the case in the present experiment, when temporally contiguous experiments are reported by the same experimenter demonstrating decline across sub-experiments in different papers using similar methodologies etc., how, or why, does the effect of the NT axiom ‘reset’? Does this depend on the addition of new naïve experimenters, or other factors? Broadly this raises the question: What is the reset condition between repeated ‘successful’ experiments by the same experimenter each of which demonstrate phenomena but also demonstrate ‘effect and decline’? Is this dependent on MPI factors like Novelty or doubtful Confirmation?

Unusual Distribution in Figures 1 & 2

In the present paper the prediction is for an “effect and decline” pattern to occur both within and across studies viz: that strong Bayesian evidence for the original differential effect will be found during initial accumulative data collection, and fall off thereafter. The different ‘stopping rules’ used which could pick up changes indicating decline are clearly described in this paper, but Figures 1 & 2 suggest that the strong *BF* (i. e. roughly > 5) doesn’t start until approximately $n=2220$ (which by anyone’s judgement is a great many trials!), and that prior to that point there were 3 ‘low’ *BF* points (favoring an H_0). It is not clear what one can infer from that distribution, although the permutation analysis convincingly indicates that it is not due to chance. Given the axiomatic nature of the NT restrictions, one *might* predict that the effects of complementarity seen as difference between subjective measures with and without the existence of objective measures would yield significant differences from the start, so that even at $n=100$ trials the effect would favor H_1 (albeit to a slight, anecdotal, degree) and might only decline once the evidence for a causal signal in favor of the complementary effects was very (>10) strong.

Alternatively, one might assume that an experimenter starting a formal test of any hypothesis, while not starting from a point of neutral prediction about the system, would be uncertain. So, in an e-psi formulation (the description but not explanation that results are correlated with the experimenters’ volitions and expectations) this might be reflected in a variable *BF* distribution much like the one observed? It is unclear what is happening in those first 2000+ tests to produce so much, quite large, variability in H confirmation, and, by implication, why so many

trials are required to establish a causal inference which, if subsequent decline is dependent upon it, begins abruptly at after c. 2940 trials when the BF_{10} reaches a very high 39.77 indicating very strong evidence in support of H1. The reviewer is very grateful to Markus Maier (*personal communication*) for the information that “with regard to the present study, we did not observe the BF continuously but started to analyze the data only after 2000 participants had already performed the experiment.” This could be a coincidence but this conjunction certainly raises the possibility and gives some substance to an e-psi interpretation.

If one were to view this pattern from the point of view of feedback to the experimenters, which, as Maier and Dechamps (2025) have pointed out is the inevitable consequence of using Bayesian sequential analysis, that feedback *might* influence and change experimenter’s beliefs and expectations so that one could (and this would be extremely useful) make different predictions about subsequent results in terms of experimenter effects. Is it fanciful to consider that, as the BF, or any other evidence in favor of a hypothesis involving anomalous events, accumulates to a *very* strong point the experimenter considers – “this cannot be sustained or the world would look a very different, strange, place if the effect inferred from this BF was as salient all the time”? If belief or expectation in the form of e-psi *do* play a role, then arguably the effect may collapse to a ‘consensus’ view of reality at this point. This type of experience and its possible consequences have been explored by the reviewer (Tierney, 2020).

The NT Axiom

Though there is considerable evidence in the literature that positive evidence for imputed psi effects fall off with time, the pattern of decline has been hard to establish. By relying almost exclusively on the theoretical element (NT axiom) to ‘explain’ non-replication it may have inhibited discussion about other possibilities for the observed variations in results. Maier et al. (2024, p. 50) have explored some of these possibilities subsumed under the term e-psi or experimenter effect, arguing that “more effort needs to be spent in future studies to minimize potential e-psi effects, for example, by blinding conditions and/or the involvement of uninformed data analysts.” The discussion below considers this point in more detail with direct reference to the methodology of the present experiment. In a personal communication on this matter, Maier has made the very relevant comment that “*maybe the NT axiom is just a more abstract description of an underlying psychological belief-related phenomenon. In other words, the NT is not an alternative, but a different framing of the same mechanism.*” One could extend this important comment by suggesting that complementarity within psychological systems may reflect a balance or otherwise between mutually exclusive expectations.

