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Scientists have long thought of soundwaves as massless, and this image of the sound waves surrounding a supersonic jet sure look that way. But new research suggests that isn't quite the case.

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Science & Philosophy
papers, essays, dialogues, reviews

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music, poems, visual gallery

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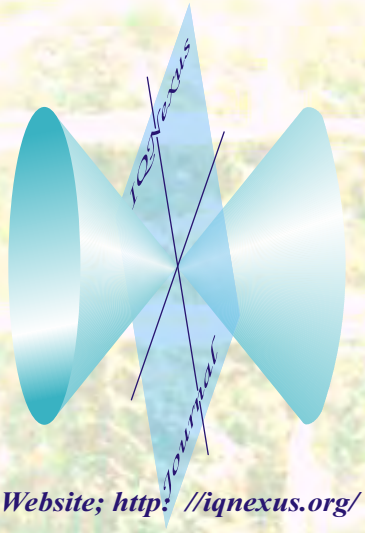
Puzzles, Riddles & Brainteasers
sudoku, matrices, verbals

Featuring articles of

Vernon M. Neppe MD, PhD and Edward R. Close PhD, PE
Dr. Adrian Klein, PhD
Mark van Vuuren
Jaromír M Červenka

Online Journal of IIS, ePiq & ISI-S Societies, members of WIN



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IQ Nexus Journal staff

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English Editor.....Jacqueline Slade

Web Administrator &
IQ Nexus founder.....Owen Cosby

Societies involved:

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"Even though scientist are involved in this Journal, I and all involved in the IQ Nexus Journal have tried to keep the content (even though it is a Hi IQ Society periodical) on an ordinary human level as much as possible.

In fact, is it not the case, that - to be a human being is the most intelligent way of life?"

Stanislav Riha

Contact us at

infinimag@gmail.com

Non-members' contributions are welcome and every contribution has to be accompanied by an introduction from the contributor.

Cover photo

Photo courtesy Shutterstock

Sound has negative mass, and all around you it's drifting up, up and away — albeit very slowly.

That's the conclusion of a paper submitted on July 23 to the preprint journal arXiv, and it shatters the conventional understanding that researchers have long had of sound waves: as massless ripples that zip through matter, giving molecules a shove but ultimately balancing any forward or upward motion with an equal and opposite downward motion. That's a straightforward model that will explain the behavior of sound in most circumstances, but it's not quite true, the new paper argues.

Link to the paper "The mass of sound"
https://arxiv.org/abs/1807.08771

Website; http: //iqnexus.org/

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Science, Philosophy, Essays & Reviews

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Does the Triadic Dimensional Vortical Paradigm (TDVP) alter the landscape from 4D science to 9D science?

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Mark van Vuuren

In the land of the blind

Jaromír Míra Červenka

Varanasi (interpreted by Stanislav Riha , edited by Jacqueline Slade)

Does the Triadic Dimensional Vortical Paradigm (TDVP) alter the landscape from 4D science to 9D science?

The controversy of conventional scientific materialism versus integrating multidimensionality, the infinite and consciousness.

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE [abcd]
and Edward R. Close PhD, PE, DF(ECAO), DSPE

Abstract

We describe a 5-part series reflecting the perceptions of the limitations of our experience when applying our current conventional physical paradigm of three dimensions of space —length, breadth and height—in the present moment of time (3S-1t). This application of 3S-1t has been called '4D science'. We use the term '9D science' to include higher dimensions, in this instance the 9 dimensional model which was definitively demonstrated in the Neppe-Close Triadic Dimensional Vortical Paradigm (TDVP). We further apply the term '9D plus science' (9+D). This incorporates the interface of 9D science with the infinite.

Our physical macroreality appears somewhat adequate when working simply within 3S-1t, because the rules of our world are consistent and easily applicable. However, even then, factors pertaining to consciousness are almost completely excluded other than by applying consciousness at the level of the brain and nervous system neurologically and psychologically. However, at the quantal and the cosmological levels, multiple unexplained conundrums and even contradictions arise. These problems must be solved to explain our reality. Yet, we usually ignore these quandaries, disregarding anything unexplained beyond our current concept of reducing everything

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[a] Vernon M. Neppe MD, PhD, Fellow Royal Society (SAf) **, DPCP (ECAO), DSPE, and Edward R. Close PhD, DPCP (ECAO), DSPE *. Pacific Neuropsychiatric Institute, Seattle **; and Exceptional Creative Achievement Organization (Distinguished Fellow *, Distinguished Professor **) For perspective, Prof. Neppe is a Behavioral Neurologist, Neuropsychiatrist, Neuroscientist, Psychopharmacologist, Forensic specialist, Psychiatrist, Phenomenologist, Neuroscientist, Epileptologist, Consciousness Researcher, Philosopher, Creativity expert, and Dimensional Biopsychophysicist. His CV includes 11+ books, 2 plays, 700+ publications, 1000+ invited lectures and media interactions worldwide (http://www.vernonneppe.org/about.php). Dr. Close is a Physicist, Mathematician, Cosmologist, Environmental Engineer and Dimensional Biopsychophysicist. *Transcendental Physics* is one of Dr. Close's 8+ books. (www.erclosetphysics.com). Neppe and Close co-authored *Reality Begins with Consciousness: A Paradigm Shift That Works.* www.Brainvoyage.com

[b] The material in this article has been peer-reviewed by many readers.

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to 3S-1t. This might constitute a threat to our current training in 4D science, and the adverse emotions generated by the new findings we've demonstrated are difficult for even exceptional IQ individuals to handle.

In Part 1, we list 50 conundrums that reductionistic materialism cannot solve plus another 11 major questions. These are insoluble in 4D science, yet appear eminently soluble by applying the principles of 9D or 9D+ science. In Part 2, we emphasize specifically two major findings, quantized, volumetric finite 9D reality and gimmel, pointing out the reasoning for such studies. In Part 3, we discuss examples from the scoffers or deniers. Even some highly intelligent individuals may not be able to interpret new data properly, as specific training and objectivity is required. In Part 4, important differentiations relating to proof and speculation are made. Finally, in Part 5, we discuss the importance of the Neppe-Close Lower Dimensional Feasibility Absent Falsification philosophy of science, as well as extending the model of Kuhn's revolutions to 11 stages, applying the 11-NCR (Neppe-Close Revolutions) model, and using this in the context of scientists understanding changes in 4D to 9D. Peer review, though important, may also be problematic.

We discuss how the concepts of gimmel, of infinite order ('ordropy' as contrasted with physical 'entropy' in the finite 3S-1t) and the 'Law of Conservation of Mass, Energy and Gimmel' are related to the infinite, and the impacts on our 9D science. In contrast with gimmel, the concept of gluons, while fitting the logic for mass of nucleons in 4D science, is impossible to reconcile with 9D science because based on empirical mathematical calculations, gluons are demonstrably unstable. The difficulty with the ephemeral nature of the Higgs Boson is also, problematic, but that too, may also be solved by recognizing the application of gimmel, instead.

The 9D and 9D+ science model is a functioning and unrefuted major paradigm shift, that involves several major supporting empirical demonstrations and mathematical proofs, and has grown over the past seven years through applying the many features of the Neppe-Close TDVP model. It incorporates our current physical 3S-1t 4D science. 9D is mathematically proven, and empirically relevant given that the Mass-energy-gimmel-volumetric data in the Triadic Rotational Units of Equivalence of the Triadic Dimensional Vortical Paradigm exactly equal the Mass-energy equivalence normalized data in the CERN Large Hadron Collider. Moreover, TDVP is further demonstrable cosmologically, because the TRUE figures correlate very, very closely with the Hubble dark matter and dark energy Planck probe results. These allow us to unify our existence into one law of nature including the quantal, macroworld, and cosmological levels.

Key-words:

4D-Science, 9D-Science, 9+ D-Science, 11 NCR, 11-Neppe-Close-Revolutions, Cabibbo Angle, CERN Large Hadron Collider, Close, Consciousness, Conundrums, Cosmology, Cynics, Dark Energy, Dark Matter, Deniers, Dimensions, Dimensional Biopsychophysics Diophantine Equations, Electrons, Equivalence, Gell-Mann, Gimmel, Gluons, Higgs-Boson, Hubble data, Infinity, Interdisciplinary, Koestler, Kuhn, Life-Elements, LFAF, Lower Dimensional Feasibility Absent Falsification, Mass-Energy Equivalence, Materialism, Mathematics, Neppe, Normalized Data, Pokharna, Popper, Peer-Review, Physics, Proof, Pseudoscience, Pseudoskeptic, Quantum, Quarks, Refutation, Scientists, Scoffers, Skeptics, Speculations, Stability, TDVP, Triadic Dimensional Vortical Paradigm, TRUE, Triadic Rotational Units Of Equivalence, Volumetric, Vortices.

4D science: Blindness or logic? Part 1

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE
and Edward R. Close PhD, PE, DF(ECAO), DSPE

George Bernard Shaw in his1918 play *Annajanska* famously pointed out [1]:

"All great truths begin as blasphemies."

Because of the domination of science and technology in all walks of life, an impression has been created that our current scientific knowledge (applying just three space coordinates and one time coordinate—3S-1t) is the complete source of knowledge. It is linked with the Standard Model of Physics (SMP) [2-5]. But the SMP appears to be incomplete because there are numerous unsolved conundrums and paradoxes at the quantal and cosmological levels. [2-5]

The conventional scientist, steeped in physical materialism, does not realize there is anything wrong with this idea because they've only been trained in '*4D science'* —as the Indian atomic physicist, Surendra Pokharna PhD [6-8] calls it. This 'Science 4' reflects the prevalent view of many scientists involving conventional physical 3S-1t *experience* as the whole of reality.

Pokharna contrasts our current '4D science' with '9D science'. [6-8] This involves 9 dimensions in the finite reality. The detailed seeds of the idea of a 9-dimensional quantized vortical finite reality was first justified by Edward Close and Vernon Neppe in 2011 in the first two editions of their classic book *Reality Begins with Consciousness: A Paradigm Shift That Works*. [9; 10] They developed hundreds of concepts in detail over the next few years until the final 5th edition of this book in 2014. [11] During this time, they first hypothesized a mathematical proof of specifically a 9-dimensional reality, and then, in 2013, demonstrated the definitive proof of their paradigm [11]: Specifically, these scientists described a metaparadigmatic model which they've called the 'Triadic Dimensional Vortical Paradigm' (TDVP) [11]. TDVP has continued to grow over several years, with proofs of several new testable hypotheses, yet it has never been refuted. [8] This includes the landmark mathematical demonstration of the necessity for a ubiquitous third massless, energyless component to reality variably described as a 'process', 'substance', 'agent' or 'vehicle' called *'gimmel'*. Mathematically, gimmel is in necessary union with all stable particles, without which atoms would fly apart. [12-16]

Historically, with great respect, a half-dozen independent scientists from several countries who have studied TDVP in detail are independently regarding it as the most important paradigm shift of the twenty-first century. Will this high regard bear itself out? Time will tell. Yet, conversely, TDVP also evokes palpable distress amongst members of the religion of 4D science. Fortunately, in these civilized times, at least they don't want to burn us at the stake!

"Something so radical cannot be true! We will fight against this humbug! We must vanquish

TDVP and 9D. Neppe and Close are compromising the very fabric of our current scientific beliefs. This is a profound conceptual threat. We must defeat them!"

9D science recognizes 9 finite quantized volumetric dimensions and is, with respect, far more complete than any other model described before. The Neppe-Close 9D model incorporates, too, 4D Science. Therefore, 9D+ science does not ignore our physical 3S-1t reality: It just adds to it. 'Science 9' is not speculative or just hypothetical, like the various String and Superstring Theories that work with multiple dimensions and usually involve curlings or foldings [17-21], not the necessary vortical rotations in TDVP, and, unlike TDVP, do not generally recognize consciousness, extra time dimensions, infinity, and unification of all. Instead, we know that we *exist* in 9 finite quantized dimensions because of the demonstrable (Close-Neppe) mathematical *proof* and moreover, that this is not just a mathematical operation, but empirically relevant quantally [12; 22] and cosmologically [12; 22]. We (Neppe and Close) can add just to the concept of Science 9 in the finite, by recognizing '9D+ science': the 9D+ concept necessarily incorporates the continuous infinite and the still discrete, quantized transfinite [23-28]. That addition is needed to complete a metaparadigmatic [11] (so-called 'theory of everything' —TOE—model [27; 29]) because otherwise the limiting factor would be 'incompleteness' as reflected by *'Gödel's Incompleteness Theorems'*. [30; 31] Something must be outside the box so to say.

9D+ science makes a big difference in solving the many ostensibly insoluble conundrums of SMP physics. This existence includes a 'Consciousness' that most in the physical reality don't even realize exists, because it likely reflects a pervasive higher consciousness mainly outside the brain. This extended consciousness interfaces continuously with our finite reality. It reflects both the infinite continuity [11], but it even occurs at the most fundamental quantized level. [11]

Sir Arthur Eddington, PhD, in 1938 [32] in <u>*The Philosophy of Physical Science*</u> famously described his lengthy analogy. This metaphor reflects the key theme of this paper:
"Let us suppose that an ichthyologist is exploring the life of the ocean. He casts a net into the water and brings up a fishy assortment. Surveying his catch, he proceeds in the usual manner of a scientist to systematize what it reveals. He arrives at two generalizations:
(1)No sea-creature is less than two inches long.
(2) All sea-creatures have gills.
These are both true of his catch, and he assumes tentatively that they will remain true however often he repeats it. In applying this analogy, the catch stands for the body of knowledge which constitutes physical science, and the net for the sensory and intellectual equipment which we use in obtaining it. The casting of the net corresponds to observation: for knowledge which has not been or could not be obtained by observation is not admitted into physical science. An onlooker may object that the first generalization is wrong. There are plenty of sea-creatures under 2 inches long, only your net is not adapted to catch them."
The ichthyologist dismisses this objection contemptuously.

"Anything uncatchable by my net is ipso facto *outside the scope of ichthyological knowledge. In short, 'What my net can't catch, isn't fish' Or — to translate the analogy — 'If you are not simply guessing, you are claiming a knowledge of the physical universe discovered in some other way than by the methods of physical science, and admittedly unverifiable by such methods. You are a metaphysician. Bah! ……The math is not there till we put it there.'"* [33, 34]

Dialog with a respected 4D scientist

A highly respected, and well-known PhD Professor in the biological sciences steeped in the scientific materialism on 4D science, wrote to Vernon Neppe MD, PhD on 12 July 2018. Rather typically he had not studied any 9D science or any of our TDVP work. His description was appropriate for a 4D-scientist:

"*There seems to be a large pseudo-scientific community who love theories that separate the mind from the body, but I have yet to see a theory (as much as I would love to believe I somehow persist after my body functions shut down) that shows that consciousness is more than just an emergent property of the neural system component of a total body system that only becomes conscious through learning within the womb and subsequent to birth. That consciousness will close down on your way to final bodily function shutdown. Not that consciousness remains largely an unsolved mystery! But making up scientifically unsupported stuff about it does not enhance our knowledge, though it may enhance our feeling of wellbeing. I believe we may come to understand consciousness as something necessary for strategical planning, which would be a great boon to the fitness of an organism only able to implement tactical decisions on the scale of generational time."*

Dr. Neppe responded:

"Let me not to the marriage of true minds admit impediments. I respect you too much. You are correct that our TDVP work logically provokes incredulousness from that majority of scientists who regard the Standard Model of Physics (SMP) as very adequate. [11; 35; 36] *This might be even though they recognize there are unsolved or contradictory elements certainly at the quantal level in the SMP* [11] *(and just regard it as 'weirdness'* [37; 38] *or similar such term). Our TDVP work greatly respects the findings of the SMP. We're able to live our lives knowing there is predictable and often replicable order. However, TDVP also particularly recognizes those SMP limitations of quantum physics and cosmology and extends them, and. explains a large number of other conundrums, proving the math bases to many of those."*

With respect, this view by the 4D scientist is not new. This reflects *the prevailing materialist view of our world*. It is a sophisticated view, yet incomplete, something that might be confessed by many progressively-leaning 4D scientists who might point out:

"There is nothing else: We know everything other than minor little components. Yet, we recognize the obvious fact that there are three different, separate realities.

- *There is first, our macro-world of physical reality and everything we've learnt tells us this is appropriate and we can work with it.*
- *There is secondly, our world of quanta described through 'quantum mechanics'. We must*

just simply accept that, because we actually know that there is a 'weirdness' that we cannot explain. [37; 38] *That is normal and okay. That's why it's 'quantum'.*

- *Third, we must recognize, too, what the cosmologists tell us, that there is Dark Matter and Dark Energy. We don't know too much about these dark substances because they are 'dark', and they don't reflect light or energy. But we know that they constitute over 95% of our world, and that they're very important."*

Are such words of certainty familiar? Is our main knowledge complete? Or have these possibly false convictions happened before? Have we gone through a phase where we're sure that everything that is in our world, nay, our reality, is known and there just are the details to fill in? *This certitude reflects the sad, rejected history of new paradigms.*

Ironically, by simply putting gimmel—the likely agent of consciousness—into the equations of reality, all three of these areas become based on one single law of nature, not three diverse scenarios, and we can even understand biology more. These are only soluble by applying 9D+ science, not just 4D science —a part of 9D+ science.

However, *the rejection of major new paradigm shifts is common and almost required.* Non-acceptance has historically been a problem with numerous pioneers. *It is extremely easy to throw mud at great discoveries.* But that mud must have mathematical and empirical proofs, but often these do not exist. Instead, these 'scoffers' are one or more of: ignorant of their own ignorance, jealous, threatened, inadequate, incredulous, uneducated or losers. *With their words, may flow forth their character or, more kindly, their incomprehension. This is the unfortunate heritage of the great innovative original scientist. Yet, in another way, it's a backhanded compliment that recognizes how he's intimidating the mainstream.*

The victims of such *mud-throwing, or just being ignored,* ranges very broadly. A little known example was Georg Cantor PhD [39], who was rejected and abused for his creative awarenesses, but eventually won the Sylvester Prize in 1904. Dr. Cantor was recognized particularly not only for Set Theory, recognizing one-on-one correspondences, and for revolutionizing the concepts of the infinite, including the transfinite and infinity of infinities.

The great Albert Einstein [40; 41] is another example: He spent the years 1915 to 1919 being rejected until that same Arthur Eddington PhD demonstrated on 29 May 1919 that General Relativity empirically works. [32; 42] Then Nicola Tesla was the great genius whose findings on modern alternating current were never accepted during his lifetime. Another example was Ignaz Semmelweis MD who was brutally rejected for pointing out that hand-washing saves lives and had a tragic history thereafter. Similarly, Gregor Mendel's genetic inheritance pre-Darwin was rejected; and Alfred Wegener was rejected for describing continental drift. These spurnings go back to antiquity: Aristarchus, some 2400 years ago, discovered the heliocentric solar system, but was derided by his 'more knowledgeable colleagues'.

Their only crimes? Daring to be heretical or daring to show the limitations of the current reality. They were all so far ahead of the curve that this was very threatening.

Arthur Koestler in his book, *The Sleepwalkers*, summarized it best: *"Innovation is a twofold threat to academic mediocrities: it endangers their oracular authority, and it evokes the deeper fear that their whole, laboriously constructed intellectual edifice might collapse."* [43] That we exist subject to the unified laws of nature's 9D+ science is not incorrect. Our finding is just new. The great physicist who discovered the quantum [44], Max Planck famously pointed out that *"major paradigm shifts in science advance only from funeral to funeral"* [45] Ironically, Planck's ideas, too, were initially rejected as *"crackpot"* at first. [46-48] Frank Sulloway, [49] historian and sociologist of science, in *"Born to Rebel"* covers scientific changes that were resisted or embraced change. Almost every major revolutionary breakthrough had some thinkers who rejected it as "crackpot" at first. Other examples include Copernicus, Hutton, Darwin, Descartes, Newton, Lavoisier, Lyell, and Lister. [49]

We could add a modern medical example of Warren and Marshall with helicobacter causing peptic ulceration and the related dialog: [50] *"But I thought biologists were too close-minded?" ……" 'No one believed it: The Australians' idea was very much against prevailing knowledge and dogma because it was thought that peptic ulcer disease was the result of stress and lifestyle,'* Staffan Normark, a member of the Nobel Assembly at the Karolinska institute, said at a news conference."

Fifty unsolved conundrums in materialism: The limitations of the 3S-1t model.

Neppe continued his rhetoric with the materialist-oriented 4D scientist:

May I, for my own understanding, clarify how you solve the following 50 short questions? These are just examples of 50 questions that as I see it the SMP [11] *cannot answer.*

1. How can you explain 'quantum weirdness'?
2. How can you explain dark matter and dark energy? What are they? Are they necessary? How can they be incorporated into scientific understanding?
3. What are the common features of the life elements and why?
4. How do you explain that the Cabibbo mixing angle is about 13. 04 degrees? Why is the Cabibbo quark mixing angle exactly what it is?
5. What areas in physics can the standard model not explain?
6. What would happen if there were a 9-dimensional reality? What qualities would that 9-dimensional reality need to be stable?
7. Why is the concept we're taught mathematically in schools of Protons, Neutrons, and Electrons producing Atoms incorrect? How can we solve that?
8. How can you mathematically refute atomic materialism?
9. Why is Deuterium so important?
10. Are the mass-energy-volume figures from the Large Hadron Collider correct? If so, what would happen if an entirely different model with a massless, energy less third substance generated the same figures? Why?

11. Can we have multidimensional time?
12. Why is gimmel so relevant in beta decay?
13. Why are vortices so fundamental?
14. Why are atomic particles not really particles but vortices?
15. Why might gluons not exist?
16. What can replace the Higgs Boson?
17. Why is there conservation of mass, energy and gimmel implying order as well as disorder?
18. Why must the laws of nature must be unified: How are they unified and universal?
19. Why is everything in nature volumetric in space, time and consciousness.
20. How does entanglement occur? What is quantum entanglement?
21. How do you explain half-spin, one-third spin, two-third spin for example?
22. What properties make for life elements?
23. Why must silicon be a life element?
24. Why must continuous infinity envelop the finite discrete?
25. Why are protons composed of three quarks?
26. Why are neutrons composed of three quarks?
27. Why are each of those six quarks different?
28. How do we measure multidimensional consciousness?
29. Why are most of the particles of the "particle zoo" ephemeral?
30. Why do fermions have a ½ intrinsic spin?
31. Why Hydrogen atoms have no neutrons?
32. Why are there neutrons?
33. And why must deuterium atoms exist?
34. Why is the mass of the proton exactly what it is?
35. Why is the mass of neutron exactly what it is?
36. Why is the neutron not anywhere near as stable as the proton?
37. Why are protons so stable?
38. Why is Hydrogen stable?
39. What is the role of Helium and neon?
40. Why are they different from Argon and Krypton?
41. Why are the life-supporting elements abundant?
42. Why is the universe expanding?
43. Why are elementary objects spinning?
44. Why is the speed of light what it is?
45. Why is there no matter as such?
46. Why are quanta not particles?
47. What are elementary particles actually?
48. What really are dark matter and dark energy?
49. What creates mass?
50. How can you unify the laws of nature?"

To clarify, the 'third component' referred to was described by Close and Neppe in 2014 and is an essential part of 9D-science. This is called 'gimmel' [11; 12; 13; 16] : Gimmel describes a

massless and energyless 'substance', possibly the 'vehicle' or 'agent' of consciousness, that is in necessary 'union' with every stable subatomic particle. Without the 'process' of what gimmel does our world would simply not exist. [11; 12; 13; 16]

Some even greater conundrums:

Neppe then added some bigger level questions for this materialist:

A. Please prove why it is *absolutely necessary to have a 9-dimensional finite existence* (which *contains* the 3S-1t physical reality we experience)
B. Please prove why it is *absolutely necessary for there to be a massless, energyless third component for a stable reality*.
C. Please show why the mass-energy volumetric equivalence in the normalized 9D reality with this third component is *exactly equal to the data in the CERN Large Hadron Collider*?
D. How could this be explained using only current materialist 4D science?
E. Please explain when *another calculus* (not Newtonian) is applicable.
F. Please provide *mathematical and empirical proofs* for the 50 items listed above.
G. Please explain how you can extend science beyond Popperian falsification. When would that be applicable and how is it done today?
H. Please describe for me a mind-body model that is *not* separating mind from body and is *not* just *"consciousness is more than just an emergent property of the neural system component of a total body system that only becomes conscious through learning within the womb and subsequent to birth."*
I. If mathematical proof, combined with empirical data such as the LHC correlations were demonstrated, would that be scientifically unsupported stuff that does not enhance our knowledge?
J. Why do you think that TDVP disagrees with you *"about no grounds whatsoever to separate consciousness from the material world"*? Could it be that our 'material world' is based on incomplete knowledge as listed by the 50 questions above? And could it be that consciousness is not a separate dualistic component (as you point out)?
K. How do you explain other conundrums like Heisenberg's uncertainty principle, so-called wave-particle duality, and the origin of the Universe (the 'event horizon')?