Furthermore, in that same dialogue Maier et al. have said (and I am extremely grateful for their agreement to quote them at length):

Personally, we think that the NT axiom is not an axiom but naturally follows from the fact that acausal phenomena as proposed by the GQT cannot be robustly documented by a causal, objective approach. As we said in the manuscript, acausality is destroyed by causal testing approaches. It is like a symmetry breaking. And, it happens since macroscopic phenomena considered here are not limited by the Planck constant. Acausal macroscopic phenomena can only occur when the Planck constant does not hold (this can be assumed when not purely physical systems and their complementary relations are considered). Since psycho-physical relations transcend the physical realm by definition, the Planck constant can be ignored – but as a consequence these relations are not purely objective anymore (but still real) – when testing them objectively, they display a pattern of effect and decline, which means they are real and not objective simultaneously. Or in other words, the acausal complementarity when tested scientifically (with a causal testing approach) is projected into time. And the time signature of a real but not purely objective effect is “effect and decline.” The realness of its nature can then only be proven indirectly, either by using the confound procedure or by arguing that the false-positive is an unlikely false positive. This is the strategy that we applied. We think that the NT axiom reflects the epistemic restriction when testing acausal macroscopic relations with causal testing approaches. It is not that the effect on the ontic level declines but rather that the effect documentation simulates the inexistence of an acausal effect under study. The effect is real but not objective as shown by the anomalous “effect and decline” structures that look like false-positives but are actually not.

Choice of Hypothetico-Deductive versus Various Inductive Methodologies of Enquiry

Comments made by Maier et al. (2024, p. 49) about the GQT and non-testability highlight the need to develop procedures which both illuminate the process involved in reality formation but which avoid or circumvent the obstacles: hence their experiments. This raises the question whether using theory driven approaches, particularly hypothetico-deductive ones, are the way forward? Rabeyron (2020) has invoked the myth of Sisyphus to characterize such endeavor. The possibility of e-psi and indeed the employment of a gamut of parapsychological ESP terms to ‘explain’ results inevitably introduces uncertainty about causation in psi experiments. Might this be avoided if slow, admittedly laborious, inductive approaches of various types, are employed. Or are causal explanations (signals) inevitable? Put another way, does describing circumstances surrounding anomalous events *necessarily* result in a causal signal rather than just neutral description? Maier et al. (2024) by employing small changes in the experimental design over a series of studies were, in effect, doing this, driven by observations of various kinds.

Because the present results *might* be interpreted as illustrating quite starkly the possible effects on outcomes of beliefs and expectations, this suggests that alternate modes of investigation are required?

Discussion

The results of this ingenious and impressive series of studies (and those in the present ‘documentation’ study in particular) are, arguably, the first experimental evidence that the NT axiom as an explanation of “effect and (drastic) decline” may have substance. This reviewer’s attempts both to use this axiom to reduce unwanted spontaneous anomalous events via documentation (Watt & Tierney, 2013), to demonstrate its effects in a series of the matrices experiments (Flores, et al., 2018) and to find substantive persuasive examples of systematic decline effect in the results of many parapsychological experiments (Tierney, 2020) have all failed. In the latter endeavor reliable patterns of ‘effect and decline’ proved difficult to establish unequivocally. However, anecdotally and in contrast, the reviewer has witnessed a very dramatic decline (total cessation) of very unusual, almost unbelievable phenomena in circumstances that could be interpreted as supplementary documentation (Tierney, 2012), so, again, this present experiment is very welcome. It promises what experimental parapsychology has lacked for 100 years, a ‘reliable’ artifact to examine in detail.

Because the NT axiom, for which evidence has been limited, carries virtually all the burden of non-replicability (when fraud, experimenter effect and doubtful research practices are ruled out) it is an important concept in experimental parapsychology or anomalistics. The present results, which support this element in the GQT, may in turn encourage the use of related constructs. This view seems to shift the emphasis in heuristically useful models, particularly the MPI, towards language redolent of GQT/quantum physics rather than a psychology-based model emphasizing meaning/novelty and confirmation, which was its original derivation from the early 1980s. I hope I am not appearing impolite when, given the ubiquity of replication difficulties and reported position effects in psi research, and therefore the importance of the NT axiom, I suggest that the ‘(NT) tail might be wagging the (GQT) dog’.