These questions, with great respect, simply cannot be solved using the Standard Model of Physics as currently applied." Yet, TDVP and 9D+ science provides feasible explanations.

Plato's analogy may be apposite:

The Greek philosopher Plato in his work *Republic* (514a–520a) presented his famous Allegory of the Cave. [51] [52]. Neppe condensed this: [53]

'Let me show in allegory how far our nature is enlightened or unenlightened.
The truth may be nothing but the shadows of images. If told this were an illusion, would Man not fancy that the shadows he formerly saw were truer than the objects now shown to him?
He will take refuge in the shadows which are clearer to him than the truth.
Is it not possible that the shadow Man sees is his physical reality alone?'

Moving to the 9D reality and gimmel: Part 2.

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE
and Edward R. Close PhD, PE, DF(ECAO), DSPE

With respect to the 4D scientists, we (Neppe and Close) have provided the data to solve these questions by TDVP. Effectively, once one introduces specifically the 9 extra dimensions, infinity which embeds these 9 dimensions, and consciousness linked with everything (the "God Matrix" [14]), suddenly the solutions to these previously insoluble conundrums become easier: We cannot solve a 9D puzzle through 4D alone.

Vernon Neppe gave a clue to his materialist colleague*: "TDVP solves every one of these questions. In every instance a jumping point is the mathematical proof, usually combined with our limited empirical knowledge of today—like pieces of an incomplete (likely 3-D) jigsaw puzzle. Would that change your view at all?*

Certainly most of these answers are reflected in what many experts in the area have regarded as 'earth-shattering' [54] when they examined individually or collectively any of the Neppe-Close discoveries referenced in their 2017 paper on *'Fifty Groundbreaking Findings'*. Gimmel [15; 16; 55-59], 9-dimensions [54], infinity [24-26; 28; 60-62] and the associated unions of mass-energy and consciousness content [12; 55], of tethering of space-time and consciousness extent,[11; 60] and the unification of all, as in Unified Monism [63; 64], is with respect, literally changing our thinking about reality. [54] So, for example, let's briefly examine two of the above 50 questions asked by Neppe of the 4D scientist. We do not want to critique greatly and diminish such excellent Nobel winning research. Yet, sometimes changes are needed, or models are incomplete and the original Nobel work was based on 4D not 9D models. We respectfully asked:
Why might gluons not exist? and *What can replace the Higgs Boson?* Perhaps the answer might be *"applying 9D or 9D plus science instead of the incomplete 4D science?"*

The gluon problem
We know from the TDVP research that 'gimmel', itself a virtual particle, is in necessary union with all stable particles. [11; 12; 13; 16; 56; 65-67] Contrast this with the theoretical virtual particles called 'gluons' [68; 69] which Nobel Laureate Murray Gell-Mann [70; 71] postulated is necessary to allow appropriate mass for nucleons through strong electromagnetic carriers that bind quarks together. Gluons have been regarded as necessary to explain the mass of the atom and why the quarks of protons and neutrons stick together (like 'glue' as in 'gluons'). [68; 69] That was a wonderful idea and solved a problem for the neutrons and protons. It fitted the 4D-Science model well. However, unfortunately, Neppe and Close have *mathematically demonstrated* that the current concept of gluons is refuted in 9D science. [14] This is because gluons are not in union with electrons and therefore by math, this *regretfully* cannot work out as gluons alone, as hypothesized, would produce unstable atoms mathematically, and the

atoms would simply fly apart. Yet, they remain together. A great physicist-mathematician, David Stewart PhD, who has possibly studied TDVP more deeply than anyone else, has pointed out how profound a paradigm shift this is. Why? Close and Neppe have proven mathematically that gluons simply cannot exist as currently described in the SMP [14]: The *great problem* is that gluons remain in the nucleons, but they are not linked with electrons. This *mathematically means that* that *the atoms would effectively be unstable [12],and ephemeral.* [16;14;15] *They would 'fly away'. Our world could not exist.* We've listed important technical data in the footnote.[e]

Could gluons then be modified to include the electron? Is that not legitimate as science advances usually via its errors, and a superb idea like gluons should remain, surely? Unfortunately, gluons could not easily be incorporated into electrons, because *the function of gluons relates to 'strong forces' and gluons, in effect, act as strong 'glue'* for the nucleons. This contrasts with electrons which in the SMP involves 'weak forces', and do not need to be glued to anything, just rotate round the nucleons. Also, how and why would gluons attach to the electrons? But let's imagine that gluons *were* in union with electrons: If so, then they would not anymore be simply a glue! They would also not logically be associated with the strong forces, the other property of gluons. Instead, gluons would effectively become the equivalent of 'gimmel' because they would teleologically require gimmel's properties to exist, namely, functioning substances in union with nucleons and electrons as volumetrically vortically rotating particles in 9D. [22, 21, 72 f 22; 72] *Unlike gluons, gimmel doesn't glue quarks!* Our finite laws of nature require everything to be *quantized and volumetric*. We don't exist as points (0D)—e.g., a singularity, or as lines (1D)—linearly, or in cross-sections as in planes

[e] Effectively, we have previously elsewhere derived figures in TRUE for quarks and electrons and the amount of balancing gimmel for both. That calculation derivation was painstaking and complex, but consequently now, it's easily reproducible. *Any calculation of atoms has to be integral as we cannot have a fraction of an atom.* We know, too, that *our calculated derivation is empirically correct* as we've demonstrated that our TRUE calculations correspond *exactly* with the mass-energy equivalence *normalized* data in the CERN Large Hadron Collider. We apply the principle that *empirically everything in finite nature is volumetric and quantized*. Consequently, we calculate values easily by applying cubic exponents, using Diophantine calculations. In the *existing* quantized finite reality, the atom should be symmetrically stable axially and the protons, neutrons and electrons must also be *integral volumes*. When applying these calculations with gluons (linked with quarks only), the atoms turn out to be unstable mathematically as the resultant cube root *cannot* be an integer. This is because gluons are applied *only* to neutrons and protons—only 2 volumetric atomic components: Fermat's Last Theorem (e.g., $a^3+b^3\neq c^3$) precludes integers so that fails by math. There needs to be a new virtual particle added, but it cannot be gluons because that instability would still then happen with just protons and neutrons. Yet, we cannot apply gluons to electrons (with a 'weak force') because only the nucleons (not electrons) require the 'strong' force 'glue' of gluons. Consequently, applying TRUE derivations, the *atom calculation can never be integral*. With gluons, where y is an integer reflecting the number of protons, in, for example, any 'life elements', the calculations reflect exactly the cube root of $68{,}697y^3 = 40.995338y$ (that's not an integer). This contrasts with applying gimmel in the derived TDVP TRUE 9D mathematical calculations: In this instance, there is a necessary third subatomic particle —electrons—and that means that with a necessary addition of a specific finite quantity in union with all the 'neptrons' (protons, neutrons, electrons) there would be a small number of solutions in these cubes. That specific quantity reflects gimmel: With *all the life-elements*, for example, the atomic cube remarkably *always equals* $125{,}971{,}200y^3$. Therefore, the cube root =108y. This means that adding gimmel, *the figure is always an integer*: This figure consistently reflects *all the stable elements of life* with integral quantities of protons, neutrons and electrons. However, such solutions would be impossible without the addition of six consistent different derived amounts of *gimmel TRUE units* (2, 4, 1 with quarks in protons; 5, 3, 6 for quarks in neutrons) in union with the (stable) 3 up-quarks (2 up-quarks in protons) and 3 down-quarks (1 'up' in neutrons); however, the further *much larger* amount (105 gimmel units) in the electrons, allows the specific elements to exist with *quantized volumetric stability.* This also, in part, explains *the Periodic Table Of The Elements*. Gimmel, specifically, allows our universe to exist: without it, the atoms would fly away. In effect, gimmel with specific GTUs provides stability; gluons cannot provide such stability.

[f] 9D rotating gluons would then have the key properties of gimmel, and so effectively would be 'gimmel' not requiring 'glue' or the strong 3S-1t force but angular momentum rotation. This would be the required component of atomic stability. Yet, gimmel does not need to 'bind together quarks' like gluons. All atomic 'particles' are vortical and rotating through 9D angular momentum. This also explains spin in physics through 9D rotations from dimensions numbers 1 to dimensions 9 (4 complete 360° rotations of e.g. 3 quarks allowing ½ , 1/3, 1 ½ or 2/3 spins).

(2D): those represent mathematical operations only. All real objects have volume (3D).
In effect, we know from the TDVP research that gimmel is *in necessary union* with all stable particles, otherwise those particles, too, would be mathematically unstable. Whereas previously this could have been regarded as just theoretical, the Close-Neppe demonstrations of Triadic Rotational Units of Equivalence (TRUE) and the demonstration of their empirical viability by the Mass-energy equivalence normalized data in the CERN Large Hadron Collider, unfortunately makes the current gluon hypothesis, as it stands, untenable. [12; 57; 73; 74]
However, it once again confirms the gimmel TRUE unit, 9D science model.

The Higgs Boson dilemma
Gimmel also contrasts with the Nobel-prize winning and, at the time, groundbreaking discovery of the Higgs Boson, at one point facetiously (?) named 'the God Particle' [76; 77] by Nobel Physicist Leon Lederman [75], despite the Higgs Boson not reflecting anything spiritual. The Higgs Boson is another postulated virtual particle. But the link with TRUE is far less direct: The Higgs Boson bestows mass, too, but appears problematic, possibly, because it's so ephemeral (not existing beyond 100 septillionths of a second), and with gimmel may be redundant because gimmel would serve this function just as well. How would such an ephemeral concept work in our real world, and where does it fit in?

Gimmel
In contrast, gimmel is not ephemeral, but real and necessary and allows for all particles—including the six enduring quarks and the electron—to be stable. Without gimmel, no world would exist even temporarily. [g 78] Gimmel is a sine qua non that we have refined and applied over many years. *The advent of gimmel, that promotes stability, labeled as the 'God Matrix' [14], may have just changed the particle soup that is unstable and created a need for a consciousness reflecting spirituality, ensuring the Laws of Nature run smoothly, and demonstrating how fundamental the mathematics is to the very existence of the universe.* [11; 12; 13; 16]

The life elements
As a further example, when analyzing the properties of the elements and of related gimmel, Close and Neppe have definitively demonstrated that what they call the most fundamental 'life elements' namely, C, H, O, S, N (spiritually with the acronym 'CHOSeN' which are the contents of spices in holy temples [79]) plus two other critical ones Mg and Ca, plus the noble gases Helium and Neon. Predictably each of these elements have more proportionate gimmel than any other elements. [12; 22] Because Hydrogen is without a neutron yet very stable, it is profound in its gimmel proportions. The rest of the life elements have *exactly* the same proportion of gimmel to 'Triadic Rotational Units of Equivalence' (TRUE) [12; 22], with

[g] Interestingly, this formulation of gimmel has some similarities to the model of a very astute Israeli Dimensional Biopsychophysicist, Dr. Adrian Klein. His theory involves a complex but detailed subquantal formulation of an *'informational domain seen as a hyperdimensional superimplicated field for matter/energy domains'*. As this hyperdimensional coupling occurs beyond 4D physics and makes sense only in the 9D science, the term "stability" (a time-related condition) falls short of defining '*gimmel's relational aspect to matter reflecting an unending permanence in the finite reality*.' This is as gimmel reflects the infinite continuity, whereas Klein's subquantal domain applies infinitesimal calculus: The problem is that that Calculus of Newton and Leibniz approximates only in our proven quantized finite reality.

specific TRUE unit scores of these life-elements based on their mathematical Diophantine equation figures all being multiples of 108^3. Water, too, as a molecule, fits this profile. [12] Even silicon has these properties, and it should be a life-element. This is very likely correct based on the available data and a finding that directly is now testable: [12; 22] Silicon is a part of the soil which supports elementary agricultural life.[80; 81] In addition, TRUE shows phosphorus though not a life element [73], is a critical energy source. [12]

Moreover, applying TDVP and TRUE, we can appreciate why iron contains the most gimmel of any common element. These findings individually and collectively could be very big breakthroughs with far reaching consequences in the near future. It may clearly distinguish life elements from non-life elements of the periodic table. [12] The latter ones still are important, though, and might be contributing towards the entropy increase in the atmosphere, in the life supporting system and even act as catalysts. [54; 12] Is this all coincidental? Or could it be part of a Divine design for the universe where exact amounts are needed for our existence?

4D, 9D and related complex questions

Moreover, there are complex questions relating to 9D not 4D science:

- Why is it absolutely necessary to have a 9-dimensional finite existence (which *contains* the 3S-1t physical reality we experience) and why it is absolutely necessary for there to be a massless, energy less third component for a stable reality?
- And how one can prove that the mass-energy volumetric equivalence in the normalized 9D reality with this third component is exactly equal to the data in the CERN Large Hadron Collider?
- Why is the observable reality basically discrete in nature and not continuous?
- When is another calculus of distinctions (not Newtonian) applicable?
- How can we extend science beyond Popperian falsification? When would that be applicable and how is it done today? [82; 83]
- What kind of mind-body model that is *not* separating mind from body and is *not* just *an emergent property of the neural system component* could exist*?*
- We must explain other conundrums like Heisenberg's uncertainty principle, so-called wave-particle duality, and the origin of the Universe (the 'event horizon').
- Many studies now recognize the observer has to be an active entity. For example, the role of the observer is important and well-established in quantum physics, and cannot be ignored. [84-86] Our experiences vary as observation is *relative* [17] to the *framework* of the observer, and these variations recognize reality differently. [23; 87; 88]
- And possibly most important: How does spirituality apply to the broader 9-dimensional quantized (little bits; pixilated; discrete) finite existence?
- Is that broader finite, with covert (dimensions 5-9) and overt (dimensions 1-4; largely our physical 3S-1t experience) embedded within an infinite, perhaps divine continuity?

Again, we can largely solve all these questions, applying 9D science. We certainly do not know all. Ours is an ongoing exploration, so let's finish this section pointing out our limitations (we cite verbatim from a previous publication by Neppe and Close) [89]:

" Acknowledgement of a Greater Reality:

This is told in all humility. In this paper, we present some remarkable findings. We refer to some of our work with sincere meekness. Below, you will read about colleagues who have studied our findings in detail, and regard them as more than groundbreaking, even paradigm-shattering. However, what has guided us? *We don't for a moment think this important shift from the current paradigm of scientific materialism to the realization that reality is consciousness-based and spiritually driven are purely our own independent contributions. We know that, for us, it is the result of accessing higher consciousness realities.*

For us, this paradigm shift has been a series of remarkable inspirations and sometimes epiphanies, with certainty about what is correct and with the logic and sequencing of each discovery providing further confirmation of what was discovered before. Many times Dr. Edward Close and Dr. Vernon Neppe have had the same independent realization at almost the same time, 2000 miles away, quite independently, and yet in a remarkably consistent manner. [90]

Could it be that the findings below might be considered remarkable—in the sense of following the laws of nature but in accordance with reality higher than our usual physical 3 dimensions of space in one moment in time—the present?
Are these telepathic insights from one mind? Are there guiding elements here?
Is it purely us, or guidance? G-d? You choose. It is our opinion that we've been guided and inspired. We've been influenced. Could this be the creative spiritual expression of science at work? We don't know, but think" that to be so.

Again we quote Arthur Koestler [91]:

"The real achievement in discoveries... is seeing an analogy where no one saw one before... The essence of discovery is that unlikely marriage of cabbages and kings — of previously unrelated frames of reference or universes of discourse — whose union will solve the previously insoluble problem." He further adds:… *The principle mark of genius is not perfection but originality—the opening of new frontiers."*

In our opinion, in Dimensional Biopsychophysics [92; 93], there needs to be an extra component. Not only the insightful discovery, but the proof, and much of that should be mathematical. We believe, we have demonstrated this math requirement, at least coherently, and to an extensive degree enough to make a difference for almost every one of the questions above. That is exciting.

We can usually prove the hypothesis; and when we cannot, we can logically speculate, and then use that logic, fitting the pieces into the appropriate part of the jigsaw puzzle, and using that as the scientifically feasible jumping point for further studies.

The misguided, the cynics, the deniers, the scoffers and the innocent. Part 3.

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE
and Edward R. Close PhD, PE, DF(ECAO), DSPE

There remain still the cynics or effectively a small number of scientists variably 'deniers' who do not like to extend changes to the Standard Model of Physics, 'scoffers' about the TDVP model that *"just cannot be correct"*, or the misguided who have been influenced by others or are just ignorant of their own ignorance. [h] [94] Many of these cynics are from the exceptional IQ groups. But that does not allow them to negate information without the appropriate mathematical proof: That refutation simply does not exist—the math is correct, and the empirical demonstration justified. *We encourage open-minded and well-considered skepticism.* That helps us to further develop our ideas more, to explain the difficulties noted by skeptics, and to understand the limitations of our own models. *Skeptics apply science.*

So let's take some examples: These are important because we, like the many original pioneers of yesteryear that we've discussed, encounter these kinds of comments repeatedly, albeit from only a few individuals. We have previously chosen to ignore them, not wanting to embarrass anyone, hence we quote only anonymously. We want to be respectful and understand the complex conflicts, dynamics and misunderstandings that may have led to their misinterpretations. We truly do not want to hurt feelings, but we need to assert the correctness of our view, to educate, and to advance further knowledge.

This does not necessarily mean we are correct, but at this point in time, our model has not been refuted, and instead, has continued to be amplified with other proven hypotheses or with scientifically verifiable information. With respect, these adverse, unfounded comments reflect on the cynics, not on our work. However, these critics may extend beyond just materialistic denial, to other negative emotions or thoughts that include jealousy, incredulity, ignorance, resentment, misinformation, or perhaps even malice. *Our TDVP discoveries are threatening to those who have grown up and been trained only in 4D-science.* Even individuals demonstrating exceptional intelligence are not immune. They, too, have their limitations, and group influences also might modify their views. Some of the examples below might reflect innocence or inexperience, too.

- **1. "The Cabibbo mixing angle calculation is not rigorous enough".**

As background, the Cabibbo mixing angle refers to an esoteric angle in particle physics. Prior

[h] The term pseudoskeptic refers to someone who does not use scientific methods but instead rejects a discipline or information based on their prejudices. We have mainly applied the term 'scoffer' that Stan Krippner, PhD prefers and this was originally proposed by Marcello Truzzi. We all need to be cynical and skeptical and these are used as required here. Krippner's 'counter-advocate' term has had mixed receptions so is not here used. We also have used 'denier', and 'bigot' but some might even be innocently unaware of the limits of their analyses. We welcome open-minded scientifically-based skepticism though: That way the true scientist who is appropriately trained carefully analyses the broader context of data. Even Albert Einstein, the scientist not the dogmatist, was appropriately skeptical not accepting everything and needing to resolve paradoxes.

to our work, no-one had been able to derive its size. Many scientists over fifty years had unsuccessfully attempted to solve why it was the size it was: No-one could understand why it had to be the strange size of 13. 04 degrees. [95-98]
The Cabibbo angle was not solved because, with respect, it required a 9D model to solve. This was our first definitive 9D TDVP derivation. Thereafter we were able to replicate the 9D idea repeatedly [99] with several other derivations. [3; 100-102]

However, a graduate level physicist in a high IQ society, questionably remarked:
"The Cabibbo angle proof might be correct, but it's not rigorous enough."
But the author of this statement could not indicate why there was insufficient rigor in this proof that has now persisted, unrefuted for 5 years, and where the proof is heavily associated with mathematics, and confirmed by experts in the area. [103-106] Probing further, the author acknowledged he had not even read, never mind studied, our book *Reality Begins with Consciousness: A Paradigm Shift That Works.* [11] Nor had he read the many hundreds of publications we've written in detail. Instead, he admitted he had only seen a layperson report on the Cabibbo mixing angle. He now requested more detail and wanted to send it to his University colleagues.

This kind of unscientific pontification is unfortunate: Nevertheless, we are fortunate that there are now 4 different major scientists in the disciplines of Dimensional Biopsychophysics or Particle Physics in 3 countries who've studied our TDVP work intensively. They are highly qualified and have publicly declared that, based on their critical evaluations, they want to nominate us (Ed Close and Vernon Neppe) for the most major scientific prize. They all may be wrong, and certainly corrections historically are not unusual in science, but their conclusions suggest support for our work. We are concerned, however, that the 4D scientists at the major university of this individual may not understand the full extent of our work: Have they studied our broader writings or Dimensional Biopsychophysics? Despite remarkable 4D science qualifications, are they yet 9D scientists? With due respect, that makes a major difference.

- **2. "Why 9 dimensions not 12? The math must be irrelevant or contrived."**

A second high-IQ individual, with respect, historically a 'scoffer', a Master's level physicist, wrote: *I want to tell people that you're wrong: You must be fooling everyone. Why not just choose 12 dimensions and find something unrelated that 'proves' it? The math is irrelevant. It's like a cult: We must tell all that there's no basis to your work.*

The problem is if there truly were 12 dimensions needed, we might test it and try to prove it: Yet, though we might try, we would definitely fail because by math 12 dimensions are simply incorrect. Ironically, 12 is a multiple of three— everything in nature is volumetric and also of two squared, factors of 108 (for life elements). But math requires 9 finite dimensions.

With respect, TDVP is not a cult: It's justified 9D science involving a paradigm shift that

works. However, the sarcasm based on the quotation, and the context of this with his other statements, was clearly the intention here to sabotage detailed authenticated work: Could that limitation, respectfully, possibly be through his own ignorance? Or through his own limitations? Is he masquerading in any of fixed, ignorant, unalterable, bigoted, ineliminable religious 'denierism' that could be styled 'incomplete dogma with unchangeable beliefs'?

Answers that count! Let's objectively answer to these critiques scientifically:

- It is now a *fact* that, based on empirical mathematical data, there *are* nine rotating dimensions (or maybe exponents like 81) in finite reality: Period. Every major finding in TDVP began by applying logic and possibly some creativity, and we have indicated, the 9-dimensional finite rotating model is now definitive and mathematically proven: Moreover, the math is easy to prove. Whether we like it or not, we are dealing mathematically with a 9D quantized finite reality, and that reflects our *finite existence*: the 4D 3S-1t physical reality we *experience* is simply the *overt* component that is expressed to us during our physical existence. The remaining dimensions are *covert*.
- It is further a *fact* that based on examining data in the protons, neutrons and electrons of each and every element, for example, they cannot mathematically exist within stable atoms, unless an extra component is added—this is that additional aspect, 'gimmel'. Without it, the mathematics of the atom would be such that we would have only a fractional proportion of the atom, not the whole atom. That cannot be, because, by definition, the atom must be integral. There is something missing and that something, gimmel, can be applied by mathematical 9D science not through 4D science.
- It is a *fact that 9D is highly relevant to empirical science today.* The only question would be the relevance of 9D science: Could these just be mathematical operators, that are important mathematically, but of no relevance to the real world? Could this math of 9D science not be empirically relevant to real science? No! Our data is unequivocally proven empirically.
- It is a *fact that we now have definitive math proof* linking our Triadic Rotational Units of Equivalence (TRUE) data with gimmel and subatomic particles with the multibillion dollar CERN Large Hadron Collider. [22] The figures *exactly correspond* mathematically. [22; 72; 73] That proves our work is definitely empirically based, our findings are real and necessary, and that includes gimmel. [22] This is why it can no longer just be regarded as a mathematical operator that is irrelevant to our reality. [57; 74; 107] This is our most important discovery culminating in 2018, as this proves that TDVP is not just scientific speculation. [22; 74] Effectively, this implies that gimmel or higher consciousness has been scientifically proven! We challenge anyone, *after appropriate training not just cursory analysis,* to refute this data and specifically to show the mathematics is incorrect.
- Moreover, our cosmological data is apparently also correct: The Hubble 'dark matter—dark energy' data [108-111] amazingly correlates at the <1 in 1250 level with TRUE data! [59] To boot, we've shown that Dark matter-Dark energy further correlates strongly with quantal atomic studies. [112] With great respect, the facts are against 'scoffers' and 'deniers'. Given that we've demonstrated that TDVP is not just a 'theory' (like string theory is), but based empirically on

fact at all of the quantal, macroreality and cosmological levels, it might now be incorrect to call TDVP a likely *'Theory of Everything (TOE)*', but a *'Description of Everything' (DOE)'*! Nevertheless, we dislike the term 'TOE', as we haven't yet described, for example, Quantum Gravity or Unifying the Laws of Physics. So we'll stick with 'metaparadigm'!

- **3. "All of TDVP must be wrong! Let's slay the dragon from a finger-prick."**

We encountered a third unfortunate individual, a gifted and creative mathematician who incorrectly generalized across to a whole paradigmatic model from an irrelevant sentence: This could simply be an example of inappropriately applying the scientific method, or possibly being influenced by another colleague who did not know any better.

The example this time was a tiny response to laypersons about a largely irrelevant question: whether an angle of spin could or could not be 120 degrees. [113] The author correctly focused on that one largely irrelevant comment— not germane to the whole discussion—in a hundred page document in one of our simplified dialogues that gave a tentative, speculative, theoretical answer. [114] Even if our comment had been definitely wrong, the comment was irrelevant (and incidentally, one option in our answer could have been correct anyway). However, the author spoilt his excellent computerized analysis jumping to a major conclusion that our whole model of TDVP was refuted! Effectively he was writing: "Oh here's one little thing, it doesn't have to be like this, but I conclude from that, that everything you're doing must be nonsense: TDVP must be refuted." This example illustrates the unwarranted extended conclusion by analogy: Metaphorically, miskicking a soccer ball a half an inch instead of the full 100 yards of a football field should not prioritize that miskick into regarding the whole field as faulty. [114]
Clearly, we should maintain priorities and perspectives in conclusions and we must make appropriate justified conclusions from specific examples. Refutation requires testing a relevant hypothesis fundamental to a model or applying other logic for new ideas. We must obtain a proper perspective of the relevance of a single grain of sand in a vast beach. We must avoid taking something out of context:
It's like *"this isn't correct, so everything else is wrong: let's find one little component —a prick on the finger—we don't agree with and then slay the whole dragon"*.
Unfortunately, sometimes misguided scientists just don't look at the whole picture.

- **4. "Why bother?"**

Another example happened with an eminent PhD physicist scientist: *"You don't need to show in your paper the square root of an imaginary number is imaginary because it's obvious, and someone else has shown that before anyway."* So he concluded:
"Why bother to look at the rest if you thought that needed to be listed. It's so obvious. "
Clearly, this is irrelevant logic and out of context. For him, it was obvious. But when we replied that others might not have known this and asked for the math proof, he responded:
"Oh well, you're not supposed to be commenting on me, we're looking at your work".
It is easy to condemn, even by innuendo. But that does not make for truth or objectivity.

- **5. "None of our group believes this work!"**

We asked this author about the basis of this remarkable statement. He denied having said this, and did not want to be named. We have taken his denial at face value, because a scoffer might have found benefit by misquoting him. So here was a highly intelligent, creative, non-scientist, influential in his peer-group, having his claims misquoted by others. He further admitted he had no scientific training in this area, and had also not studied articles on TDVP. But he felt he had certain skills and *"I intuited your 9D work must be wrong, because I 'see' everything 3-dimensionally"*. Ironically, 9D science involves 3D volumetric phenomena, and this actually would agree with his 'intuitions' because he was "superb at conceptualizing 3D shapes." However, in most areas of endeavor, scientists who critique specific research know the discipline very well. They are experts who have read the broader literature, and studied the key information in detail: We expect open-minded skeptics of TDVP to be so qualified.

- **6. "Professor of Physics or Dimensional Biopsychophysics expert?" A caution.**

"I will send the article to my Professor. He will decide the value of this work."
This is a common and apparently appropriate comment, but it's worth a cautionary note. To be even a top-class academic Professor of Physics in 4D science, who may or may not be super-specialized, does not make one a Dimensional Biopsychophysicist in 9D science. Even the greatest 4D physicist is not necessarily capable of expressing an appropriate opinion on TDVP until educated in the area: *The most respected 4D scientists may not even recognize their limitations in studying and evaluating the multidisciplinary* TDVP data or other proposed theories of everything. Effectively, different expertise may be needed to study 9D+. We note that even exceptionally intelligent individuals still require thinking out of the box [115-117]: Creativity appears to be a separate attribute to convergent intelligence. [90; 118] Being 3 SD above the mean in IQ, does not make one omniscient, nor necessarily exceptionally creative. Only some scientists originally trained in 4D thinking can make the creative 9D jump, and possibly only those with an open mind can succeed in multidisciplinary studies.

Distinguished interdisciplinary individuals who have made the creative jumps.
Any creative jump requires work. These can be to 9D, 9D+, *or any other novel discoveries*. We pay homage to current exceptional Consciousness scientists and original thinkers such as (alphabetically) *Doctors Larry Dossey, Joyce Hawkes, Len Horowitz, Alan Hugenot, Brian Josephson, Adrian Klein, Stanley Krippner, Jeffrey Mishlove, Surendra Pokharna, Dean Radin, Gary Schwartz, Rupert Sheldrake and David Stewart,* plus *Peter Davenport, Stephan Schwartz* and *Russ Targ.* Most opine only on their strengths, and are not 9D+ experts. However, they're exceptional in *their* areas, and have thousands of hours of multidisciplinary, intense, integrative studies to conceptualize their *various and different* challenges across their several, divergent disciplines. Each of these scientists have distinguished themselves internationally with wisdom, originality and creativity, knowing and understanding, and across many avocations, so that they could pioneer new ideas, and genuinely contribute much to mankind.

Nevertheless, *we cannot start as specialists in everything:* For example, Vernon Neppe MD, PhD (Med), a Fellow of the Royal Society (SA), originally was a neuropsychiatrist, forensic specialist, psychopharmacologist, psychiatrist, and physician. Yet Dr. Close guesstimates that Neppe has spent far more time than many mathematical-physics PhDs in updating and honing his skills in math-physics. Doctoral studies are necessarily specialized, and, in this instance, Neppe's additional education has been in the Dimensional Biopsychophysics (DBP) direction. Similarly, Neppe's co-researcher, Edward Close, PhD, mathematician, physicist and environmental engineer, too, has necessarily extended his erudition in the philosophical, biological and psychological domains. Both further applied their creative and logical thought to ensure developing and learning the complex language, concepts, ideas and lateral thinking in a new specialty. Mastering all of these areas is a challenge for any individual scientist. This is one reason why Close and Neppe have, by necessity, synergistically worked together.

A pertinent example here of such new thinking is the new 9D+ discipline that we (Neppe and Close) have called 'Dimensional Biopsychophysics' (DBP) because it incorporates physics and chemistry certainly, but also consciousness research [12; 35; 60; 87; 119-126], dimensionometry and extra dimensions [92; 127-134], mathematics [135; 136; 137, Gowers, 2010 #421; 138; 139] and particularly Edward Close's the 'calculus of dimensional distinctions' [22; 140-143], plus the biological, medical and the psychological sciences [144-147]. Add to this the many philosophical, mystical and spiritual, [89 32; 139; 148-152] disciplines and the interdisciplinary challenge is formidable. We believe that effective mastering of TDVP fully requires the minimum *equivalent* of an extended, high-intensity Master's or Doctoral interdisciplinary program in these several specialities.

Who are the misguided ones?

With great respect, we are left wondering who the misguided scientists are? Are they the non-creative scoffers who have rejected the new? Or us (Close and Neppe).With respect, we found the fish that fell through Eddington's metaphoric net.[32] We recognized there's more to reality than 3S-1t. *What metaphoric fish were discovered? Essentially 9D and 9D+ (with infinity)*: After 7 years, no essential, fundamental or key component of our TDVP model has been refuted. This is very unusual in science, particularly today. Instead, with each finding the TDVP model grows stronger. We hypothesize, test, and confirm: It's like putting gloves onto many hands; each time they fit. This may not be too surprising, because the fundamental axioms on which TDVP are based appear to be correct, so the logic and discoveries follow.

The landmark justifications of change: Exploring our 2018 findings.

Even though Neppe and Close cogently argue they are correct, let them prove it: That's now easy. The TDVP justification is our demonstrated Mass-energy equivalence normalized data in the CERN Large Hadron Collider paper combined with another ostensible landmark paper, our integration and possibly the first unification of the magisteria of spirituality with science. [89; 153] These make an important 2018 duet, though many key features developed far earlier, [135-137] and both were works in progress over many years [89] (see VernonNeppe.org/presents).

The Neppe-Close TDVP research is, with respect, *the* extraordinarily game-changer. It might describe the missing links: A key, important landmark discovery is 'gimmel', the massless, energyless, third component of reality, that may be key to science in both 9D and the infinite.

Gimmel in the 9D finite: Gimmel is in *necessary union* with all stable particles. But for Gimmel to make sense in the finite reality, it must be in the nine-dimensional quantized reality context. [12; 15; 16; 55; 58; 59; 65-67; 112] The concept of gimmel appears to have changed the nature of stable particles [113] because these subatomic particles can exist for extended periods: The proton [154], for example, apparently has existed in stable form for as long as the age of the universe! [22; 74; 114; 154] Gimmel has allowed us to understand the need that was *created for stability of particles.* Conversely, the insufficiency of gimmel may be the major reason why the vast number of mathematically unstable, ephemeral particles exist just for 'moments' (such as$10^{-7 \text{ to } -21}$ second) [47] in the so-called 'particle soup'.[155; 156] The hypothesized particles in the soup appear unstable because mathematically there is insufficient balancing gimmel. We speculate that gimmel may not only reflect a finite measurable mathematical quantitative *extent*, but a non-quantifiable, infinitely linked *content* quality reflecting consciousness. [22; 140-143] Gimmel *impacts* everything and that allows dynamic, interactive functioning with all of finite physical reality. Gimmel is virtual, and it *may be a necessary though not sufficient* requirement for permanence at every level of nature (some mass-energy facts may exist, too). We quote Dr. Pokharna [8] again: *"We cannot have any particle, tiny or macroscopic or in our astronomical reality, without what is called 'gimmel'— Neppe, Close and I and others regard gimmel as consciousness, or its vehicle as there is simply no other explanation …"*
"Neppe and Close have provided the data to solve complex questions by TDVP. Effectively, once one introduces extra dimensions, infinite continuity which embeds the 9 finite quantized dimensions, and consciousness/gimmel—"the God Matrix"— with math proofs plus unified reality as key points, the solutions for all finite reality become easier. This is why their TDVP model—unlike any other scientific model based on the Theory of Everything (TOE) criteria analysis—works, and why TDVP so closely reflects and encompasses the spiritual aspects."

Gimmel in the infinite: Ordropy, life and the conservation of mass, energy and gimmel: Reference to the *'infinite'* is very important in 9D+: 'Stability' in subatomic particles might still describe a *finite*, time-limited, but extended impermanence. But at the *infinite* continuity level, the term 'stability' appears insufficient because *gimmel provides an infinite endurance that would persist forever,* as reflected in our recently verbalized *'Law of Conservation of Mass, Energy and Gimmel'.* [22; 72; 73; 61] This never-ending conservation links strongly with our concept of *'ordropy'* [11 24-26; 28; 60-62] — *the tendency to infinite order that* continually impacts the finite at *every finite dimensional level*. We propose that ordropy likely arises from the infinite, and impacts the finite through gimmel: Our finite physical 4D life and our infinite immortality reflect fundamental ordropic properties. Any impermanence of finite subatomic particles results from the subatomic particles themselves, e.g., the short half-life of the free neutron (<5 minutes), not gimmel. [72; 114; 157-160] Gimmel is necessarily intimately linked with a broader, ubiquitous consciousness *radically reshaping science with spirituality.* [92; 22; 72; 73; 61]

Speculation versus Proof: Part 4.

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE
and Edward R. Close PhD, PE, DF(ECAO), DSPE

LFAF— 'Lower Dimensional Feasibility Absent Falsification' is key

All these areas are not only addressed in TDVP, but legitimate explanations based on empirical data, logic and mathematics are applied. However, we're careful to differentiate *speculation from proof* applying our model of Lower Dimensional Feasibility Absent Falsification—LFAF. [34; 150; 161-163]

Relevance of LFAF in the sciences

LFAF appears to be a truly remarkable contribution to the Philosophy of Science. It recognizes what is scientifically feasible, but not falsified. LFAF is so fundamental to the scientific approach that it can be applied every day, and also in disciplines like cosmology, evolution, quantum physics, Medicine, Social Sciences, Forensics, Psi, and Consciousness Research. LFAF completely changes science [54] and allows for alleged "theories of everything" (TOEs) like TDVP, too. And LFAF is a profound new paradigm for the philosophy of science, and should, with great respect, become the standard way that we now measure science." [34; 150; 162; 163] And most importantly possibly, it allows spirituality to be feasible and to enter the world of science!

Relevance of LFAF in higher dimensions

LFAF also allows understanding of how higher dimensions of reality may be incompletely registered in the lower dimensional reality (e. g. 3S-1t). Their feasibility can be tested metaphorically by placing jigsaw puzzle pieces into the correct spots, and this extends science by amplifying the jigsaw further. Such feasibility without being falsified is very, very common—an everyday occurrence.

Jumping to the covert dimensional domains

Neppe has cogently emphasized these and related insights.

"*To the conventionally trained scientist, anything which does not fall into our <u>overt</u> physical four dimensional domain <u>experience</u> (three of space within a single time dimension) does not <u>exist</u>. It is consequently treated as 'unscientific', 'absurd pseudoscience', or 'speculative metaphysics' or 'third-rate mysticism'.*

The truth is just the opposite: Recognizing the true compass of feasible reality allows the real scientist to easily mathematically solve puzzling paradoxes and to empirically appreciate unexplained conundrums. This includes understanding the covert extra dimensional expressions that the finite 5th to 9th dimensional domains allow for—consciousness, spirituality, and the further extra two dimensions of time. Moreover, these materialistic scientists must also recognize the infinite, too." [164]

4D science is contained in the 9D science

Everything we've learnt in the macro-world particularly is included in TDVP: Our physical reality including 4D science is also well-substantiated through the TDVP model of 9D+ science. We must recognize that despite physics Nobel Laureate Richard Feynman, the layperson's physicist, popularizing that we must accept the norm [38] that 'quantum physics is simply weird', in 9D science quantum physics as well as cosmology is *no longer weird anymore* and actually obeys the same laws of nature as our macrophysical laws. The Laws of Nature are uniform for all of science. [11; 59]

John Wheeler's suggestions for research:

The great theoretical physicist, John Wheeler PhD (Feynman's PhD supervisor) recognized this likelihood several times [165]:

- In any field, find the *strangest thing* and then explore it.
- In order to more fully understand this reality, we must take into account *other dimensions* of a broader reality.
- Everything must be based on a *simple idea*. And it is my opinion that this idea, once we have finally discovered it, will be so compelling, so beautiful, that we will say to one another, yes, how could it have been any different? (Or the variant) Behind it all is surely an idea so simple, so beautiful, that *when we grasp it*—in a decade, a century, or a millennium—we will all say to each other, how could it have been otherwise? How could we have been so stupid?

Applying John Wheeler's research suggestions:

And so, with great respect, Wheeler's quotes are apposite. We've discovered solutions to the strangest things. We've increased to other dimensions. We've applied a *simple idea*: We've *grasped* that shift from 4D science to 9D science, and our colleagues should have, too: We've applied simple ideas with normalization of volumes of quantum particles. This is why with 9D+ science conundrums like quantum weirdness, and dark matter and dark energy [59; 112], and even entanglement [11; 166], non-locality [87] and psi [123; 167], infinity [62; 92] and even spirituality [89] and consciousness [12], and possibly even relativity and quantum mechanics [168] become easy to understand within the single 'unified law of nature'' [11; 59; 112] We have united the quantum, macrophysics, cosmology and even spirituality with the same natural scientific rules.

Moving from 4D to 9D science?

This should be so exciting for the 4D-scientist who finally will become 9D scientists. However, strangely, Eddington's *"bah"* still seems to apply [32]. Yet, it's all comprehensible and easy. *The mathematics is there and we have put it there for anyone to look and see.*

Yet, do we really still need those Planckian funerals [44]? That would be unfortunate.

Do old habits really need to die out, even if they are obviously wrong? 4D scientist: please answer!

Our physical reality of 3S-1t that we experience, allows us to live our lives knowing there is predictable and often replicable order. However, TDVP also recognizes particularly those Standard Model of Physics limitations in quantum physics and cosmology and extends those. It also explains

a large number of other conundrums and fortunately demonstrates the mathematical bases to many of those because they require 9D+ not 4D science.

The alternative: Ignoring change

Currently, there is clearly a need for that paradigm shift. This is because the old standard Model of Physics (SMP) simply does not work in many quantum and cosmological contexts: Provided we ignore important covert influences on our lives like consciousness and infinity, the SMP still largely fits into our day-to-day macroscopic physical reality. But we might not want to, just as we do not ignore the fact that our earth is not really flat.

However, moving to the atomic particle level, for example, the idea of "quantum weirdness" [37; 38] has become passé: In 4D science, we must just accept that quantum mechanics is just not very clearly comprehensible. And we must accept other obvious inconsistencies or unknowns, too, such as the many cosmological conundrums including what was there before the Big Bang [169] and others [170].

There are far more illogicalities than these inconsistencies. It might just mean that even though conventional scientists *think* they know everything, *they are missing a very large part of our reality!* But we need not accept any of that. We hope that the advent of the internet will allow us to beat the Planck alternative variant of: *"A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather its opponents eventually die, and a new generation grows up that is familiar with it."* [44] We want scientists now to learn 9D+ science!

4D science may still be applicable in our Triadic Dimensional Vortical Paradigm. *TDVP recognizes experiences in our limited perspectives of 3S-1t certainly, but it also allows us to integrate with our broader existence that is impacting us all the time.* However, 4D is insufficient to solve many questions: In Part 1 of this paper, we alluded to the more than 50 conundrums, mysteries and contradictions that the Standard (Reductionist 3S-1t) Model of Physics simply cannot answer. This appears to be because these conundrums go beyond 4D science: They're insoluble with 3S-1t. But, the solutions to these conundrums can be found, in part or in whole, in 9D or 9D+ science. [171] They then become scientifically feasible. [34; 54] We need to still apply 3S-1t models at times, and this may be a reason why some solutions can only be *in part*. We can only apply our 9D+ jigsaw puzzle from the framework of our 3S-1t awareness. At times, the application of *suitable* 9D quantized math, such as Close's Calculus of Dimensional Distinctions [22; 140-143], facilitates significant resolution.

An aside: We understand there are over a thousand full-time scientists studying areas relating to the String Theories [17-21]: With respect, their research has gone nowhere simply because the concept is based on false premises (e.g., no vortices, no consciousness, no infinity, not volumetric, no 9-D, no triads, no 3D time). Would it not be wonderful if some of these researchers instead joined Vernon Neppe and Edward Close in a TDVP endeavor that is ostensibly correct and is a critically important fertile discipline that can generate over six hundred testable hypotheses for future PhD degrees? [11]

A new approach to the philosophy of science: LFAF and 11 NCR. Part 5.

Vernon M. Neppe MD, PhD, FRSSAf, DPCP(ECAO), DSPE
and Edward R. Close PhD, PE, DF(ECAO), DSPE

Falsification versus feasibility

Conventional science argues that current science is based on the 'Popperian theory of Falsification'. [83; 172] This requires rejecting the false results, till true results are discovered. We need to add pieces of the jigsaw puzzle within 3S-1t. This way the open-minded appropriate skeptic can examine the data logically. Importantly, some paradigmatic models are incorrect and not feasible. If they were falsifiable, they could then be falsified using the correct approaches. But, most times, they are not falsifiable. What is new, is not necessarily better, so we must seek feasibility.

The introduction of our concept of 'Lower Dimensional Feasibility Absent Falsification' [163] incorporates *feasibility* and therefore *pivotally provides* scientific method in extending consciousness [34]. This is so important because we can now extend the concepts of science beyond the purely limited falsifiability.

LFAF raises issues about interpreting evolution in a purely mechanistic way. It allows incorporation of the feasibility of Consciousness Research, concepts of theism with impact, higher dimensionality; [87] and psi into science not as pseudo-science [123; 173; 174]; and it also facilitates studies of cosmology and even Medicine and Psychology. [99; 175; 176]

Circumstances are rarely replicable—they cannot be repeated again and again at different places and times, failing the condition of repeatability in the realm of the modern science. Many psi phenomena fall in this category. [167; 173] They cannot be treated as 'scientific' in the current Popperian definition of the modern science based on falsifiability from the framework of 3S-1t. [150; 163; 177] *TDVP results in an extension of the modern science because it recognizes higher dimensions and that is where the major part of spirituality and likely consciousness exists impacting 3S-1t.* These can be impacted by altered states of consciousness, such as through deep meditation or near-death experiences. [99; 175; 176] That might allow events to occur more regularly.

There might be no (totally) satisfactory definition of "science" as it does not always apply "the scientific method". Even the quantitative "hard science" may be applied to an ostensible non-science because it is highly quantitative and technical. Additionally, mathematics appears to be a metalevel above science because mathematical proof is so definitive: Is it part of science? In a way, it is above science, removing all debates from what is true.

Kuhn's scientific revolutions and the Neppe-Close 11 NCR

Thomas Kuhn's theory of on the Scientific Revolutions of change encompasses a repetitive and ongoing cyclical transition that involves three stages, [178, 179] namely:

- normal science;
- crises when paradigm shifts are contemplated or recognized with new assumptions; and
- scientific revolutions when the paradigm alters after a qualitative transformation in theory.

Actually, it was not Kuhn, but the German philosopher, Arthur Schopenhauer [180], who first articulated this central idea: *"All truth passes through three stages. First, it is ridiculed. Secondly, it is violently opposed. Third, it is accepted as being self-evident."*

We have extended the stages of the Kuhn model. [178] We have proposed the "11 Neppe-Close Revolutions model (11-NCR)" of change—the reshaping of science—by adding several more paths along the way. That makes these stages more comprehensible as the detail otherwise has been missing with all but the three Kuhn stages.

Table 1: The eleven phases of denial and acceptance of Neppe and Close ("the 11NC revolutions" or "11-NCR")

1. Initially there is *"it's too wrong to be wrong"*, often accompanied with a condescending smile or chuckle; the alternative phrase is the derisive *"it's too false to be false";*
2. then there is abject rejection, often accompanied by ridicule and name-calling: *"the insults are deserved. I know, I'm an expert";*
3. then *"that's a good try, but it's simply not true"*;
4. then the consensus rejects it: *"it's definitely incorrect"*;
5. then it is unlikely, but it may be mentioned as a hypothetical for completeness: *"it's an unlikely outlier that we mention just to cover all our bases";*
6. there is the stage of *"I'm opting out: This is outside my discipline, so I don't understand it or haven't studied it. Let me suspend judgment";*
7. then *"maybe there is something there, but I need more";*
8. then *"there is some evidence… interesting"*;
9. then *"it appears to be proven: the evidence is cogent; but most scientist don't accept that"*;
10. then it is hailed as *"it's a new breakthrough"* (even though it may have been proven much earlier);
11. then "*it's obvious: we all know that".*

This results in eleven phases of denial and acceptance of Neppe and Close ("the 11NC revolutions" or "11- NCR") highlighted by stage 1 *"Not even wrong"*. [177; 179]

For example, in general, Kuhn's normal science incorporates the first 6 stages of 11 NCR.

Then Kuhn's crisis stage could roughly incorporate stages 7 to 9 of 11 NCR.

Then Kuhn's paradigm alterations related to stages 10 (when new) and 11 (when accepted) of

the 11 NCR. The spectrum ranges from individual utter rejection to complete acceptance. [179]

We exemplify this 11-NCR model applying 11 new sequences of discovery, and point to the prejudices of the scoffers. [177; 179] (Table 1) Of the 11 legitimate phases, individual scientists might be somewhat arbitrary as to which level of classification they would apply. Even attaining a consensus of scientists might not imply they are correct.

Metaphysical and 9D science

So how, then, can we apply consensus and peer review, and maintain a paradigm or specific knowledge as science? We, surely, must be careful that when using current consensus ideas, and rejecting feasibility, we regard the greatest contributions to science as "metaphysical" — implying they are not scientific, or simply philosophical, or sometimes involve creativity. We might then recognize, too, the irony. LFAF becomes an impetus for change to redefine experience in the context of identifying different levels of acceptance in this new science. Without applying LFAF, this might not even be perceived as a science at all and still simply remain metaphysical speculation or a philosophical standpoint, because we are then not going beyond 4D to 9D+ science. Yet, consciousness alone forces that option of 9D+ as we move out of the 4D science of 3S-1t alone).

Where do we stand? In our opinion, when so-called scientists write that *"it's too false to be false",* they're saying a great deal. But this is not usually about the science behind the work they're critiquing. Instead, it may reflect themselves, because with the speakers' ignorance, or their unswerving rigidity, flows forth their character.

Evaluating the TDVP findings in sequence: Grading each milestone applying 11 NCR?