Put another way, the inferences drawn from the very significant results in these papers tend to emphasize descriptions, explanations and hypotheses drawn from GQT and quantum physics as opposed to ones drawn from psychology and phenomenological psychology in particular, although it seems from Römer’s (2023) synopsis of his 2024 book that this may be a simplistic distinction. Ideas drawn from phenomenological psychology are relevant because, uniquely, they rely on knowledge by acquaintance rather than knowledge by description (Russell, 1910),

so encompassing all the types of subjective experience to which individuals have ‘direct’ access. While this too might be interpreted as the effect of two types of measurement or observations on a single datum, hence implicating complementarity, arguably it involves two subjective measurements or observations of different data sets, and it may be the consequence of dissonance between these observations (Tierney, 2020), that underpins anomalous results.

The interpretation of results in both the 2025 color experiment and in the conceptual replication using taste experiments, hinge on whether the results reflect, as the experimenters claim, and set out to test, and subsequently find evidence for, systematic differences between subjective and objective measures due to macroscopic complementarity, *or*, due to the autonomous volitional intention of the experimenters obtain results congruent with their H1 by induced correlations: this is the e-psi or experimenter effect interpretation. To repeat the point, the e-psi description, driven as it is by ‘single’ internal states within the experimenter(s) differs from the complementarity explanation which involves two or more judgements, observations or measurements. Either interpretation (complementarity or e-psi) explanation would favor the Atmanspacher & Rickles (2022) interpretations by supposing that the results revealed either structural or induced correlations. Also, as mentioned previously, it is also possible that the two interpretations share common features, whereby an evolutionary progression from induced to structural correlations occurs.

Two Related but Separable Scenarios

In these two papers Maier et al. may have, very usefully, set the scene for an examination, *but not a test*, of two possible scenarios. The first scenario, the one they present, is that GQT and all that it implies, has heuristic power in understanding the origins and relevant variables in anomalous experience. Römer (2024) has insisted that the GQT is not a physical theory, but an “epistemology”, which may emphasize its heuristic strength – structuring understanding in a way compatible with human attributes and attributions. Included in this are concepts like ‘meaning’ which in the form of pragmatic information may not be amenable to computation, number and statistics (Atmanspacher & Rickles, 2022, p. 196). Nevertheless, the possible replication of complementarity in the form suggested by these experiments would go a long way to substantiate this “epistemology”.

Their ‘documentation’ experiment both supports their H1 but also raises the question of when this support occurred and whether indeed, as Maier has suggested (*personal communication*), it may be an effect of increasing statistical power rather than the result of formative observations by experimenters who propose, and have a vested interest in establishing, H1.

Consequently, the second scenario is that given certain conditions the nature of a DV being tested (and by implication the theory it arises from) is immaterial, it is the “autonomous intentional impulse” of the experimenters that prevails, at least initially, usually when a hypothetico-deductive approach is employed. This scenario is recognizably the experimenter effect or e-psi scenario discussed, and appealed to, for many years in the field. However, it has to be emphasized that e-psi is a description not an explanation, not least because it is likely that causal interpretations are required. It may be that Maier et al. have, in the form of their ‘empirical documentation’ experiment provided a methodology which, if carefully incorporated into inductive inquiry may circumvent the problems inherent in both scenarios.

A Conjecture and ‘Test’ Using the Present Methodology

This second scenario prompts a conjecture. The history of parapsychological research for many years, but particularly in the last 60 years, has several examples, possibly half a dozen, where (1) well regarded and established researchers; (2) working in a small group that is initially ‘organizationally closed’ (Lucadou, 1995; Tierney et al., 2018) to a definable degree; (3) following sound theoretical and methodological principles; (4) testing what appears to the average observer as a novel but highly unlikely hypothesis; (5) initially achieve very impressive results supportive of their hypothesis; (6) these hypotheses are derived from theoretical backgrounds that are generally well regarded by the scientific community but which are given a novel ‘twist’ to accommodate/explain anomalous experience. Uniformly, when attempts to replicate these results are made by other groups or individual experimenters with a varied range of beliefs and expectation, the combined result, viewed in a meta-analysis, is equivocal or demonstrates very small effect sizes in their favor, reducing support to an anecdotal level. The conjecture is that each of these 6 elements are *necessary* to obtain the initial significant results supporting the novel hypothesis, but that increasingly more ‘objective’ inspection and criticism, ostensibly to eliminate implied error or fraud, has the effect of limiting these findings resulting in doubts about replication. The failure to reliably replicate the substantial results reported by Helmut Schmidt (animal PK), Chuck Honorton et al. (Ganzfeld), Ed May (distant viewing), Daryl Bem (presentiment) and now, possibly, Markus Maier (macroscopic complementarity) may be the consequence of the Orpheus model (Rabeyron, 2026), whereby closer, rigorous, exact and constraining investigation reduces the anomalous result or effect. Attempts at replication by sceptical and non-sceptical researchers attempting to pin down the causal logic behind such significant results, in effect looking too analytically at the results, doom the results to conform to consensus interpretations. The essence and tenor of this conjecture is summed up by saying that in the necessary circumstances the *ritual* of scientific inquiry is completed successfully and