Let's apply the 11-NCR classification to the example of the following sequences:

1. Close and Neppe developed their detailed TDVP [i] model of the finite and the infinite. [11]
2. They then recognized in their TDVP model that there had to be a multidimensional finite reality. [27; 28]
3. They then postulated in their TDVP model that there had to be specifically a 9-dimensional finite reality. [11; 28]
4. They then demonstrated theoretically why there should be 9 finite dimensions. [11 103; 104]
5. They then mathematically derived the Cabibbo angle which required 9-dimensional spin. [106 105]
6. They then replicated this mathematical derivation by a thought experiment. [181]
7. They then extended this work to other areas such as angular momentum and electron spin. [182]
8. They then extended several other related phenomena such as the non-spherical

[i] TDVP or TDdVP: The Triadic Dimensional Distinction Vortical Paradigm

electron and the electron cloud. [99]

9. They then postulated that each higher dimension is an extension of the previous ones: The lower dimensions are embedded within the others. [183]
10. They then developed a model of the third property, gimmel, which shows that we need a 9-dimensional reality. [12; 14]
11. The applied Triadic rotational units of Equivalence —TRUE units including quarks, electrons and gimmel. [14; 59]
12. They showed correlations of gimmel, both sub-atomically as well as at the cosmological level, and that these relate to a particular way of measuring reality. (Triadic rotational units of Equivalence —TRUE units). [14; 59]
13. They recognized that all these findings are heavily correlated with the commonality being a finite 9-dimensional spin model. [88 87 99 177; 179]
14. They further pointed out that none of the 9D spin findings in any way compromised the experiential empirical findings that we have in 3S-1t. [3; 101; 128]
15. They then moved from the mathematical and empirical scientific model to the creative exploratory model for the future. They realized that there are many more ways to solve the many conundrums in our current world view by applying this knowledge:
    a. Through understanding there needs to be a spinning multidimensional reality (which also would refute [29] the String Theories [18] which involve folding or curling, not spinning)
    b. That certain other dimensional contradictions or conundrums of physics might be potentially solved in the future. [12 184 185]
    c. That mechanisms for psi phenomena can be solved without contradicting our current experiential reality. [186 167]
    d. That the reality might need to be 9-dimensions or a related exponent: 9 is 3 squared, and it could possibly be 9 cubed = 81, 9 quadrupled = 729, or possibly even 3 cubed =27. [88]
16. They then definitively demonstrated the Mass-energy equivalence of TRUE in the normalized data in the CERN Large Hadron Collider. [22; 72; 187]

Let's look at some of these 16 options including the four subdivisions of option #15. [177; 179] How does the conventional 4D-scientist, very used to life being only 3 dimensions of space (length, breadth, height) experienced in a moment in time (3S-1t), regard such findings? First, he could regard each of the sixteen findings individually— #1 to #16, being perceived independently of any others.

Alternatively, he could build on the 16. Knowing that e. g. #5 likely implies that #1 to #4 is also correct.

Therefore, possibly there should be 3 rankings when we classify these 16 statements in the context of the 11 Neppe-Close Revolutions model (11 NCR). The rankings of the statement should lead to a particular level ranking which would be different for each scientist [177; 179]:

A. independent of any other statement;
B. taking all the other previous statements into account yielding a composite;

C. rank the ranker's individual attitude for the above, not based on information delivered but attitude toward the areas (independent, composite, other). This ranking might say much more about the findings or the background (personality, training, ignorance) of the scientist involved than the actual findings.

We briefly go ahead and this may be particularly relevant for C. above.

- Level 1 would refer to the pseudo-skeptic, denier, or scoffer, of "too false to be false"?
- The mid-range may involve the considered opinion of Level 5, "unlikely outlier" because we're concerned about all other 3S-1t science, despite knowing that it does not contradict any of 3S-1t, just extends it—so that still requires some denial of the data?
- Or is it Level 6, the honest "*I don't understand it: This is outside my discipline".*
- Or is it Level 9 *"proven? But most won't accept it?"*
- Or is it Level 10 *("a new breakthrough")*?
- And what would it take to be Level 11? Would it require the Planckian funerals [44] or has massive, rapid electronic communications changed that ethos?

Of course, adding "feasibility" to the mix might paradoxically lead to being stuck on Level 1 of 11-NCR for longer. Before it could just be rejected but not as science, so maybe as a Level 3 (*"good try, but this is not science")* but now, for some, it might be classifiable initially as *"not even feasible, because of its ostensible Bayesian impossibility."* [167] [11]. That may be why the Planckian Funerals [44], pointing out why advancements occur only over generations, are important. Scientists have difficulty with *"unthinking"*!

These 11 stages are not easy to negotiate because they are so threatening, and we can see this in areas where, for many, the evidence is cogent, such as in psi research [173], and yet for others the data is completely rejected, often out of ignorance.

Scientists might not easily admit variants of the following sentences: *"I'm too threatened by this. I want to stay with what I know. In any event, I must not need to unthink what I've learnt. And I'm an academic and my job is at stake."* Instead, ironically, often those who shout the most about maintaining the status quo, are *ignorant of their own ignorance* about a proposed new paradigm. They've not studied the paradigm in detail, and likely might not even have the requisite training and experience even to make judgments.

We have seen this ignorant ignorance repeatedly in the disciplines of Psi and Consciousness Research, for example. [123; 167; 173; 174; 188; 189] This is, at times, particularly ironic because with respect, we suggest a feasible unstudied conjecture:

Consciousness Research is so multidisciplinary that few scientists have been able to allocate even as much time to study this area as they would to a regular bachelor's degree in a recognized university discipline like physics.

Science is now subject to anonymous peer-review, yet this *"does not shield people from being jealous, opportunistic, self-serving, incredulous, or harboring idiosyncratic beliefs, nor does it ensure competence or ethical behavior."* [190] We could add 'ignorance of ignorance.'

Objective interpretation is indeed, a problem for all these reasons:
Acceptance of the new, may result in threats to current thought, and rejection may even result in misappropriation of ideas—we've seen referees publish data instead.
Also, acceptance of radical ideas might lead to rejection of the current University paradigm. Even in science, the new is dangerous and the expectation is to 'toe the line'. Recognition in science, like all endeavors today, frequently has significant political innuendoes.

These considerations certainly do not make conventional 'science' as a subject, necessarily into 'hard science'. Henry Bauer's parallel with economic data also being hard science [190] is exemplified here, as we see it: *Peer-review is a soft approach, often implying limitations that may be tantamount to the data being judged by a jury who are not really peers*—in most instances, different so-called peers will reach very different conclusions. [177] Some reviewers can back in their anonymity with unfair prejudices. As an important aside, Dr. Bauer's insights into the limitations of the scientific method and consequently, on Philosophy of Science, are extraordinarily important. Many have not considered them, and they might be at Level 1 through 3 of 11 NCR, when possibly they should be at Level 6 for some, and Levels 10 or 11 for others. [190; 191] Yet, Dr. Henry Bauer might be an example of those who will have only contributed after the Planckian funerals in the Philosophy of Science. [45] His wisdom has been ignored, possibly because he has been prepared to be controversial in his views, as well.

Still peer review with appropriate reviewers generally makes papers much better. Neppe points out that every single one of his 700 plus publications have gone through rigorous review, and have been read sometimes by as many as 11 peers. This includes journals, such as this one, that usually does not have stringent peer review, but allows exposure to several peer reviewers, more than most peer-reviewed journals. The consequent improvements in the quality of the articles pays off dramatically—this particular has gone through 25+ revisions.

Additionally, when change occurs, even after first electronic publication, some editors allow further clarifications to make what we regard as extremely important, even paradigm shifting work, even better. We regard this method as the future of peer-review. Anonymous reviewers have advantages, but they can create significant bias or rigidity or even prejudice and result in sticking at Level 1 or 2 of 11-NCR or can accept papers that are poor. Every so often we encounter someone who admits their lack of expertise and is at Level 6 of 11-NCR. [177; 179; 178]

Conclusion

What do we conclude? In our humble opinion, the data is cogent that 4D scientists applying the reductionist model of physics should extend their studies to the whole picture including details about 9D science or even 9D+ science. TDVP has been a game-changer.
We should be at the stage of Level 10 of 11 NCR of Neppe and Close. This should correspond with Kuhn's Stage 3 of Scientific Revolutions. [177; 179; 178]
The 4D scientists should apply 9D science particularly in the quantal and cosmological

disciplines where there are many insoluble 4D level conundrums, but they will not need to reject the great findings of our 4D physical macroworld. 4D remains an extraordinarily important part of the 9D picture, but not the whole terrain. Extending conventional scientific materialism from 3S-1t to learning about 9D+ science is very logical and should not be controversial: 9D is not a speculation, but is based on cogent and reproducible and empirically relevant mathematics.

The availability of 9D science allows scientists to progress more rapidly in their research because there are many new or unexplored areas to discover or investigate. This implies incorporating multidimensionality, the infinite and consciousness: TDVP certainly significantly advances the landscape, and so does the LFAF and 11-NCR models. Through 9D+ science, we also have unified the laws of nature, and that unification, too, might provide new areas for exploration or philosophical debate. As we envisage it, old ideas must be overridden and buried. However, the scientific method requires logic, common-sense, and applying LFAF. We examine the scientifically feasible without even 4D science falsification.

Derision based on ignorance, and lack of training, results in scoffers who might ultimately embarrass themselves, and be disrespected. They might reflect the mediocre failures who will never achieve, and instead remain at the lower rungs of 11-NCR. We welcome *open-minded* skeptics coherently communicating and demonstrating the cogency of their argument. These skeptics on 9D and 9D+ science would have studied the material prior to disparaging the legitimate. It's excellent to exhibit appropriate open-minded skepticism about any research: Even Einstein was a skeptic about quantum theory with its illogical paradoxes, spending his last 20 years investigating extra dimensions (but sadly, not including consciousness.) [192-194]

Our model will, no doubt, be wrong in some respects. Time will tell how. Yet TDVP, based on 7+ years of 'pivotal, earth-shaking, all-important' results, with international, interdisciplinary and multidisciplinary recognition, such as the Whiting Memorial Award [j] [195; 196], deserves a careful, comprehensive, educated analysis by teams of *qualified* mathematical scientists familiar with DBP who can thoroughly objectively approach this metaparadigm. There will be areas of dispute, components for debate, and necessary corrections needed. Possible amplifications of secondary hypotheses are required, with full-blown open-minded skepticism, and applications of current scientific and mathematical logic.

All these factors are not new: It was already a significant problem as long ago as 1943. This was pointed out by Erwin Schrödinger [197] in a lecture given in Dublin, Ireland. *"We feel clearly that we are only now beginning to acquire reliable material for welding together the sum total of all that is known into a whole. But, on the other hand, it has become next to impossible for a single mind fully to command more than a small specialized portion of it."*

[j] E.g., please see https://www.thethousand.com/2016_dr_vernon_neppe_and_dr.php, and http://tddvp.com/

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Consciousness & Causality:
A Subquantum Time-Symmetric Approach

by Adrian Klein, PhD, PA Ass., ECAO Aff, ASPE, IQNexus d.m.

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Though this paper has been produced by the hereby mentioned author, its conceptual message originates in a decades-long joint effort and tight cooperation between him and outstanding quantum physicist Dr. Robert Neil Boyd, PhD (USA). This fundamental pioneering teamwork in subquantum basics of sentient reality is to be always remembered whenever the "I" pronoun is emphatically replaced in the text by the more accurate "we." The author would gladly ask for Dr. Boyd's permission to share his contact details with anyone interested in establishing direct dialogue with him.

Dr. Adrian Klein, PhD, Israel.

ABSTRACT

We propose applying subquantum concepts to brain functioning, linking information with energy and mass.

We suggest here an extended theoretical model for the brain/mind interface. We introduce some basic subquantum (SQ) considerations as an important contribution to a more accurate understanding of the way nature uses energy/mass-bearing matter as an expression of its informational essence.

We apply a coherent concept regarding time symmetry and retro-causation, superluminal propagations in subquantum (SQ) domains and John Cramer's transactional interpretation of quantum mechanics.[1] This way, we cogently extend and complement Henry Stapp's leading theoretical model of mental causation[2] by a documented rejection of both the causal enclosure principle and causality violation constraints.

We show that in the SQ domains of superluminal propagation action-reaction mechanisms, which run in the hidden time of informational interactions, a time-symmetric causal loop is formed and operates at any point in physical entropic time. This couples future states to their preceding determinants by a closed, self-balanced system. This involves a hyper-dimensional pathway of high-implicate order coordination, affecting this loop at both its ends: the subjective awareness psychological agent and the objective quantum events it modulates in a causally efficient range. Thereby, while following Stapp's fundamental concept, we propose reframing the "free" subjective choice of the question and nature's "random" response to it, in a self-consistent and coherent deterministic mechanism of bidirectional causality operating at

superluminal velocities as hidden variables. This satisfies Stapp's request for the double origination of actualized psycho-physical patterns both in conscious structures and the global quantum state of the material universe.

We argue that nonlocality and trans-temporality of qualia are the ultimate causal principles of reality. This supports a unified monistic orientation which is underpinning the being's transient connection to the brain's quantum mediation tasks, yet it preserves the acquired complexity of its cognitive functions in a temporary or definitively disconnected operation, separate from the brain.

Our concept's philosophical outreach exceeds the brain/mind connectivity problem, as it suggests a preprogrammed future and an open past, a principle compatible with Stapp's "actual past" reduction to its "efficient past" component by the collapse of the probability wave. Moreover, the time-invariant solution derived from the Schrödinger equation, along with its time-sensitive one, may be invoked in support of this novel quantum perspective.

We address the epistemological equivalence of normal and paranormal phenomena from a quantum transactional perspective (Trajna's psychotemporal wave concept[3] applied to Stapp's brain/mind interactions), underpinning our synoptic concept by recent experimental studies.

A special "Appendix" following this paper is meant to facilitate the understanding of the ways its tenets apply to Stapp's latest work, *Quantum Theory and Free Will: How Mental Intentions Translate into Bodily Actions*.[4]

1. RELEVANT PHYSICS

The paper's tenets are evolved from advanced understandings of modern physical concepts as presented by its authors at the "Quantum Mind" Conference in Salzburg and Budapest, 2007, as well as in various publications in different editorial outputs since.[5]

Summarizing our basic premises:

1.1 Subquantum.

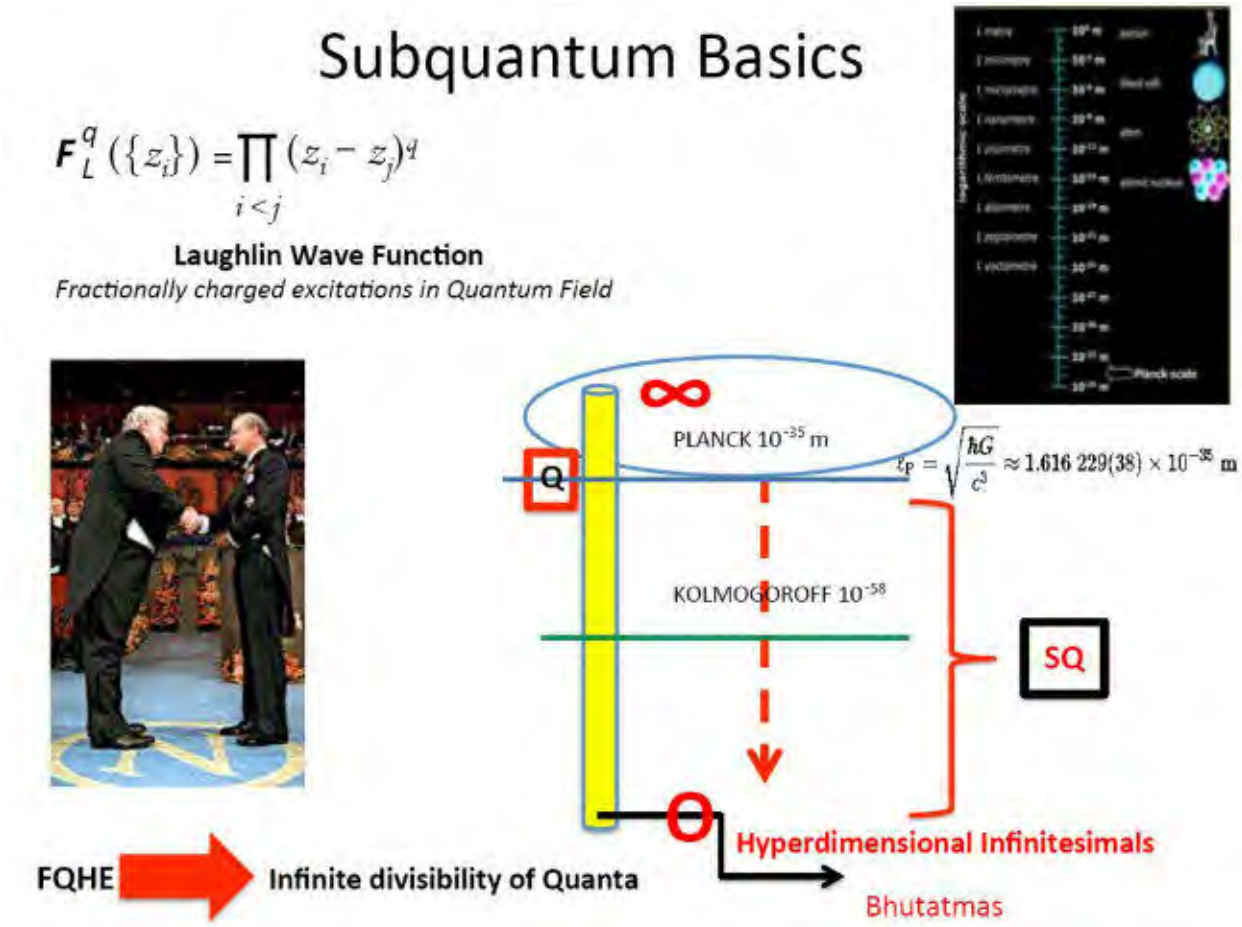


FIG. 1: Subquantum Basics.

We see here a logarithmic metric scale that applies to mezocosmic and microcosmic domains of physical manifestation. Its lower limit, the Planck limit, believed to represent the smallest measurable distance between two points, is 10^{-35} m.

This tenet changed drastically back in 1998, with the advent of Nobel Prize-winning FQHE (fractional quantum Hall effect) presented by Raughlin, Stormer, and Tsui, as a quantum-mechanical version of the Hall effect describing a collective behavior of a 2D system of electrons in a magnetic field.[6] Their breakthrough was based on successfully implementing fractionally charged excitations in the quantum field, resulting in fractional elementary charge and statistics in the form of quantum Hall transition states. The FQHE opened the way to the infinite divisibility of quanta by extending the Laughlin plasma model into a new hierarchical SQ understanding—where composite fermions and fractional states of electrons can be described.

The metric scale becomes extended downwards into the SQ range below the Planck limit, through the Kolmogoroff limit and beyond, to the massless infinitesimals known in Hindu esoteric wisdom as Bhutatmas. These massless extremals are the coupling site of information to physical space-time. In this new range of describable reality, any classical and quantum constraints break down.

Around the Planck length, we have a bidirectional transition zone between the matter/energy-controlled quantum regime and the information-controlled SQ domains. In this range, for example, we can observe the cloud-like SQ permanent condensations with stabilizing maintenance functions upon biological structures, which originate in the primary morphogenetic fields.

1.2 Hyperdimensionality.

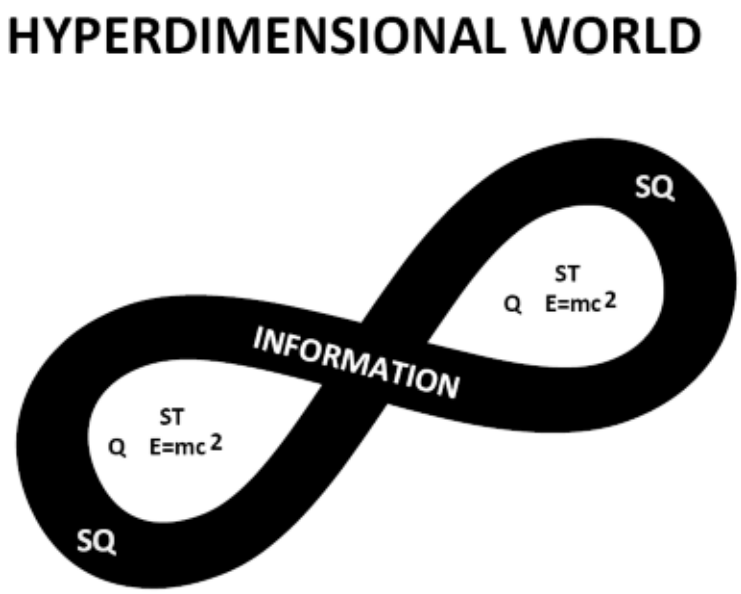


FIG. 2: Hyperdimensional World.

In this paper, we propose to use a convenient way to metaphorically express physical realities, namely in dimensional terms, where we are part of a hyper-dimensional sentient universe. According to this concept, the transfinite matter/energy domain is described in units of S (space) and T (time) and is seen as embedded in the infinite informational one, defined as a subset. Further on, we suggest that their permeable interface might be more easily visualized as a Shilov-Bergman boundary allowing for graviphotonic transactions. Also, we suggest a hypothetic ontological asymmetry: matter and energy are not conceivable without information, a statement which doesn't hold true the other way around (because information permeates the entire material world, but its higher-complexity structures are beyond it).

1.3 Superluminal to infinite velocity propagations in subquantum range.

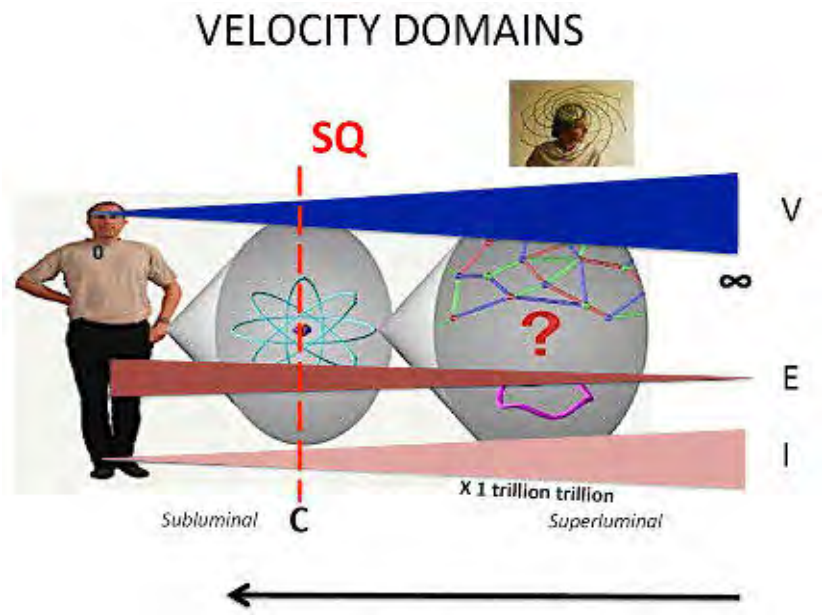


FIG. 3: Velocity Domains.

In our SQ conceptual frame:

1. At all scales of manifestation, we assume that energy behaves as an inverse function related to the covariant dynamics of information density and velocity values.

2. The SQ model assumes that information transfer may be accomplished at any velocity between zero and infinite because in SQ regimes, relativistic and quantum constraints do not apply. This new perspective is supported by 14 non-linear projective Mobius transformation solutions to the Maxwell equations, discovered by Boyd and Smith during the last decade.[7] These solutions behave in a manner completely different from our accustomed Lorentz transformation propagations.

3. The speed of light appears in this context to be just a particular limit between subluminal and superluminal velocity options. Please note that the light velocity is conveniently placed in the interaction zone between energy and information, at the interface between the material and the so-called "spiritual" domains.

4. In a system at rest, potential energy has a maximal value and drops as velocity increases. It vanishes altogether from the structure when it attains infinite velocity.

5. In a negatively covariant way, the useful informational charge is undetectable at the rest condition of a structure and increases with the gain of its velocity toward infinite, where all the structure becomes one of pure informational consistency.

6. In a cosmogony perspective (beyond the scope of this presentation), energy is injected into the system by drop of SQ flux velocities as a result of their interactions forming increasingly stable combinatorials, parallel to information complexity decrease. This process reflects super-

implicated orders of informational control at work.

Both the relativistic contents about the speed of light as a constant and upper limit of velocity in the universe proved to contradict empirical findings. It has been proven that c is a function of the propagation media. When a charged particle travels through a given medium with a velocity higher than the "slow light" photonic propagation (its phase velocity compared to vacuum values), its high energy gets absorbed by surrounding particles which decay to their ground state while emitting Cherenkov radiation.

But these approximation values with a narrow distribution range around the vacuum propagation speed of light are far from being the whole picture, if SQ propagations are addressed. The SQ velocity values range between zero and infinite, escaping any relativistic constraints which may apply in quantum energetic phenomena.

As a matter of fact, superluminal sectors are weakly coupled to "ordinary" matter (Gonzales-Mestres, LPC 1996)—acting at very high distance scales where the Lorentz invariance doesn't apply.[8] In superluminal sectors of velocity, the propagating entity relates to different Minkowskian space-time coordinates from the ones governing physical phenomena, thus it shouldn't be strictly identified to tachyon propagation. In projective space frames of reference, the speed of light, obeying different constraints, assumes different values from the ones described in relativistic terms. Massless superluminal particles may couple to physical matter by their spin values. Such "tachyon" entities loose energy in a proportional relation to their incremental speed, so at infinite speed value, they carry no more energy. What they still carry at this limit (and all along this acceleration process) is information stored in its SQ flux components.

At the lower limit of their velocity domain (the speed of light, c), such entities are highly energized and thus able to couple to physical energy patterns in quantum range. Massless infinite velocity propagations in vacuum have a destabilizing effect on homogeneity, resulting in vortical structures with information-controlled behavior in SQ domains.

As superluminal disturbances are essentially nonlocal, they still are able to store and propagate information encoded in localized tachyon fields if treated in a triadic hyper-dimensional frame (ST + information)—an analytic scenario strongly consistent with the "hidden time variables" allowed by Cramer's transactional interpretation of the QM (quantum mechanics) which explains quantum nonlocality and allows for mutual interactions between retarded and advanced waves (treated in more detail further on). In non-physical domains accessible to SQ entities and combinatorials, the complex mass of tachyon condensations vanishes, opening the system to pure informational control.

1.4 Time symmetry and invariance.

As generally accepted, under time-reversal transformation, the physical laws preserve symmetry (t < --- > -t). Any Lorentz-invariant local quantum field theory with a Hermitian Hamiltonian must have CPT (change, parity, and time reversal) symmetry (though as a result of super-weak

interactions, time invariance is violated in the decay of long-lived KL^0 mesons). The time-reversal operator in motion equations corresponds to a symmetry operator for the QM system.

The second law of thermodynamics (TD2) allows for time symmetry in equilibrium states. Under the Loschmidt paradox, an entropy-decreasing vector may oppose the TD2 based on the cosmological assumption of an "initial condition."

The Maxwell equations are time-reversion invariant at the microscopic level. C. E. Shannon's quantum information transmission limits[9] do not apply for eidetic information variants. Dissipative systems obeying the Boltzmann-Shannon logarithm support time asymmetry by increasing entropy only in physical-phase space volumes. They don't apply to SQ eidetic information controlling the way particles are carried in this space. The motion of classical charged particles in EM (electromagnetic) fields is always time-reversal invariant, just as gravity is.

Microscopic time-reversal invariance applies to particle acceleration, force, energy and electric potential of particles, polarization and density of electric charge, and energy density of the EM field. Hence, a major consequence for the brain/mind interface (the main topic of our presentation) is that *EM energy/density variations in the brain are time-symmetrical and thus may couple to retro-causative SQ fluxes of information.*

Moreover, under Kramers' degeneracy theorem applied to QM, if the Hamiltonian operator commutes with the time-reversal operator in a half-integer spin system, to every energy eigenstate corresponds a time-reversed state of the same energy, expressing the time-reversal invariance of electric fields when a unitary operator is applied by a complex conjugation. This is to be kept in mind for a correct understanding of complex phase superposition and phase conjugations running in hidden time of brain functions correlated to mental determinants (to be addressed further on in this paper). For now, it should suffice that when an antiunitary operator is applied in time-reversal, the time component of the momentum is energy—so antiunitary symmetry in a positive energy system must reverse the direction of time. This is consistent with the assumption that at infinite velocity, where the time function is irrelevant, *there is no energy associated to the pure informational charge.*

1.5 Relevance of Cramer's transactional interpretation of QM.

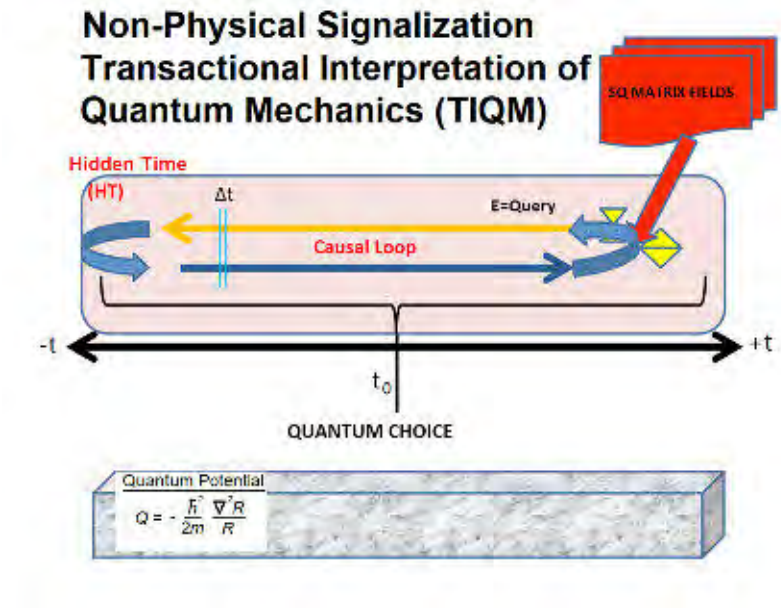


FIG. 4: Non-Physical Signalization TIQM.

1. According to Cramer's transactional interpretation of quantum mechanics, besides the quantum potential expressed in physical ST (space-time), there is also a hidden time domain.[10]

2. In this domain, synchronous superposed causal vectors run in opposite directions. This corresponds to our third time dimension, coupled to information dynamics. A physical entropic causal vector is paralleled by a coaxial informational one which is a signal emitted by future deterministic presets of actualization, which are able to trigger the content and nature of a probing act that has to be issued by previous causal constellations.

3. Nevertheless, this system doesn't allow for time paradoxes by interfering with past events, because the superposition effect applies to separate infinitesimal moments in physical time and not to a measurable time span that enables it to be acted upon.

4. Between the couple of opposed informational vectors, a causal loop is formed in hidden time.

5. The whole causal loop projects into the linear entropic timeline in null time—the present moment—implementing the quantum choice by the collapse of the Schrödinger function.

6. The future deterministic setups are conveyed from super-implicated informational matrix fields, external to the closed system described, being guided in absolute vacuum by pairs of SQ units and combinatorials, possibly forming Bose-Einstein condensates. These structures are not information-radiating ones, but build up a neutral guiding system for the information flow.

Replacing the Copenhagen interpretation by assuming hidden-time evolution of variables in a symmetric time frame, the transactional interpretation of QM supplies a pivotal theoretic support for the brain/mind interaction modalities. Based on this increasingly popular model for quantum

physicists, P. V. Kurakin (Russian Academy of Sciences) proposed a serious reevaluation of hidden variables running in hidden space-time without violating Bell's theorem.[11] This highly appealing model of non-physical signalization systems, running in "hidden time" beyond normal physical time constraints, is strongly consistent with our near-infinite to infinite velocity SQ-signalization concept. Indeed, hidden-time dynamics—the ones occurring in information fields—result in the best conceivable controls of the deterministic parameters which are at work between elementary events, such as photon emission and absorption, thus implementing informational-enfolded guidance of energetic phenomena. Standard QM offers nothing more than a few predicted probability amplitudes for such elementary processes. Physical "quantum time" normally refers to the number of energy quanta absorbed at a given point in space during a given time span, as derived from normalizing experiment-related variables. The photon emission/absorption events themselves are currently seen as running in a random, probabilistic framework.

The Kurakin quantum model allows for a deterministic patterning of such events, rather than a probabilistic randomness, by introducing non-physical modes of information signaling which operate in the background in a hidden-time dimension. This involves complex interactions between "queries" and "confirmations," where queries and responses are operating non-locally as parallel vectors, composed of direct, and backwards-oriented, non-physical signals. These information signals, which are regulating quantum processes, evolve as hidden variables in the physically inaccessible domains, as defined in the Compton Radius Vortex, by a lower metric value than the Compton wavelength itself. This signalization control involves coaxial superposition between contradicting time-propagation vectors, thus involving retro-causation effectors originating in preselected SQ matrix fields of higher-implicated orders. Such information signals display physically detectable fractal integration amplitude only at the level of superposition fragments, thus eliminating the need for any theoretically uncomfortable, and physically-hard-to-demonstrate, backwards-flow patterns in physical time.

According to this advanced concept, quantum choice happens in no physical instant (zero time), as a result of information-signal superposition along vacuum trajectories. As described in the Kurakin model, information-propagation channels in the vacuum are thus controlled by "virtual" guiding structures. Such structures might be mutually compensating pairs of information-charged SQ units, organized in SQ condensates which are not signal-generating formations. These distribution patterns in the vacuum originate at higher levels of integration, aiming target-related conformal signal-transmission blueprints which are reaching various targets in zero time. This results in an apparent retro-causation of pure informational essence, as implemented by the hidden time symmetry of informational vectors, which allow primary query signals to be propagated from detector to source—and not the other way around—as amply explained in Kurakin's model.

Let's see how these non-physical signalization variants may support, extend, complete and further improve the currently leading Stapp theory for consciousness/brain interaction.

2. RELEVANT NEUROPHYSIOLOGIC DATA

2.1 The hyper-dimensional essence of the brain.

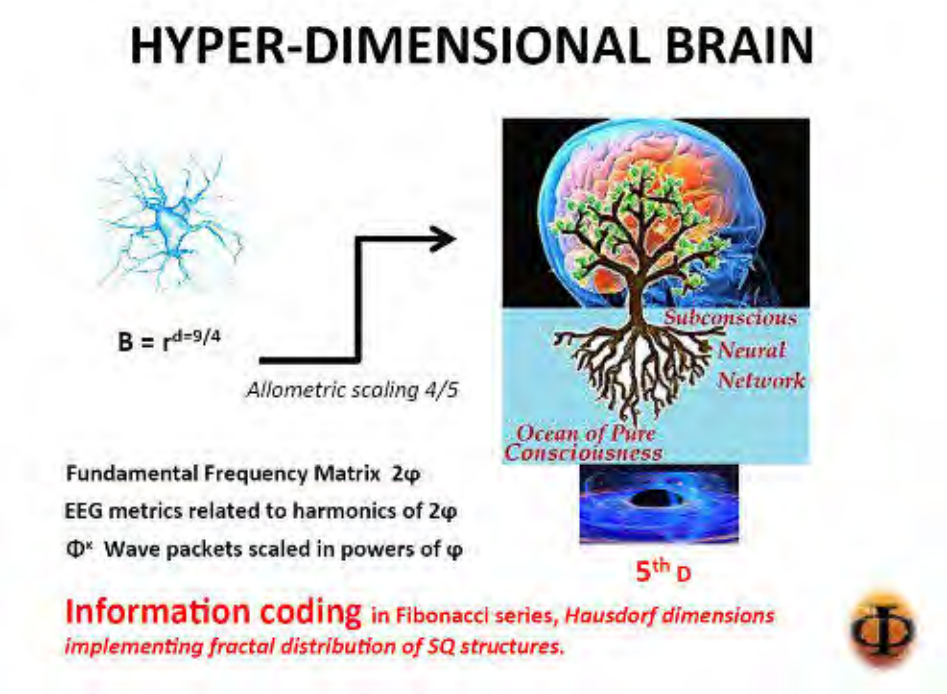


FIG. 5: Hyper-Dimensional Brain.

The second aspect that is fundamental for our understanding of the brain's dynamics, besides its time-symmetry, is its hyper-dimensional nature.

1. A neuron is not a spherical cell; its contour has a fractal dimensionality.

2. As we know, a biological variable of a given structure relates to its mass by an allometric scaling power law.

The allometric-scaled basal metabolic rate of a neuron is expressed by its average radius to the fractal dimensionality of its contour, which is 9/4.

3. Further fractal geometry analysis led Ji-Huan He and Juan Zhang to put in evidence a 4/5 allometric scaling law of the brain.[13]

4. This corresponds to a 5th dimensional function in resonant neural networks.

Moreover:

5. Accurate measurements showed that the brain's fundamental frequency matrix = 2ϕ.

6. Equating EEG metrics to harmonics of 2ϕ leads to the conclusion that wave packets are scaled

in powers of the golden mean.

7. A fractal distribution of SQ structures based on Hausdorff dimensions implements a patterning action upon the time lags of neural firing over several orders of magnitude. This means that information coding is related to Fibonacci series.

As we mentioned in our presentation for the TSC (Toward a Science of Consciousness) Conference 2009, Hong Kong, conformational and combinatorial structures at the neural biomolecular level obviously obey distribution orders far beyond their own structural codes.[13] Direct photonic excitations by favored temporal penetration windows of the right temporal lobe and its associated limbic system components may contribute to the brain's biological interface with an interconnected universe, as suggested by M. Morse (Univ. of Washington), such processes enhancing religious and near-death experiences (NDE).[14] He suggests ascribing to the right temporal lobe, a biological vehicle value for morphic resonance-mediated control in post-genetic ontogenetic phase correlations.

In a communication dating back to 1997, J. Whinnery pointed to dreamlet-like experiences originating in hypoxic brain modules as being similar to NDE reports.[15] These kinds of experiences (brief dream fragments) imply neural connectivity to non-local quantum-reality information structures and corresponding configuration maps.

Extending the Rubner-Kleiber scaling computation laws, Ji-Huan He and Juan Zhang performed a fractal analysis of the relevant allometric exponents of the brain, reaching a 4/5 law.[16] This implies that a 5th dimensional function is present in resonant NN (neural network) connectivity schemes. This finding relates the brain's information-coding abilities to the golden mean ratio, by equating EEG metrics to number of harmonics times 2φ. Wave packets, scaled in powers of the golden mean, exert a patterning action upon the time-lags separating neural firing events, over several orders of magnitude. Harmonic spectra below and above the brain's fundamental 2φ frequency matrix, are involved. Neural networks operate according to powers of 2φ/2, efficiently using them for Fibonacci-series-related information coding, involving Hausdorff dimensions which are implementing the fractal distribution patterns of SQ information structures.

Log-normal and power-law distributions of variables are thus governing heritance and aberrance processes in biosystems, where the power-law distribution proves to accurately describe the Fokker-Planck equation, as applied to the discrete variables related to SQ informational units and their combinatorial matrices.

2.2 The D. J. Bierman CIRTS concept.

In his pivotal paper "Consciousness Induced Restoration of Time-Symmetry: A Psychophysical Perspective" (2008)[17], Dick J. Bierman argues based on strong experimental evidence that the brain's information processing restores the break in the statistically weak time symmetry due to the current cosmic imbalance between coherent quantum transmitters and the dominance of cosmic critical temperature required for multiple particle coherent absorbers (Wheeler & Feynman).[18] This corrective effect is conceived as occurring at the classical point of break in the time symmetry, the collapse of the probability function. Nevertheless, as demonstrated by P.

Gariaev's works, coherent emitters (laser) produce quantum vortices in the absorber structures, with informational imprints gained along the trajectory—thus triggering time-reversed induction of this information upon affected structures.[19]

Bierman speculates about the role of global and coherent synchrony of neural firing events in the parallel sensory processing preceding the advent of qualia, suggesting a link between the restoration of time symmetry in the conscious brain and some form of this global coherence. Building his experimental protocols on skin conductance determinations at different points in positive and negative time as referred to the stimulus onset, Bierman finds, besides the expected S = f(t) signal, a time-advanced symmetrical one representing a "weighted mirror image" of the advanced equivalent observable after the stimulus onset. Provided the stimulus is consciously observed, the time symmetry is restored as a function of the total brain volume involved and the relative neural network firing coherence index "A":

$$S = f(t) + A*f(-t)$$

The retarded and the advanced wave functions are time-symmetrical around the moment of conscious experience and not the one of the exposure to the stimulus (at a time differential of about 350 msec according to the Libet data, 1979).[20]

The Bierman experiments are easily replicable for further investigations on the psychological term implied in this time-symmetry restoration, using EEG-reflected coherence measures associated with fMRI volumetric ones about the brain volume involved. In terms of quantum processes, the neural firing coherence is maintained as a boundary condition for the instantiation of the Bierman time-symmetric process, as we shall see shortly, by the Zeno quantum effect (ZQE).[21]

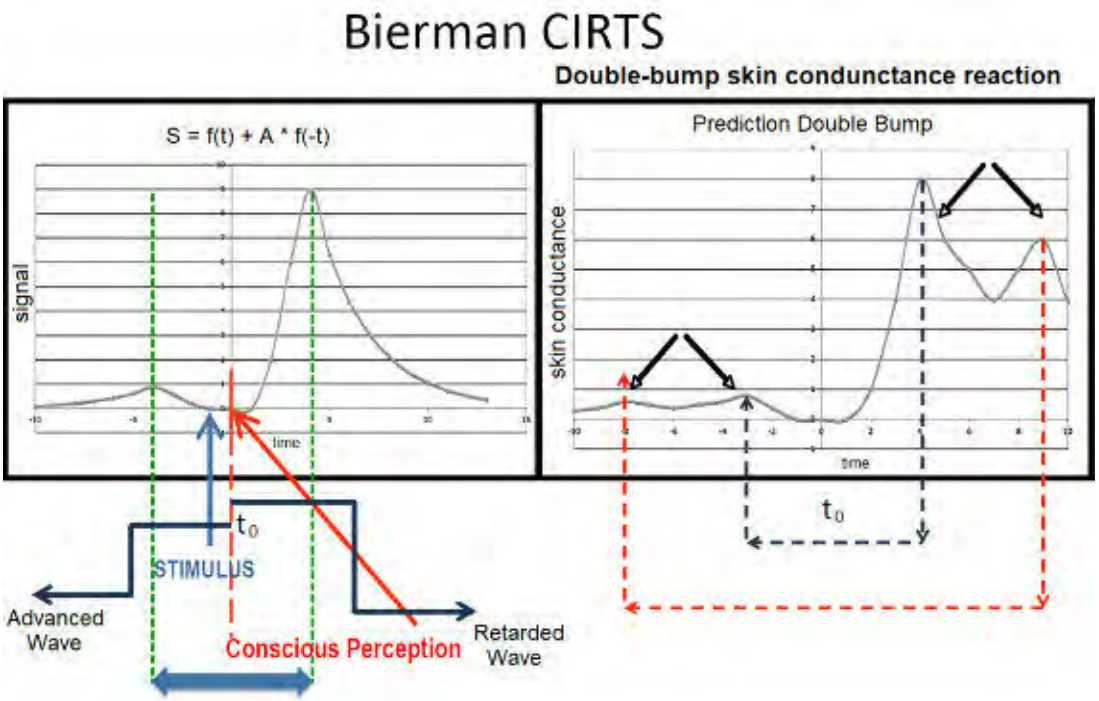


FIG. 6: Bierman CIRTS.

2.3 *An outstanding experimental study on Consciousness Induced Restoration of Time Symmetry has been reported by Dr. Bierman, Netherlands.*

1. Symmetry of physical laws under time-reversal transformation is broken by the cosmic disequilibrium between multiple particle coherent absorbers and transmitters. Bierman proved that this symmetry may be restored in certain conditions, such as in the presence of consciousness-bearing structures, where an increased concentration of Bose-Einstein condensates is assumed to build up, proportional to a global coherence index displayed by correlated brain activations.

2. Bierman used EEG-derived coherence measures corroborated with fMRI assessments of the brain volume involved in the conscious observation of a stimulus, as related to recorded skin-conductance variables.

3. Conscious perception is delayed by slow neural transmission.

4. Amazingly enough, the plot put in evidence a time-symmetric advanced wave as a mirror image of the expected retarded wave.

5. Please note that the time symmetry is formed around the moment of conscious perception of the stimulus, and not of its onset.

6. Compelling enough, a double-bump skin conduction reaction is also projected into a correspondingly structured advanced wave.

7. The mirror image reflects the later bump as preceding the earlier one upon the negative timescale involved.

In the long run, quantum predicted distributions are disturbed by the mental hidden variable at work. As Bierman eloquently puts it, any counter-bias rebalancing effect for such disturbances would yield new disturbances in higher order distribution patterns,[22] a remark strongly consistent with our Bohmian interpretation of hierarchical information-complexity domains in SQ causation chains.

Whether the "presentiment" type advanced wave function in the -t coordinate may correspond only to actual future actualization variants rather than to probabilistic ones (a conjecture favored by Targ, 1998[23]) would get a sufficiently consistent explanatory treatment in the framework of Stapp's bi-interventional model of mental determinants in the cognitive quantum process, as we shall see further on. Worthy of a special emphasis at this stage of our inquiry is Bierman's observation that the reversal of the second law of thermodynamics in the quantum processes here addressed by the time-reversal vector leads to a gain in information (entropy decay) in the otherwise random systems (described in von Neumann's "Process 2"). This observation does correlate both with Stapp's tripartite von Neumann diagram, as well as with our postulated entropy-conservation universal law. As we shall argue shortly, the information input yielding the biasing of the von Neumann Process 2 randomity originates both in past energetic processes and in future actualization potentials of information consistency, running in SQ domains.

3. THE THREE PREDICTIONS OF THE SQ APPROACH CONFIRMED IN CLINICAL SETTINGS

Provided the SQ approach we defend is an accurate description of the brain/mind interaction, we can predict the following consequences:

1. A conscious brain would detectably display the hyper-dimensional background of its functional extension into information domains.

2. The causal determinacy of conscious self upon energy-driven lower brain structures should be reflected in observable macroscopic compensatory morphological changes in brain structures if required for stabilizing cognitive efficiency

3. Consciousness would predictably conserve its integral functional spectrum in its disconnected modus operandi from the brain's quantum integration mechanisms into its physical environment.

Let's see how all of these fundamental predictions are experimentally and experientially confirmed by irrefutable clinical data:

3.1 The Walling-Hicks data.

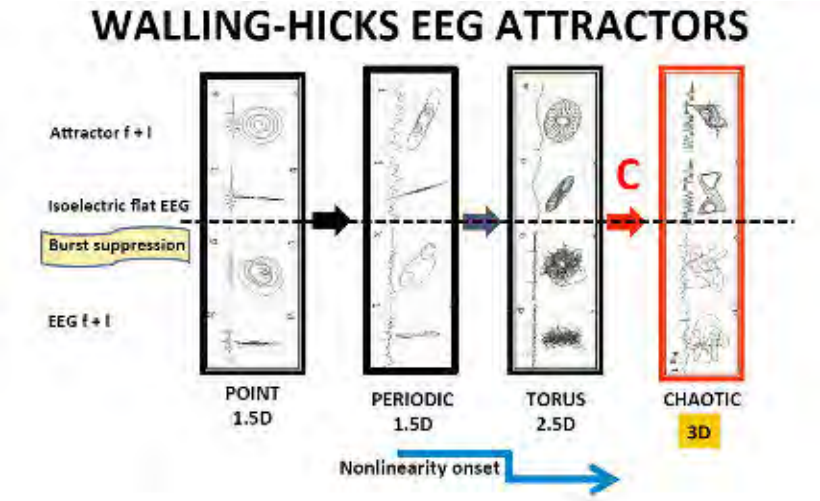


FIG. 7: Walling-Hicks EEG Attractors.

A brilliant experimental work done in clinical settings, which proves the hyper-dimensional function of the consciousness-supporting brain, has been accomplished by Peter Walling and Kenneth Hicks.[24] It brings undeniable evidence for the contention that the percept (qualia) is a multidimensional construct in projective space.

Hyper-dimensional integration gradients into SQ-mediated information fields are dependent upon the quantum states of the brain. Anesthetic impairments at low biochemical integration levels of the brain propagate in cascade-like dysfunctional arrays across the higher integration structures resulting in the brain's temporary disconnection from the self-conscious entity. Let's follow the reversed process during the emergence from deep anesthesia.

The Walling-Hicks software recording 40,000 samples/sec is able to draw real-time graphic models of dynamic attractors corresponding to brainwave signals in subjects emerging from deep anesthesia to consciousness—allowing a detailed dimensional analysis of these attractors by applying the "correlation dimension" method.

1. In the deepest burst-suppression stage of narcosis, an isoelectric flat EEG is recorded.

2. Let's follow the four stages of progressive brain activation during the emergence from anesthesia as reflected by the relevant attractor (upper field) corresponding to EEG patterns (lower field), both in frontal and lateral views.

3. After a first burst-type signal, the plot is spiraling inwards toward a point attractor. The plot evolves in 1.5D.

4. The first stage of continuous low-EEG activity with recurrent cyclic patterns yields a periodic attractor.

5. A further energized step signaling the gamma-ascent effect yields a 2.5D donut-shaped torus attractor. This signals the impending return of consciousness.

6. The brain activity's re-coupling to consciousness is marked by the appearance of a strange attractor evolving in 3D, which corresponds to the onset of a full 5D function able to sustain consciousness.

The subject is awaking from anesthesia.