the novel hypothesis is confirmed. The examples quoted may be the best illustrations that exist of the principles described in the MPI in its early form.

If autonomous groups of experimenters with various established views/expectations on the likelihood of replicating the present results of the ‘documentation’ experiment could attempt to repeat this experiment, the results, viewed inductively, might be instructive. Crucially, each group should choose when, during the accumulation of trials, they start the examination of data/results without conveying that choice point to other groups. Results should immediately be uploaded to a cloud site and each group must undertake not to share their choices and indeed the results of their experiments until a ‘reveal’ point when all the observations are examined. No hypotheses, other than the ones given by Maier et al., are required although necessarily the expectations of the different groups will differ, and clearly such an undertaking requires an administrative team who could be naïve to a number of matters, but ‘an experimenter’ is not required! This is not a perfect solution but one which is likely to yield many observations with varying degrees of successful replication or otherwise. As with all induction the Humean caveats are relevant but unavoidable and, arguably, are to be preferred to the competition of hypothetico-deductive inquiry. Hopefully, it would result in reliable descriptions but not explanations.

Conclusion

In their experiment to determine the effect of documentation on what they propose is macroscopic complementarity, Maier and colleagues *may* have found a way to illustrate the processes (causal and acausal) implicated in these anomalous phenomena.

Whether ‘effect and decline’ is due to axiomatic principles such as the NT axiom which, as replication efforts constrain choices and degrees of freedom within experiments, increase causal inference thus destroying acausal correlations, or, alternatively whether complementarity in psychological circumstances may be the ‘epistemological’ (in Römer’s terms) description of the balance or imbalance of belief /expectation between individuals with different backgrounds and experience, remains to be seen. It would appear to be a dead end to suggest that these alternatives can be used to test (in the hypothetico-deductive sense) these conjectures. It is likely that establishing the general principal by using inductive logic is a more reliable method.

Either way this series of experiments and particularly the ‘documentation’ one advances understanding of the origin of anomalous experience. It increases the likelihood that it is possible to ‘nail jelly’ in the phrase employed by Walach et al. (2022) in that even patterns, and degrees, of failure to replicate results should be instructive. Either macroscopic complementarity as envisaged in the GQT, described and demonstrated in these experiments, is substantiated

in replication by individuals other than the Maier group, *or*, complementarity in psychological systems is different in kind from that envisaged for physical ones, being more akin to a balance or trade-off between meanings and expectations in individuals who are engaged in volitional autonomous reality construction. Replications of the Maier et al. ‘documentation’ experiment should be instructive here, depending on when (or if) ‘effect and decline’ results occur in relation to the initial point of observation/analysis of data/results. Presumably time will tell. Exciting times.

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Zusammenfassung

Makroskopische Komplementarität – Fragen und eine Vermutung

Die bemerkenswerten Ergebnisse der hier beschriebenen Experimente bestätigen entweder die Hypothese, dass es möglich ist, makroskopische Komplementarität nachzuweisen, oder sie sind hervorragende Beispiele für e-psi, auch als Experimentator-Effekt bezeichnet. Die Einfachheit der Methodik und die Klarheit der statistischen Analyse im „Dokumentations“-Experiment lassen wenig Raum für alternative Erklärungen. Es wird die Überprüfung einer Vermutung vorgestellt, die diese „Erklärungen“ möglicherweise voneinander trennt.