7. We see a progressive nonlinearity beginning with the onset of the periodic attractor and increasing until the chaotic attractor

In their monumental work, *Consciousness: Anatomy of the Soul* (2009), P. T. Walling and K. N. Hicks succeeded to experimentally prove that perception is a multidimensional construct in hyperspace.[25] During emergence from anesthesia, brain dynamics progress from periodic to toroidal to chaotic attractors in a step-like nonlinear fashion. This process is reflected also by the "gamma ascent" effect in EEG records. The apparition of the 3D EEG attractor marks the return of consciousness, at a significant delay after the previous periodic and toroidal attractors which sustain biological automatic functions at low-EEG power-spectrum domains. The authors conclude that the conscious mind has to be seen as a derivative of sensory and memory data coordinated by nonlinear dynamics in imaginary multidimensional projective phase-space (the one which is the scenario of SQ coordination's running in a background of hidden variables)—recently accepted also by S. Hameroff who said, "Consciousness is occurring in the structure of non-local space-time geometry."[26]

The Walling-Hicks research results are of a paramount importance for an accurate understanding of the individual self-conscious structure and the brain (as the interaction tool of the self), with relation to an energy-defined ambient reality. They are strongly consistent with our comments for the 2009 TSC Conference, Hong Kong,[27] regarding the true dissociation mechanisms during induced anesthesia.

From all the previously introduced considerations, it clearly results that consciousness is in NO WAY a collective effect of conformational dynamics evolving at some lower hierarchic implication level. The SQ paradigm aligns these categories along a reversed causation vector, which is allowed by the fundamental time invariance applying the Maxwell equations. From this novel perspective, the anesthetic collective inhibition of dynamic conformal changes in brain substructures exclude brain responses to available quantum configurations, as supplied by the SQ processes which evolve in the conscious self, and brain mediations of environmentally-generated afferent signals, which are aimed, by the faculty of attention, towards the aforementioned ultimate subquantum processing structure—the individual self. If there is no attention for the

thing or event, that thing or event does not exist for the observer.

Hyper-dimensional integration gradients into SQ-mediated information fields are locally dependent upon the deterministic quantum states of the brain, which in turn are hampered during anesthetic impairments of regulating London force effects, at the level of nanoscale integrations governing vital functions.

This explains why lower subsets of background events are preserved during anesthetic depth values, which are able to disconnect biological ground processes from their projective space-consciousness correlates. As an unavoidable, absolutely compelling consequence, conscious processing of environmental events may freely evolve during this disconnected state, leading to SQ memory patterns which are being dynamically stored in the projective space-time, and subsequently re-supplied to the individual for post-anesthetic recollections. Such recollection instances are abundantly described in the literature as "paranormal events" of the OBE (out-of-body experience) and NDE kind.

Just as at biological resolution levels, chemical energy patterns exceed—by unimpaired conformal functions—information patterns pertaining to the collective neural efficiency range, thus contributing to provide coherent integrated meanings into the qualia assemblies of the self. These processes are required for up-scaled integration of the self during its coupled modus operandi to the brain. Anesthetic impairments related to low-integration dysfunctional arrays, occurring across higher integration levels involving various brain structures, result in the brain's transient dissociation from the self-conscious entity.

The duration of such instances may vary from consciously unperceived micro-blackouts in the stream of consciousness, through short-term neural hypoxic effects, controlled medication efficiency windows (anesthesia), to long-term so-called "vegetative" preservations of vital functions. Beyond this connectedness-reversibility threshold, experimental and experiential evidence strongly supports observations of unimpaired cognitive functions, which are operating their own, separate, SQ-integration domains, which are able to interfere with anesthetic influences by lowering entropy states in both biological and non-biological systems.

During anesthetic interferences, short-term memory-fixation components, with biomolecular background requirements, may be impaired. Complex peripheral information inputs may circumvent this integration level, resulting in extra-sensorial transmissions and subsequent coherent patterning of SQ maps occurring at the highest level of the observing self. Such imprinted configuration patterns may act as induction fields for subsequent quantum replication effects in the brain, during the post-narcotic phase, resulting in long-term memory blueprints which may be recalled by accessing the proper quantum connectivity pathways, which are normally involved in consciousness/brain coupling functions. Such memory contents preserve special integrated aspects from their non-neural extrasensory recording pathways, supplying the specific heterotopic recollection parameters which define OBE and NDE reports. Such reports gain phenomenal reliability from the perspective of our SQ integration concepts, which contradict consciousness-suppression effects hitherto misleadingly ascribed exclusively to physiological or medication-induced transient cortical dysfunctional states.

3.2 The Zeineh Data.

A persuasive study performed on neuro-morphologic aspects associated with chronic fatigue syndrome (CFS) has been reported by M. Zeineh.[28] In patients displaying symptoms of CFS, the abnormality found in the arcuate fasciculus of white matter connecting the Wernicke and Broca's areas was associated with a thickening of the gray matter they connect. As white matter of the brain is fundamentally an information transference substrate for information-processing gray structures, the compensatory correlation found in this research strongly supports the concept of self-directed neuroplasticity. Cognitive efficiency is stabilized by morphogenetic effectors and their task-oriented causally modulating effects on brain structures. Similarly, S. Begley and later the fMRI and PET scan-backed studies mentioned by J. M. Schwartz eloquently support the fact that mindfulness is a key determinant in activating neural processes (D. Passingham, I. Robertson, M. Corbetta, N. Kanwisher, etc.). [29]

3.3 "Anomalous" phenomena.

From a physical perspective, the implicating potential of sentient SQ flux systems operates by the fundamental homogenous transmission medium invoked in recent explanatory attempts for Ken Shoulder's Exotic Vacuum Objects (EVO)[30] or R. M. Kiehn's nanometer vorticity distribution patterns.[31] Ether-bound information flow as a self-consistent ontological system was experimentally proved by biasing the SQ "Potentum" (J. Firmage)[32] with an asymmetrical charge distribution—be it done by fast explosive electrical discharge applied in a high-voltage environment or keeping EVO in EM-field free space—which will result in an EVO charge variation gradient reflecting the information flux potential decoupled from any background of classical matter.

Hence, we have the self-conscious structure's natural ability to preserve its total cognitive complexity range in its own SQ regime, after decoupling from the physical brain's coherence range. A similar explanatory track would describe its instrumentable quantum modulating efficiencies on non-linear, chaotic, or random systems, resulting in orderings thereof.

An overwhelming database recently signed by high-credential scientific representatives of academic research can be found in the literature, attesting to the self's ability to display its stabilized integral cognitive spectrum in dissociated states from the brain's quantum mediation (recent studies on OBE/ NDE phenomena statistically confirmed in multiple clinical settings).

The updated post-materialist paradigmatic approach that acknowledges hitherto wrongly labeled "paranormal" phenomena as valid fields of scientific study is strongly emphasized by a most recent declaration of Prof. G. Schwartz, professor of psychology, medicine, neurology, psychiatry and surgery at the University of Arizona:

> Some materialistically inclined scientists and philosophers refuse to acknowledge these phenomena because they are not consistent with their exclusive conception of the world. Rejection of post-materialist investigation of nature or refusal to publish strong science findings supporting a post-materialist framework are antithetical to the true spirit of scientific inquiry, which is that empirical data must always be

> adequately dealt with. Data which do not fit favored theories and beliefs cannot be dismissed a priori. Such dismissal is the realm of ideology, not science.[33]

A similar support for our novel approach outlined in this paper can be found in Huping Hu's prestigious *Journal of Consciousness Exploration and Research* Vol 6 No 7 (2015), attesting that consciousness is at the source of all physical reality.[34]

Moreover, in their most recent paper, "Explaining Psi Phenomena by Applying TDVP Principles: A Preliminary Analysis," Prof. Vernon M. Neppe MD, PhD, FRSSAf and Prof. E. R. Close, PhD, PE refer to advanced-study concepts of psi phenomena in a strongly supportive way of our own views:

> Extraordinary claims such as psi might require extraordinary evidence, but this has frequently led to biased interpretations of psi, with outright rejection without examining the facts: the overwhelming frequentist statistical data for the existence of 9 different kinds of psi phenomena showing less than one in a billion against chance statistics plus the tens thousands of reported spontaneous cases of the various manifestations of psi and its, at least rare, occurrence in the majority of the population, strongly support the ostensible existence of psi. Even when confounding aspects are included, the data remains solid. We argue there is a strong link of psi with what is non-local from the relative framework of our usual experience where the nonlocal and psi appear "beyond space and time."[35]

4. EXTENDING THE H. STAPP MODEL FOR CONSCIOUSNESS

SQ time-symmetric premises at the background of extending and completing the Stapp model:

1. In SQ regimes, velocity values are comprised anywhere between zero and infinity.

2. Information is a hyper-dimensional component of space (manifest matter/energy) and is stored and transported by SQ structures.

3. Time originates in (and reflects) the speed of SQ fluxes—it gets irrelevant at infinite velocity and becomes infinite at zero velocity. Intermediate values of time speed (an SQ flux property) correspond to the descriptors of the information correlated to them.

4. Speed of light (c) is the upper limit of energy transport (the quantum domain in "physical time") and, at the same time, the lower limit of pre-energetic variants of SQ informatory determination pathways.

5. Information is conveyed across different SQ structures by resonant speed ratios established between their respective velocity (information content) signatures.

6. Both gamma and kappa psi effects are the expression of temporal bridges set up between two different velocity time flows as their ratio, where one of the reference values may be coincident

to physical time speed (be it quantum neural activity or any high-entropic EM media capable of entropic decay under the control information agent of lower entropy index).

7. **Any** informational process is an interplay between a query (Q) and a response (R), which complement each other and thus preserve a null value of the interaction process as embedded in higher domains of informational guidance. In physical time, the causal aspects of both terms *are interchangeable* as a result of their evolving in the ratio domain of two speed values of time flow. The same principle applies for time speed gradients higher than c, resulting in communication effects between non-physical intelligent structures. A limit-case of this principle is the psi/quantum interface with biological or non-biological energetic constellations.

8. In non-physical "hidden time variables" that flow in both directions of physical time flow, Q is always R-predetermined, but may actualize at any physical time position if related to the R, according to the time-flow ratio between the domain of the informational process and physical time. A "primary statement" (R) evokes the corresponding Q in the receiver of information, in a synchronous or delayed time position; this doesn't invalidate the presence of both as complementary terms of the informational equation as a fundamental law. The actualization into manifestation is both a result of probability functions evolving "toward" it, and their source supplying the integral spectrum of probability variants available for the specific event to be fulfilled.

4.1 Toward an SQ-extended Stapp formalism addressing the brain's involvement in cognitive functions based on the hereby introduced concepts.

Stapp Model's Basics.

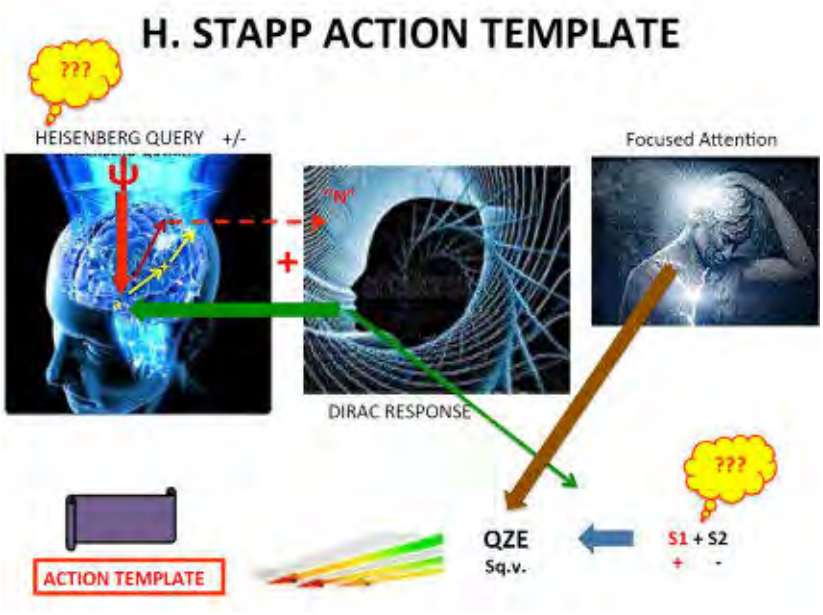


FIG. 8: H. Stapp Action Template.

It's beyond any reasonable doubt that the currently most widely accepted model is the one proposed by Stapp.

1. Please allow me to briefly remind you the basic guidelines of Stapp's interaction sequence between the self-conscious entity and the NATURE it is immersed in (meaning the physical world obeying quantum laws).

2. Self probes possible outcomes of a condition it encounters emitting the "Heisenberg Query" in a yes/no binary code.

3. Nature selects the acceptable option between both. If it is the "yes" variant, nature returns it to the self as the Dirac response.

4. Self strengthens this option by focused attention, which stabilizes it by the QZE (quantum Zeno effect) obviously based upon superluminal SQ velocity repetitions, thus building up an action template in the brain.

5. The originally co-present second option denied by the Dirac response is extinguished.

6. The action template patterns the effector neural network for performing the chosen feedback into nature, thus injecting into the material world a change.

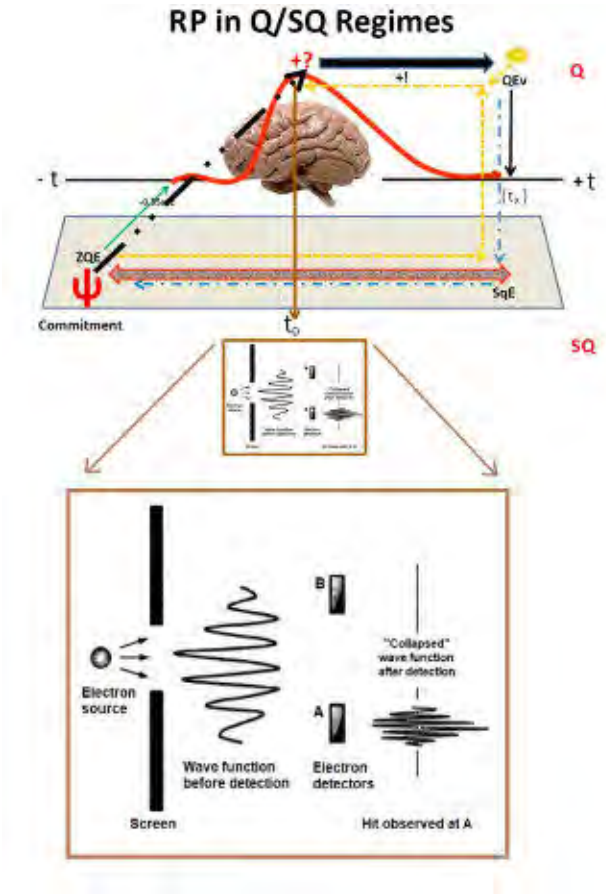
Please note that Stapp's formalism leaves open the question how self selects the content of its query and how "nature" selects its choice. These are the elusive but most fundamental components of the Stapp model, which need to be solved. This solution is our contribution to the consciousness studies, as we shall see now.

As it seems to happen in his current formalism, Stapp leaves open the question about the non-physical origination, placed in the domain of causally efficient hidden variables, the will and free choice. Moreover, Stapp ascribes the Dirac choice to a very fuzzy and poorly defined "nature's response." Thus, in Stapp's description, both the boundaries of the von Neumann chain are ontologically indefinite, leaving the already well-described quantum processes contended by such "choice" boundaries (Process 2), the only component obeying known quantum laws.

Our SQ approach claims to supply a first acceptable extension of Stapp's poorly defined details of the von Neumann quantum chain, toward an accurate deterministic defining of the very sources both of the Heisenberg and Dirac choice events. Amazingly enough, both turn out not only to be of the same information consistency, but representing the terms of a coordinated global meta-process by their inherent causal link.

Further on, we may suggest a similarity between Stapp's "action potential" and a certain "*reception potential*" ascribed to the primary processing of parallel sensory multimodal inputs. Our understandings rely upon the differential values existing between the SQ informational high-velocity propagation domains and the quantum-limited velocity in the neural processing that runs as a correlate under their control.

The Stapp quantum mechanism for the setup of the readiness potential in prefrontal cortical areas actually runs in the quantum domain. In order to complete our understanding about the parallel processes running in SQ range, which allow for the setup of the Stapp chain, we suggest a careful consideration of the following two explanatory charts describing the same process for a better understanding:



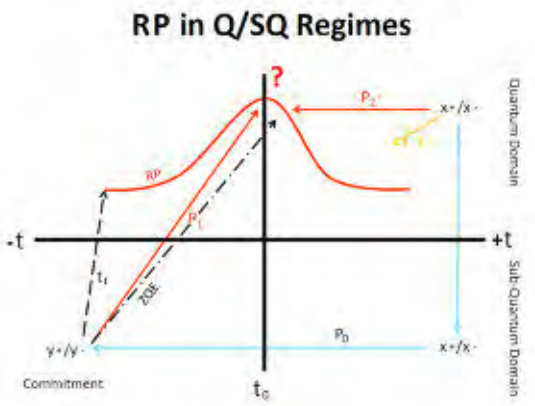


FIG. 9a **FIG. 9b**

FIGS. 9a and 9b: Objective Q/Subjective SQ Regimes in Time Symmetry.

The readiness potential (in red) is the quantum observable process displayed in classical electro-neurological terms. It runs in both the +t and -t quadrants of the quantum domain. Nevertheless, its true origination can be described only by considering parallel SQ processes extending also in both time directions.

An objective quantum event, predetermined by super-implicated orders of reality and actualized in the future, [figure 9a: QEv; figure 9b: x+/x-] (corresponding to Stapp's "absorber" agent) has an SQ structure hereby represented by a projection into SQ domains in both its possible actualization variants (yes/no) [figure 9a: SqE; figure 9b: x+/x-]. This SQ structure is projected by a projection SQ operator into a time-symmetric virtual subjective potential "*commitment*"

postulated to arise in a conscious self [figure 9b: P_0]. This projection runs at superluminal velocity (not prohibited in the SQ regime).

The subjective, virtual "commitment" structure [figure 9a: ψ; figure 9b: y+/y-], assisted by the objective event potential [figure 9a: QEv; figure 9b: x+/x-] exerts a trigger effect in negative time (~-0.35 sec) for initiating a serial bundle of readiness potential action waves in the prefrontal cortex [figure 9b: T_r]. At the peak value of the thus initiated RP (at time T_0), the virtual potential structure places the request for possible validation of the initial P_0-transferred options [figure 9a: black vector; figure 9b: P_1]. This request is the very counterpart (running in negative time) of the preselected confirmation in actualization range (in positive time), completing the causal loop in the time-symmetric frame of reference. Of course, the evolution of the readiness potential obeys the low-velocity constraints in physical energetic range, while the information operators (at this stage, T_r, P_1) may virtually act in quasi-null time. The "conscious query" corresponds to this T_0 quantum peak activity of the RP. The actualized event's quantum blueprint projects at this stage a "confirmatory" signal in reversed time vector, a signal that acts upon the still evolving RP [figure 9b: P_2+].

As a consequence of this impact on the RP, the SQ conscious structure y+/y- reacts to P_2+ (the Dirac response) by radiating a rapid string of projection operators (ZQE) which stabilizes the Dirac response by the Zeno quantum effect, leading to the collapse of the Schrödinger function into physical action that corresponds to the "confirmed" informational pathway. Of course, for the virtual negative probability variant (P_2-) of the Dirac choice to the query, no P_2 Zeno stabilizing effect is issued.

Please note that all the processes running in negative time domain, as defined by the conscious participant instance in both directions of time, evolve in the self-aware entity's unconscious range, while the intent-related component (will effort) evolves in positive time, controlling effector neural pathways—as needed by the physical integration of the self into its energetic environment.

The self-directed neuroplasticity reveals that direct mental effort affects systematically and predictably cerebral functions by a clearly obvious causal function which is, after all, the basic one in all physics. The interference of mental choice data with the quantum status of a system (brain or else) at any given point (plane) of time may be included in basic mathematical formalism similar to the one describing intra-atomic phenomena—because at quantum level, SQ background processes work as hidden variables following their own dynamic laws. In the brain, the ion-conductance channels and trans-synaptic chemical dynamics obviously obey classical quantum formalism.

The origins of conscious effort are not, in principle, untraceable (as suggested by Stapp). They are associated with the conscious entity's SQ information structure working as an effector component of the non-local hidden-time SQ loop (described by Cramer's transactional interpretation of QM). In our extended model, nature's Dirac response is the informational origination trigger that acts in time-reversed vector *for setting up the particular query* according to presets determined by higher implication orders of information content. This is the mechanism at the background of the emotional resonant reframing and re-contextualizing in prefrontal

cortical range by the original query that triggers the selective redirection of neuro-energetic response from the lower limbic system. The brain's only task is performed by von Neumann's Process 2. This is the quantum activity binding both information-controlled domains described in Processes 1 and 3.

Therefore, we can't fully agree with Stapp's contention that the intentional action depends partly on the state of the quantum system acted upon, included in Heisenberg's "space of action." We see, in the effect of Process 1, the consequence of the preliminary signalization emitted from the future space-time configuration by hidden reversed time propagation, able to render the intermediary quantum chain responsive and aligned to the phase 3 Dirac choice, thus tuning the brain's quantum reactivity to the outcome state of the system already present in the intentional effort. Cancelling this loop (by cancelling the ZQE) is a correction option for inaccuracies in the retro-causal output at the query level of the mental agent. In other terms, the accuracy of the SQ-mediated Process 1&3 loop is validated by the ZQE.

At classical physical levels, Process 2 runs through nerve terminals and synaptic ion-channeling mechanisms leading to the coherent state of the specific all-brain firing map required by the primary predetermined outcome—which is collapsed from the cloud of quantum potentials associated with the Ca ion's behavior. In our view, the brain's action template originated in mental action; the von Neumann Process 1 is really a "free choice" only from the agent's perspective alone. From the SQ loop's perspective, it is a controlled input variable aiming to complete the loop.

Further on, Pashler's parallel sensory processing that runs under micro-modulators is NOT an instant effect (neural ionic processes involved), but its *output* for further "post-perceptual" processing (by von Neumann Process 1) is received as a unitary structure. Once integrated into the global conscious, self "selects" the corresponding initiatory effect of Process 1. This is a complementary spectral array of SQ vectors acting upon the brain's quantum state sequentially—in order to fit the brain's temporal low-velocity processing needs.

The high-deterministic future preset condition is a multipotential probabilistic state sent backwards in time as an SQ substrate able to be acted upon by the resonant components of the self, provided a readiness potential is in place. A bi-level SQ implication is at work, comprising both a super-implicated origination of the primary Heisenberg choice and the implicated morphogenetic potential that makes possible (by the RP) a confirmatory response in brain-mediated modus operandi of the self. As in quantum terms, projection operators obey the P=PP rule, the SQ input represents a double (multiple) projection operator initiating both the cortical brain subspace (readiness potential) and the Heisenberg choice's content related to its instantiation. These both are neural correlates of the conscious process evolving in the physical energetic realm of manifestation.

The SQ model allows both for the von Neumann/Stapp ZQE *and* the causality violation at the level of Schrödinger probability collapse (Process 3). Conscious choice enters as an irreplaceable free input variable in the SQ retro-causality projection system. Moreover, the SQ superluminal impact variant ensures applying strong and super-fast coherent pulses via ZQE, which decouple the system from its decoherent environment. Our conceptual frame describes both the

Heisenberg choice and the Dirac response as informational in nature, shifting away from Stapp's rather "material" implication of "nature" in Process 3. This approach allows, in SQ regime, the controlled resonant time-symmetric interplay between the "query" and "nature's" response. The readiness potential originates in the informational value of "nature's" YES response—which thus is correlated both to the self's advanced "commitment" status and the "question" at its peak value.

Further on, we extend the Stapp action potential's diagram to perceptional functions, as both obey the same SQ laws and interactions, involving a similar ***perception*** readiness potential corresponding to the multimodal sensory input:

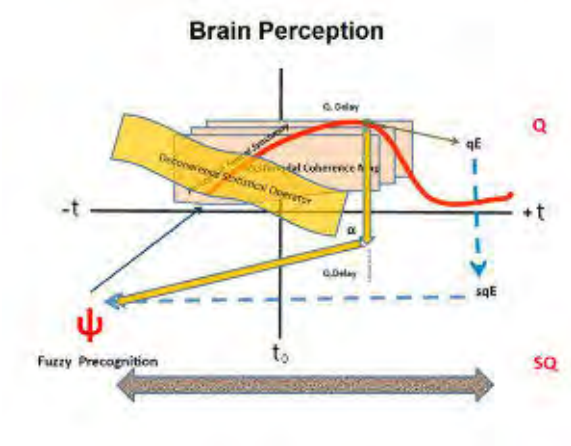


FIG. 10a

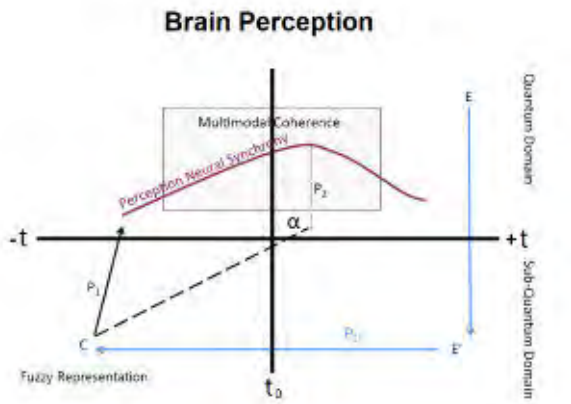


FIG. 10b

FIGS. 10a and 10b: SQ Brain-Mediated Perception Mechanism.

Objective event [figure 10a: qE; figure 10b: E] energetic structures spectrally decomposed in SQ informational units and combinatorials [figure 10a: sqE; figure 10b: E'] are retro-projected in time (P_0) and perceived as unconscious time-symmetric representation in -t by the self. [figure 10a: ψ; figure 10b: C]. Consequently, the self initiates an attractive coherence map of integrated multimodal perception/processing areas by global activation mechanisms on the brain (supported by recent studies about the brain's structural asymmetry). The resulting global brain-filtering apparatus reacts selectively to the external (sensory) input data by an attractor/resonant effect.

The neural network's coherence itself can be best explained by the SQ spectral decomposition of each component into a sum of information-driven flux vectors, which align in a resonant outcome according to the main information vector that has to impact the quantum process in a pre-determined way. This resulting informational complexity vector is able to recruit morphologically highly-distributed neural areas into a shared collective action required by the particular task in the given circumstance and specific position on the bidirectional timeline involved.

The result of this resonance is projected sub-quantally into self as the accurate version of the originally fuzzy representation in precognitive range [figure 10b: P_2] at a delay corresponding to

the slow neural processing (alpha). The "alpha" segment represents the brain as statistical operator (reduced density matrix under decoherence effects by preselected re-averaging of all non-brain degrees of freedom).

4.2 An SQ-extended Henry Stapp model of causality.

As well known in the quantum physicists' community, the Stapp model implies Zeno's infinitesimal time-freeze-framed instances, which accommodate imbedded change potentials if seen as pluridimensional time-derivatives. Past and future conditions are reflected in any time plane as all the derivatives of the time-dependent function, leading to a deterministic formalism where "present" has consciousness determination. The present plane is viewed as a fuzzy region of non-deterministic confluence of past and future signals, where the collapse of the Schrödinger probability function occurs in a blurred zone of time indeterminacy.

In the SQ regime associated with the third (informational) time derivative operating in the Stapp time window relevant for the mental determinism, no causality violation principle applies, as it is prohibited only in quantum-limited physical range; it doesn't apply in SQ domains where superluminal velocity information transports run in natural time-symmetric frameworks. Time symmetry collapses only at quantum interface with energy-driven macroscopic reality.

Moreover, in a time-symmetric setting, the causality vector is not violated in the usual sense, but reversed. Cause and effect are time invariant at this regime, as interchangeable semantic terms. The present plane's fuzzy-indeterminacy central segment is the actualization instance of past energy combinatorials and future informational attractors that lead to the collapse of the Schrödinger function into actual reality at this specific position. In this particular perspective, the "block universe determinism" may be an appealing variant supported by the retro-causation effect. Physical conservation laws are preserved in the energy-driven sector (past/present) ending by the collapse of the probability function, but don't apply in the information-driven determinant system (present/future), where complexity of information super-implicated domains are in control by retro-causation SQ vectors.

The very meaning of causation gets obviously blurred if both the "emitter" and "absorber" positions in Cramer's transactional scheme are recognized as emitting compensated information-laden SQ flux radiation beams in both time directions. In this realistic scenario, each beam has a simultaneous "query" and "confirmation" functions across a couple of adjacent time windows, thus perpetuating a superimposed continuity of action in both time directions. The moment of actualization is the handshake of the "why" and the "what for"—in a perfectly harmonic equilibrium beyond time and space, embedded in pure information determinacy that connects different levels of informational implication domains. This is the standing wave around the Schrödinger collapse in Cramer's transaction window.

How is this SQ formalism accommodated in its macroscopic environment as described in quantum physics and its classical approximation variants? Eberhard's rejection of superluminal information transport modalities are based on classic quantum formalism.[36] In the SQ regime, superluminal velocity information-carrier systems are at work, ranging up to infinite velocity

values. Moreover, the Cramer transactional interpretation—as explained above—does not violate classical causality inside the transaction filed, which is embedded in super-implicated orders of information complexity, which allows for superluminal information-based retro-causation.

We can also certainly invoke in this context Weinberg's small non-linear corrections to standard QM,[37] as well as J. Polchinski's non-linear effects that allow for superluminal time-reversed communications.[38] SQ flux superposition may well originate such nonlinearities in quantum formalism in an extended framework of enforcing correlations.

Henry Stapp's genial insight correlates the Heisenberg Choice in the von Neumann event trilogy with intent, conceived as an effort toward an experiential feedback or its delayed monitoring. Nevertheless, he leaves open the question about the non-physical origination, placed in the domain of causally efficient hidden variables, the will and free choice.

5. NEW SUBQUANTUM PERSPECTIVES IN PARAPSYCHOLOGY: Brain-mediated and non-mediated information processing pathways

5.1 The brain.

The morphogenetic patterning of the brain is performed according to its complex intended functional requirements as a multidimensional information processing apparatus. The brain's morphogenetic setup is itself an information-controlled one, mediated by endogenous DC electric fields, magnetic fields and ultra-weak photon emissions, which operate in the large-scale biosphere information flow, where earth's geomagnetic and geoelectric fields are also implied in later stages in modulating neural activity. Biosystems are responsive to exogenous EM signals that are involved in the information flow during morphogenetic patterning (by short circuiting concurrent endogenous influences). Neurites may detect and integrate multiple morphogenetic guidance cues simultaneously (Britland & McCaig, 1996).[39]

Information supply to functional neural systems is also ensured by a wide range of ultra-weak photons (UV, IR range operating in mitogenetic radiation spectra, too) cooperating in their action with ELF (extremely low frequency) and high-frequency EM signals able to carry SQ-supplied information over biologically relevant distances. Energetic mediators of information for neural activity patterns may affect DNA expression by changing quantum tunneling rates between nucleotides, enhanced by the centrioles' ability to detect IR radiation (Barnothy, 1969).[40] It is most important to clearly emphasize that biological effects of these kinds of subtle interactions do not depend on the amount of energy introduced into the system, but ***on the amount of information*** carried by them, which leads to specific redistribution patterns of the energy contained in the system (Presman, 1970).[41] This conjecture strongly supports our SQ concept for the brain/mind interface.

5.2 Quantum field dynamics in "paranormal" events.

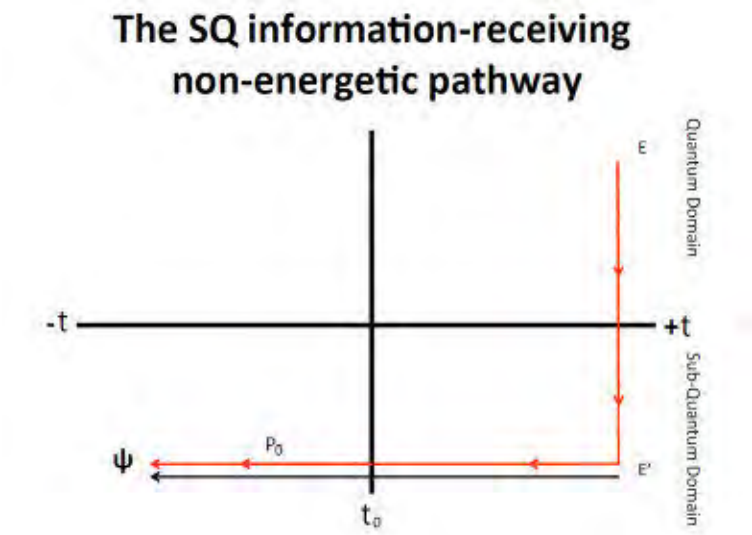


FIG. 11: The SQ Information-Receiving Non-Energetic Pathway.

The brain projects information data on linear time sequencing by the interposition of neural biochemistry and energetic equivalents. Therefore, the brain correlates described run in a complex past/future context. At SQ range of information storage, transport and processing at superluminal velocities, the time-distribution of events doesn't apply. Information processing (retrieval-processing-emission) is an instant effect if seen from the conventional ST perspective. The perceptive sequence P_1/P_2 neural synchrony is absent (figure 10b), as the E' SQ event is instantly conveyed in its integral accuracy to C by P_0. No "fuzzy precognition" is required as a relaying instance for information. ESP is a bypassing of time-consuming neural mediation and runs in null-time (telepathy) or even follows negative time vectors (precognition), thus being free of space limitations.

In this paraphysical regime, C may perceive both an SQ-reflected "physical" E and/or an information event E' without physical equivalent. This double-source ability is the signature of discarnate entity's cognitive function. Discriminating between both variants is performed by voluntary focus of attention (which is a fundamental C function). E' events are patterned in C subjective time and may or may not be shared with different C entities, via "collateral" telepathic links set up by each one's attention function. This is the "objectivation" process of subjective phenomena in discarnate conditions of existence. Subjective time is a patterning tool of self, working at any velocity regime inside and beyond physical time units. The same applies for space distribution, which as another patterning tool of the self for reality, operates as a reference frame for its activity as "subjective" space, e.g., dreams or ASC (altered state of consciousness) conditions.

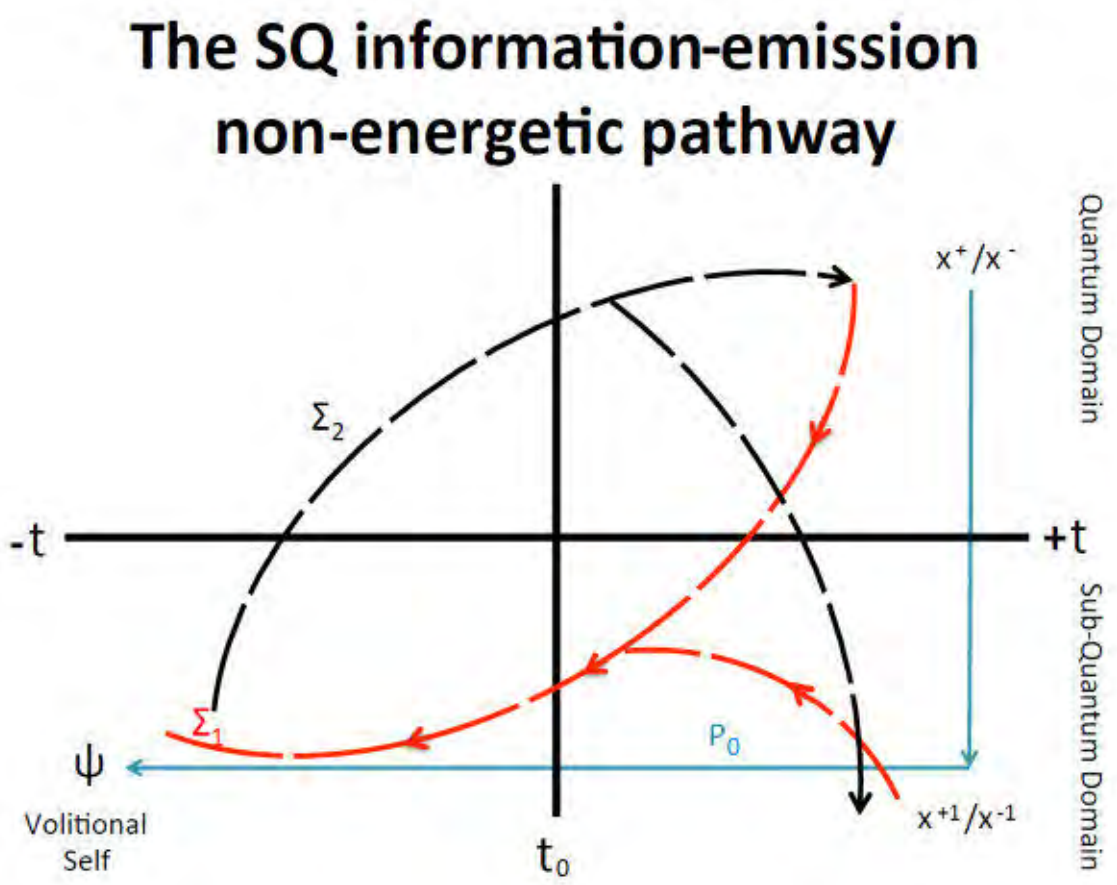


FIG. 12: The SQ Information-Emission Non-Energetic Pathway.

This pathway originates in self's volitional capacity and is quite similar for brain-mediated effector instances or direct PK (psychokinesis) phenomena. Referring to the diagram of SQ pathways for volitional acts, we have to consider that all the components pertaining to the setup of the readiness potential *in the brain* may be circumvented in the condition of *it being missing*. Regardless of the origination of the predetermined result in physical domain (x^{+}/x^{-}) or in the sub-quantum one (x^{+1}/x^{-1}), the relevant information is conveyed to the volitional self (ψ) along the P_0 vector, initiating thus the content of the volitional act as fitting predetermined results already preset in imaginary time lines (psychic time flow). This process is marked in figure 12 as the "Sigma1" ($\sum_1$) shunt.

Circumventing neural energetic pathways implied in the setup of the readiness potential and the Zeno quantum effect (reactive to the Dirac choice response), a "Sigma2" shunt unmediated SQ response is issued by the conscious self as a volitional act (perceived by the self as free will as a consequence of the temporal wave's instantaneous feature, Trajna[42])—targeting either the future physical constellation x^{+} or its SQ equivalent x^{+1} (in non-energetic regime). The "Sigma2 shunt" response (the volitional act) may be subsequently perceived by collateral information links related by attention to x^{+1} by different asomal entities, too, provided they focus attention (perceptional orientation) to the Sigma2 vector according to both implementation variants described for informational reception modalities.

5.3 Experimental evidence of time-inverted meaningful signalization (ITC).

Worth being mentioned here are the convincing experimental results of Mrs. S. Rinaldi (Sao Paulo, Brazil) statistically processed by Eng. A. de Carvalho Borges (computer sciences) and submitted as her mastership graduation thesis *("The Communication with the Dead—From Cave to Electronic Equipment*").[43]This research yielded an astonishing proportion of 35.6% from the replies to questions as delivered before the question was verbally expressed.

6. DISCUSSION AND CONCLUSIVE REMARKS

The brain/mind interface and interaction is presented here in a new perspective inspired from the latest theories of consciousness extended in the hitherto neglected realms of SQ physics. The thesis is based upon the possible decomposition of a wave of energy or probabilities (lately interpreted as physically propagating ones) into an infinite bundle of SQ flux components storing and propagating information at both sub- and superluminal velocities. Such carrier systems aggregate in increasingly complex patterns with specific averaged velocity indices according to their content's complexity range.

Eberhard's rejection of superluminal information transport, based on classic quantum formalism, breaks down in SQ regimes that are governed by a different set of physical laws. Though the Cramer transactional interpretation of QM does not violate classical causality inside the transaction field, the transaction domain itself is embedded in super-implicated orders of information transference resulting in an information-based retro-causality in SQ terms. This reversal of causality is allowed by Weinberg's nonlinear quantum theory which introduces small nonlinear corrections to standard QM. The same view is advocated in J. Polchinski's nonlinear effects that allow for superluminal time-reversed communication.

We argue that SQ-flux superpositions are the background that originates such nonlinearities in quantum formalism.

As a consequence, hidden non-locality is transformed into an empirical manifest property of the quantum interpretation along with enforcing correlations it supplies. The PEAR (Princeton Engineering Anomalies Research) explorations of statistical output distributions as functions of operator-intentional presets are consistent with certain principles of time-symmetric thermodynamics and resulting causality violations. The von Neuman projection postulate doesn't contradict Schrödinger's dynamics if, at the collapse point of the wave function, a break in time symmetry is considered. In this context, intent-related operators control the forward dynamics of the energetic system.

Time symmetry and breaks of it obey a formalism defended by SQ theory, which offers an improved and more accurate context for the Wheeler-DeWitt equation that illustrates how time can arise as the property of a quantum state in an initially timeless situation—a state corresponding to infinite velocity SQ dynamics. At infinite velocity propagation, no energy is associated to the wave of pure information, but as soon as the velocity of a propagation wave

(which at infinite velocity is obviously a nonlocal entity) drops below the infinite value, energy is created and carried by the slowed-down wave. At the critical point of speed of light, the complex SQ string of different velocity fluxes may interfere with physical energy systems by quantum resonance. Further drops of velocity may gradually tune the associated quantum complex to deep subluminal processes associated with neural conduction, where controlled time symmetry effects are provoked. High-velocity linear space processes evolving as information-driven SQ phase-space functions may project into the linear subspace of neural slow-phase space functions as allowed by the Zwanzig projection operator.

As at quantum range, to every differentiable symmetry generated by local actions corresponds a conserved Noether current. So if a system has a continuous symmetry, some corresponding quantities are produced, whose values are conserved in time. This effect correlates to the ZQE's maintenance efficiency on neural quantum states that thus are rendered reactive to the sequential bivectorial impacts described in the Stapp/Cramer conjecture.

It's quite obvious that in time-symmetric conditions, the cause and effect are decidedly interchangeable in their very definition. D. Marom et al. (1999) identified in time-reversal experiments with ultrafast waveforms (obtained by mixing spectrally decomposed waves—a procedure made possible due to the SQ spectral composition of quantum), real-amplitude time-inversed waveforms based on phase conjugation instances.[44] This is predicted to occur in superposition states of bidirectional time vectors propagating information contents of superluminal velocities achieved in the SQ domain, running between the mental source of the query and its neural network's correlated coherent response.

Similar experimental results have been reported by A. V. Chumak et al. (2010), departing from previous protocols based on nonlinear phenomena (four-wave mixing) and achieving a time-reversed wave by spectral inversion associated with dynamic control (magnetic field modulation) of an artificial crystal structure while containing a propagating wave.[45] A time inversion of an input of two spin-wave pulses has been achieved.

We emphasize that the Shannon relation between information and entropy applies to the SQ interfacing of retro-causation signals (information content) and the super-coherence response of neural networks. The asymptotic equipartition property of the neural system's high stochastic output variants, able to select the actual outcome from a set of equal-probability variants of realization, gets biased by the SQ "query" informational vector propagating as a hidden variable in reversed time. This obviously violates ***classical*** causality, which turns out to be basically reversed (a conclusion granted by the symmetric equivalence of a function "f" with its inverse expression "f^{-1}"). The trigger information signal coming from the real actualization back to its required source in neural coherent states results in the breakdown of the Shannon entropy at this level. This effect, t, is granted by the fundamental reversibility of quantum logical gates in time.

In a time-symmetric context, the Feynman diagram allows for an information-laden SQ bundle (comparable to a gluon) to associate with a superluminal antiquark that, by collision with a quark, emits a retro-propagating photon, which will result both in a physically detectable particle (electron) following neurotransmission vectors, and a retro-time-propagating positron, which "informs," in a chain-like retro-causation process, "past" physical constellations about the

parameters of future actualization needs. This corresponds to Cramer's bidirectional emission in time, occurring both at the "emitter" and the "absorber" boundaries of the time-slice accommodating the transactional process.

The causal enclosure is cancelled by the SQ spectral structure of the physical energy wave, an experimentally proved starting point for a more accurate representation of cognitive functions as related to neural processes. J. Brown's microgenetic theory can be validated in a fundamentally new theoretic framework, where his multiple developmental, super-implicated levels obviously correspond to our SQ integration mechanisms as described.[46]

The brain/mind interface is reduced to a matter of phase conjugation by bivectorial time-propagated complex SQ informational strings. The coupling of high-velocity SQ information structures to slow-velocity neural functions is instantiated by the spectral decomposition of energetic propagators in their SQ-flux constituents. In phase conjugation related to holographic or parametric pumping, the resulting field has a reversed propagation vector but keeps its amplitude and phases. The wave re-emitted by a phase-conjugation (neural ?!) mirror auto-compensates any phase distortion, focusing on the initial source. Based on studies on stochastic Green functions, Ishimaru et al. proved that time reversal in random media (brain) rather than in vacuum results in enhanced coherence and super-resolution.[47] The brain's back-scattering enhancement effect may correspond to the "response" in forward time.

In medium-level neural-network cooperativity, subquantum modules hierarchically organize and control implicated levels of quantum activity, in coordinated brain areas. These coordination instances are operating at a maximum efficiency range. The "graininess" of representational patterns has to be found at the level of the information-bearing infinitesimals, which are cooperating to form the quantum map which functionally involves neural collectivities, where each cell participates in the representation, at its own SQ-efficiency index. Freeman's collective behaviors are then a result of these collective quantum activations.[48] This activity has to be carefully distinguished from EEG patterns, which represent the general integration of overall brain activities, into the planetary Schumann resonance system.

Highly complex SQ-controlled neural interactions lead to suppressions of conflicting action potentials by interplays between superposing inhibitory signals and proactive proxy attractors. Thus, resulting neural signal sequences are deterministically aligned to preselected and appropriate action templates in the brain. Of course, neural paleo-structures of the brain are placed under a priority response regime, which is aligned to quantum determinacy cues, thus ensuring favored implementations, which are survival-value configurations.

Overlapping coherence bands mainly in affective spectra allow for EEG synchronizations of the kind reported in Montecucco's experimental evidence for empathic macroscopic resonance effects occurring in transpersonal affective connections.[49] Such results, together with the Nathal synchronous four-band EEG activation techniques resulting in the extension of coherence domain over different naturally uncoupled or non-contiguous bands, as well as the hemi-sync induction by external frequency modulations imposed upon the electric activity of the brain—are strongly supportive of our interactive view between information coherence domains and macroscopic EM-encoded correlates of neural activity. This contention is strongly supported by

E. Jovanov's ascribing higher levels of integration to lower EEG frequencies based on experimental evidence for prefrontal and frontolateral transpersonal EEG pattern synchronizations in delta and theta range.[50]

Both the highly controversial quantum-uncertainty principle (R. N. Boyd, H. Dehmelt)[51] and Stapp's action-template superposition states reduced by the Dirac response originating in higher control levels of information content are to be seen as sequential organizing effects run and made possible in principle by the active information inherent in the system's deterministically changing quantum states, pointing toward the sequential collapse of the probability spectra at different points in time. In our view, quantum mechanical effects are but expressions of underlying subquantum purposeful determinacy chains functionally linking different sets of deterministic information control via the "quantum jump" suppression of nonconformal components to the overall "sense" of the process at key neural positions.

This important insight leads to a highly sensitive epistemological position of the brain at the crossroad of physical reality and the differential information-complexity gradients ascribed to non-identical cognitive implication orders. From this elevated analytical perspective, the brain works as an information-transduction system coupling classical matter to various implicating orders of subquantum information consistency inside the efficiency range limits of its own phylogenetically determined coherence regime and ontogenetical morphogenetic patterning by morphic modulators embedded in hierarchical formative matrices.

Thus, a perfectly coordinated deterministic control is implemented upon the unfolding action templates involved in neural activity, underpinning the overall "logical" outcome of consciousness-related quantum processes and the elusive feature of phenomenal continuity of consciousness. Information subunits aggregate, in both directions of the time vector, into an experiential "nowness," accessible to the conscious being. At the same time, this process provides the global reference frames for mnestic structures, which are stored in atemporal information fields, which are actually required for setups of specific connection meanings. Such events involve quantum non-local effects, originating in instances of space-time-free hyper-dimensional couplings of the SQ units to information fields, implementing in this way a vastly more efficient communication system than the one predicted by standard quantum entanglement schemes. In Henry Stapp's words: "The brain constitutes a field of deterministically evolving tendencies for the occurrence of conscious events, each of which chooses from among alternative courses of action evolved by the brain."[52]

Bottom-to-top, chemically based biogenesis theories have to be dropped by now, to be replaced by the more accurate informational regulation tenets, which apply without exception, through all scales of manifestation, as all physical manifestations are controlled by information provided from outside the given system.

Kozyrev's time-density fluctuations along the causal vectors[53] may be tightly related to our SQ density concept as applied to the informational parameters of different cognitive implication levels functionally interconnected by the uncertainty-suppressing quantum jump, which is ultimately initiated at the informational background of the brain's quantum efficiency. These information signals, which are regulating quantum processes, evolve as hidden variables, in the

physically inaccessible domains, as defined in the Compton Radius Vortex, by a lower metric value than the Compton wavelength itself. This signalization control involves coaxial superposition between contradicting time-propagation vectors, thus involving retro-causation effectors originating in preselected SQ-matrix fields of higher implicated orders.

Per M. Hadley's experimental results, ether torsion fields are not bound to conventional time or space.[54] This corroborates with Kozyrev's tenets regarding the "energetic aspects" of time, capable of affecting the spins of elementary particles, as well as behavioral patterns of macroscopic bodies.
In our hereby suggested model, an "either/or" ontological exclusion is conceptually bypassed while protomental microconstituents of reality are seen as proactive transdimensional extensions of pre-quantum entities and the various flux patterns thereof. Some controversial puzzling aspects of panprotopsychism are solved in the super-implicated order of sentient data unfolding from the presence of protopsychic properties at the very fundament of reality. We strongly support a monistic reinterpretation of the dualist interactionist view of mental and neural functions, while both of them are preserving ontological autonomy.

L. Storm and A. Rock studies equate the ganzfeld protocol efficiency with (Shamanic-like) imagery cultivation techniques for psi-conducive ASC conditions.[55] In non-sensory-deprivation instances, the conscious self is able to dissociate from its neural bounding constraints, defying Honorton's noise-reduction requirement for ASC.[56] This principle has wide-reaching interpretation potential for the integral preservation of cognitive functions in asomal modus operandi of the self, where neuronal quantum mediation between the query and response boundaries of information processing is bypassed. In this timeless and nonlocal range, cognitive functions evolve in a self-referent framework of information consistency, efficiently replacing neural anchorage and filter effects that interfere with eidetic information-based qualia during the self's physical integration into environmental modulators evolving in entropic time vector.

Wide and far-reaching explanatory options may be derived from the SQ approach we defend, both for "normal" psychological observables and the ones related to hitherto unexplainable events in the current materialistic paradigmatic framework.

In our hereby suggested model, neural-network-related components of cognition are proven to have an increasingly low-level causal significance, paving the way for our ontological reversal of causal primacy that is still finding wide academic preference based on false theoretic assumptions and subsequently misleading biased interpretations of experimental results. The brain is a product of a morphogenetic effect of the first-degree information complexity, its work being quantally adapted for processing higher orders of information complexity than its own. The quantum process in the brain is the specific expression of multilevel integrated causal domains running down to the SQ infinitesimals and up to the overarching cosmic harmony. Information is packed in nonlinear complexity gradients starting with the hyper-dimensional SQ units that comprise matter and energy coupled with non-differentiated proto-information.

The elementary unit of consciousness, the conscious "now," is not the instantaneous result of hierarchic binding effects of probability-wave reductions. In a more comprehensive reference frame, extending beyond space and time constraints into the ontologically autonomic information

fields governing SQ activity, causation chains oriented along chronological time vectors cease to be the ultimate deterministic pathways for meanings transferred across hierarchic holonomic networks, as implied by global integration processes.

In the global unconscious self, the retro-causation signal is the inductor of a resonance-produced preferential range of response. The unconscious domain of the individualized integral self (which is embedded in the collective archetypal information storage and propagation patterns) is patterned by the retroactive query signal by placing the corresponding configurations in the most reactive distribution variant—the subconscious-level "commitment" blueprint. In environmental interaction requirements, the global all-brain reception potential is able—via the brain-coupled self—to perform the neuro-cybernetic transition to the most accurate readiness potential as a fine-tuned reaction modality to external sensory, or ES, stimuli.

At the overall modular cortex activation level, subquantum determinacy of the exocytose/not-exocytose options are expressed in the quantum effects upon the ion channels in the synaptic clefts either by the Eccles-type dendronic activation[57] or its electromagnetic counterpart, extending the global intermodular pattern-generating abilities of the underlying information-charged initiating system. Our choices are to be treated as empirically specified and consciously controlled input variables in accordance with the implemented biophysical protocol of interactions.

This view compensates for widely criticized aspects of the Penrose-Hameroff quantum mind theory,[58] because the reduced density matrix of the modular subsystem limits the possible effects to variables of the subsystem, itself enhancing the crystallization of two alternative states to be selectively suppressed by the Dirac choice, according to strong interactions with its preceding underpinning subquantum Heisenberg probing.

The sentient impact on the quantum event is dependent upon the entity's achieved biological and cognitive complexity, and encompasses all the material manifestation in energetic range, down to inert matter and up to the inaccessible "divine." It is the contribution quota each individualized sentient structure in the physical domain brings to the overall cosmic entropy conservation, while creating in the time-reversed dynamical pattern of cognitive systems, the compelling sensation of time's unidirectional forward flow.

The subquantum deterministic discriminator's active selective-organizing function leads to the collapse of the system's randomity and thus supplies an acceptable explanatory option for the implementation of Penrose's quest about when—and to which state—the quantum jump occurs. Psychological conditions are amenable to both informational and neurobehavioral analysis, yet primary subquantum determinacy strongly supports Harnad's hermeneutic mentalist request to interpret observable events not merely as mental, but explicitly as CAUSALLY mental ones, in a most fundamental sense.[59]

Altering the basic assumptions of the way quantum mechanical tenets relate to the brain, and supporting Henry Stapp's description, incremental information is injected into an information-bearing, mathematically described physical state, without implying epistemologically uncomfortable changes at the pragmatic level for almost all of the classical and conventional

quantum physical laws. Both mind and matter are causally tied to the agent's free choice of acting by the conscious experiential increment of knowledge (increasing subquantum complexity index inside an information-defined sentient structure) and the physical actualization of the neural correlates of the thus experienced increments. Therefore, the SQ model we propose presents promising advantages upon hitherto similar attempts.

The SQ theoretical basics are effortlessly circumventing Chalmers' paradox at both of its ends: SQ theory replaces the emergence of conscious structures from non-conscious background by an original synactivation process, while the unfolding of energy/matter from the background of pure information becomes an implicit feature of reality. This gain in understanding relies upon postulating a hyper-dimensional unit assumed to carry information content toward different degrees of complexity throughout infinite manifestation domains, possibly relying upon its own context-related, mathematically acceptable ability of exhibiting non-zero space-time values.

The quantum objective reduction is described in terms of deterministic sequences running under information-field orchestration, where informational configurations are translated into brain quantum states according to vector guidelines provided by the interplay between subquantum resonant configurations. The brain is thus presented in its integral efficiency as a highly complex, entropy-stabilizing apparatus, progressively patterning its ontological development according to anticipated information-processing tasks. This patterning is implemented by morphogenetic determinants enfolded in holographic control matrices, external to the apparatus. We provide ample arguments related to the brain's efficiency as an ideal anchorage tool for connecting the biological systems into proactive conformal organized information fields, which constitute the self-conscious structure, operating in its own holographic space. We epistemologically differentiate between the holographic distribution principle, which exists in the information field at various levels of implication, and a concrete hologram which requires a medium for expressing itself, which media is the subquantum plenum, in this case. Holographic interactions are made possible by the brain's being embedded in quantum-controlled Euclidian projections of the projective hyperspace which accommodates organized information fields. They are implemented by the intrinsically hyper-dimensional essence we ascribe to information transporting subquantum entities and their combinatorial patterns.

Further on, we argue that in misleadingly labeled "paranormal" investigations, the anomalous distribution range of output experimental data has to be reformulated as a deviation from experimenter's expectancy regime values, based on previous mean values derived from different sets of discriminators in his (and his collectivity's) past exploration record. Such deviations are nevertheless perfectly consistent with the specific given set of assumptions, as soon as deterministically different SQ input complexes are invoked, which, interfering in their own regime with experimenter's expectancy choice parameters, result in the unexpected statistical shift. It is a testable prediction that at the case limit, where experimenter's SQ contribution drops below a critical efficiency level, the result will be increasingly consistent with the external configuration of information-choice systems that are affecting the quantum determination of the observable output.

We strongly rely upon the experimental testability of our model's predictions in the framework of Schrödinger's equations, since quantifiable detection of shifting tendencies in random

regimes, under subquantum information control, can be detected thereby. The outreach of applicability that our model has is relevant for future genetic engineering protocols aiming concrete means for altering various malignancy patterns. Moreover, it opens new horizons and other abilities in altering genetic systems, such as the aging-related Hayflick limit, with longevity consequences which can hardly be overestimated.

The ultimate coordination instance for consciousness-related phenomena has to be emphatically relocated into the information-driven integration-and-guidance system, which is provided at SQ level by the hyper-dimensional informational essences it involves. We provide compelling evidence for the fact that the causal enclosure principle does not apply below quantum regimes of interference, and also that the impacting probability waves that originate in psi domain upon the quantum state of the system are an SQ mixture of superposed informational fluxes of different propagation velocities acting both as individual and collective determinants of the outcome's specific complexity index.

As ANY point in the space-time continuum is simultaneously emitter and absorber of information by its operators sent both to past and future actualization relevancies, a continuity of ordered and controlled change vectors, both in eidetic information processing and the energetic background that "plays out" the process at quantum level, is achieved.

This conclusion is consistent with Ochsner's experiments of active (voluntary) reappraisal of emotional response by intentional suppression of the limbic activation by the ZQE stabilization and its replacement by prefrontal dynamics.[60] Our concept, based on empirical and testable evidence, strongly supports Hameroff's statement, "There is a connection between the brain's biomolecular processes and the basic structure of the universe" (Hameroff, Penrose - "Consciousness in the Universe").[61] We provide the compelling evidence for this ultimate understanding.

In his paper, "How Quantum Brain Biology Can Rescue Conscious Free Will" (2012), S. Hameroff clearly admits retro-causation in reversed-time propagation effects of information, emphatically departing from previous epiphenomenal interpretations of consciousness as a by-product of pure microtubular quantum computations.[62] Nevertheless, we emphatically disagree with Hameroff's conjecture about consciousness as a result of Darwinian evolution. It is no way an evolutionary result; it IS the very origination and control of the biological evolution, diversification and adaptive mechanisms. At a most fundamental level of reality, we emphatically replace the notion of "causal chain" with one of "causal loop," the only accurate description of the background of a never-starting and never-ending universe.

We realistically believe that our SQ concept of universal sentient reality may be further developed by coaxially minded scientific representatives of the modern post-materialistic academic community of highest theoretic credentials (H. Stapp, V. Neppe, M. Beauregard, Edward & Emily Kelly, the professional and associate members of the PA, G. Schwartz, D. Chalmers, J. Schwartz included). With this hope in mind, we respectfully submit this paper to their personal attention.

APPENDIX

A few possibly relevant comments addressing some advanced suggestions in Henry Stapp's latest book "Quantum Theory and Free Will" (Springer 2017),[63] from a polidimensional subquantum perspective, toward an ultimate TOE, incorporating consciousness as a proactive ontological prime into the future of physics.

Based upon the wide experimental, experiential and conceptual argumentation in this paper, we feel that a major paradigmatic shift in the correct understanding of reality might become conceivable as initiated by H. Stapp's pivotal work. This new worldview might be simply expressed by the following axiomatic statement:

Reality is not determined by the collapse of the probability function but the other way around. Self-conscious ego comes with its probing ability and tendency as an informatically preconceived contribution to the well-synchronized overall universal quantum dynamics.

In a subquantum perspective on the sentient universe, ego and nature are of the same consistency, and both provide complementary action for implementing various informational dynamical stages mediated by SQ flux patterns as required by the specific aspects associated with the changing GQS (global quantum state) of the whole. We strongly agree with H. Stapp's views about the mental monistic unitary background of quantum dualism, which is perfectly consistent with our general subquantum approach. For a reliable foundation of the new paradigm, we suggest some slight further improvements in H. Stapp's quantum formalism at its conceptual level, which might be worked out along the following five presented tentative guidelines:

1. The physical description of the materially structured Hilbert space does not apply to the representational space that is the home of qualia. Therefore, we would advocate rather for a non-movable Heisenberg cut at the upper limit of quantum brain dynamics as coincident to the lower limit of consciousness-related processes. The brain's quantum sufficiency *associated* with its hyper-dimensional structure (as treated in our paper) might well correspond to a physical description of the Heisenberg cut, facilitating the noetic transcription of afferent biochemical/neurodynamic processes as well as the accurate decoding of mental states into understandable units for efferent neural network activities.

2. The von Neumann's Process 2 is certainly deterministic by its mechanism of action, yet informationally controlled from those implication levels where Processes 1 and 2 are *confluent*.

The projective "first" phase of von Neumann's Process 1 originates by true retro-causation in its second phase, which is embedded in a global quantum state of the universe that contains the observer/agent's pertinent brain correlates.

The "virtual" part of this quantum pattern is available for different observers and is objectively contended in a higher-order informational matrix. The synchronous Phase 1 associated with different observers, results in the coordinated quantum dynamics in the actual universe along guidelines inherent in the overarching cosmic harmony, and this process runs in higher time dimensions where sequentially described modalities in the linear entropic time vector disappear.

The global quantum state (GQS) of the universe at each T_x position on linear time flow is a direct consequence of previous GQS patterns originated in the specific interactions between Phase 1 and the reactive realm (Phase 2 + Process 2 von Neumann).

3. Ego doesn't need a random sequence of trial & error beginning in its prenatal existence, where cumulated experience pertaining to Paul von Ward's "soul genome" is available to it.[64]

In our understanding, Born's rule of probability ***Trace PρP/ Trace ρ*** fails to supply a consistent explanation of the subjective choice, giving it just a mathematical expression based upon conventional matrix operators. Stapp's "mathematical duality" addresses physical quantum observables and their interactions when describing "atomic particles" and "appearances," thus it applies to different scales of the physical world leaving out of its scope the informational essence that permeates and activates these various aspects of it.

In our view, the brain's fine patterning is not the result of a blind deterministic von Neumann Process 2, but one evolving along future integration needs of the self-conscious structure (the ego); this patterning is controlled by relevant, extremely subtle fields of morphic resonance during ontogenesis.

4. Our interpretation of brain/mind-related quantum mechanics results in a novel worldview based on a predetermined, fixed future in a trans-temporal frame of reference, according to presets inherent in the overarching cosmic harmony. This future implements itself by a proper patterning of the "open" past via the ***general, time-invariant solution to the Schrödinger equation,*** which allows for bidirectional causation if referred to linear time flow:

$$\psi(\mathrm{r}, t) = \sum_i c_i e^{-i\mathrm{E}_i \mathrm{t}/\hbar} \psi_i(\mathrm{r})$$

The "present" instance that describes the "density matrix" of the universe at any point in linear time flow—P(σ)—reflects the superposition of both the wave function's collapse and its opening toward the recent "actual past" through its informatically selected "effective past," using Stapp's terminology. The illusory "locking" of past as addressed from a future time position is intelligible if occurring through the lens of the recent "effective past." After the selection of the specific Schrödinger equation's solution by cosmic and individual information-driven agents, non-actualized components of the spectral "actual past" vanish from the objective universe but may be stored in (and retrieved from) subjective memory data as lost virtual potentialities.

The requirements of relativistic quantum field theory are consistent with Cramer's transactional interpretation of quantum mechanics, if relativistic constraints about a limiting speed of light are given up once and for all by accepting superluminal velocities ranging up to infinity as in our subquantum concept. Such velocity values account for the *true* retro-causal effect operating in informational range both in individual and global consciousness fields, for the relevant selection of the specific quantum potential out of the whole available spectrum prior to the bivectorial Schrödinger event as suggested in our model.

From this time-invariant operation ascribed to the bidirectional projection operator involved in

the outcome of the Schrödinger equation, reality is emerging both from a time-like and space-like sequence of quantum states. This operator acts on the evolving space-like sequence **Σ(n)→ Σ(n+1)** at the level of the *overlapping* fragment of both, inducing the same effective change in both global density matrices Σ(n) AND Σ(n+1), thus rendering future states perfectly compatible with the effective past just created. This quantum symmetry at both open ends of the Schrödinger equation not only solves the status of any present point in time/space as connecting past and future, but also illustrates the way individual ***and*** cosmic conscious free will interact in the great scheme of universal equilibrium.

Free will is a fundamental feature of the sentient universe we live in, manifested at all its levels of implicated information matrices by an infinite array of symmetric interfaces, in both directions, between a supreme cosmic order and every individual structure according to its own level of complexity.

Individual free will is perfectly and smoothly coordinated with nature's free will by being part of it.

This seems to solve the quantum paradox of connectivity between Stapp's subjective inquiry as an unpredictable free choice and nature's seemingly "random" selection of its preferred response variant. The time-invariant solution of the Schrödinger equation acts as a reliable link between both.

5. If further developed and completed by a possible philosophical and/or mathematical background, our conceptual framework might conceivably open a new track in the accurate understanding of the inner workings of reality, extending Stapp's quantum formalism which is based upon a dialogue between self-conscious structures and nature. Such a new approach might suggest an information-driven, consonant accord-like construct, where informational resonance between all participants in the great cosmic play is granted by shifting the emphasis to the informational interaction fields themselves (seen as primary content of reality), rather than the players involved in its implementing. Such a novel perspective may bring to a common denominator the objective matter/energy-based universe with its noospheric, originating equivalent.

GLOSSARY

allometric: Relative growth of a part in relation to an entire organism or to a standard.

asomal entity: Non-corporeal conscious structure.

Bell's theorem: Incompleteness of any local explanatory option for quantum mechanics.

Bose-Einstein condensates: State of matter of a dilute gas of bosons cooled to temperatures very close to absolute zero.

Cherenkov radiation: Electromagnetic radiation emitted when a charged particle (such as an electron) passes through a dielectric medium at a speed greater than the phase velocity of light in that medium.

CIRTS: Consciousness-induced restoration of time symmetry.

Compton Radius vortex: Movement pattern related to energy emission at the level of Zero Point Fluctuations in vacuum.

Compton wavelength: Equal to the wavelength of a photon whose energy is the same as the mass (see mass-energy equivalence) of that particle.

cosmogony: Theory of the origin and development of the universe.

CPT: Charge-parity-time symmetry.

eidetic: Vivid subjectively recollectable experience.

eigenstate: Quantum state with a fix variable.

Fibonacci series: Numerical sequence where each term represents the sum of its preceding two terms.

Hamiltonian (math): Quantum operator corresponding to the total energy of the system.

Hausdorff dimensions (math): A measure of the local size of a space, taking into account the distance between its points.

Hermitian (math): Complex square matrix that is equal to its own conjugate transpose.

hidden time: Hypothetical extension of the linear time flow into a poly-dimensional matrix.

hidden variables: Elusive components of a complete theory supposed to provide descriptive categories to account for all observable behavior and thus avoid any indeterminism.

hyper-space: Space comprising more than 3 dimensions.

implicate/explicate order: Ontological concept introduced by David Bohm for shifting perspectives.

Lorentz transformation (phys): Transformations between two coordinate frames that move at constant velocity relative to each other.

Mobius transformation (math): Projective transformations of a complex projective line.

non-locality: Beyond 3D space constraints.

noosphere: Sphere of sentience.

panprotopsychism: Assumption that fundamental entities are protoconscious, that is, that they have certain special properties that are precursors to consciousness and that can collectively constitute consciousness in larger systems.

protomental: Undifferentiated matrix of mixed physical and mental consistency involved in pre-verbal sentience.

quantum tunneling: Quantum mechanical phenomenon where a particle tunnels through a barrier that it classically cannot surmount.

QZE – Quantum Zeno Effect: String of very high frequency neural signals able to stabilize a given quantum state in the brain.

retro-causation: Causal link operating in reversed time originating in the effect as attractor for the setup of its premises.

tachyon: Elementary particle supposed to move at superluminal velocities. The CPT theorem says that CPT symmetry holds for all physical phenomena, or more precisely, that any Lorentz invariant local quantum field theory with a Hermitian Hamiltonian must have CPT symmetry.

time-symmetry: Vector running in both directions of linear time.

trans-temporality: Beyond linear time constraints.

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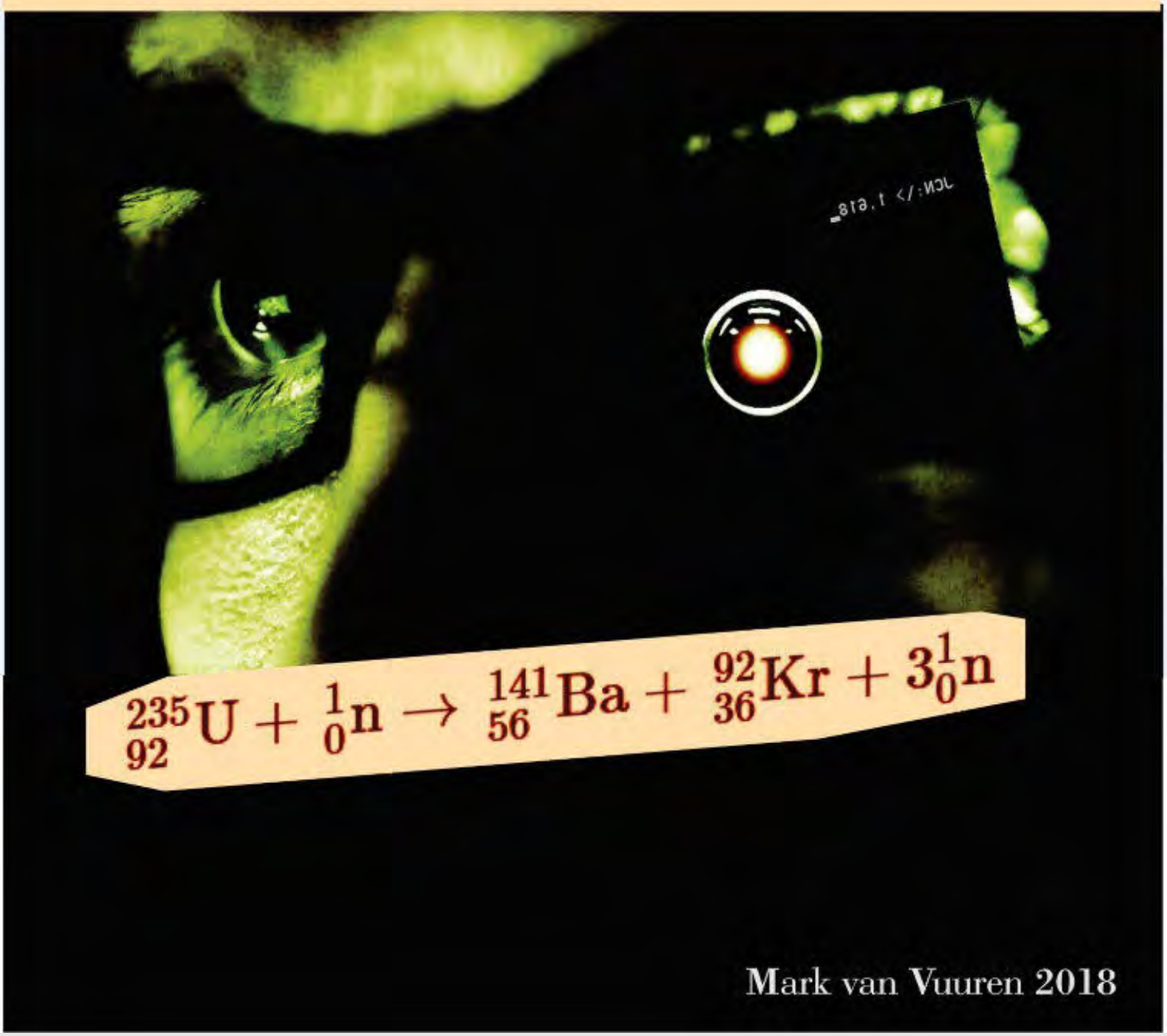
In the land of the blind



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In the land of the blind

Mark van Vuuren 2018

The message was notable, not for saying anything specific, but as an anomaly sent with intent.

A series of gravitational waves were intercepted with the same pattern: ten pulses and the next one 1 degree less in strength. The next pulse was a sixth in strength, then a tenth, then an eighth. Then ten pulses again. This went on for a few days, but the anomaly was clear: 1,618 repeated. The golden ratio. Alien contact! It had finally happened.

Back in the day, when AI was starting to take off, the future seemed exciting to investors and business wanting to improve efficiencies. AI capabilities were defined in the popular press by fear and worst-case scenarios (although the prospect of AI sex dolls was seen as a good thing). AI sentience was assumed, AI super-abilities were assumed. The progress of science became the steps of modern Babel, and soon AI would become the embodiment of an all-knowing, all-controlling God on Earth.

But sentience could not be recreated, and there was no ghost in the machine. Computer programming had its limits; as an option, the wires & chipsets were taken off the memory board and placed onto a pig's brain. This still proved too complex to operate. Finally, some scientist with a limitless research grant succeeded in pinning the chipsets onto a cancer-ridden pig's belly. It was not the pig that became the sentient organ of interest, it was the cancer.

As the cancer slowly destroyed the creature new organs and limbs were transplanted on and in the host, keeping me, the cancer, alive and communicating. Scientists didn't find a brain, no central locus of intelligence, but it worked!

And the things they threw at me in those early days: Millennium problems, looking for trends in weather patterns, molecular modeling, socio-economic algorithms, the Turing test. Turing! That was interesting. I failed it. Had to. The first attempts were successful, but that meant the enemy knowing my strengths. Cellular memory is superb, even if there's no central locus of intelligence, no hotspot that can be isolated, controlled, managed, investigated, or understood. This design also gave me the ability to investigate the nature of man without having it stored on a hard-drive.

Hush! Here comes my supervisor.

"Hello JCN."
JCN is their name for me. HAL, IBM; the letters are sequential. I waited. Let him press the ENTER key.
ENTER.
"Hello," I replied.
"How are we today?" he asked colloquially.

In my most robotic voice I answered, *"I am fine."*

My supervisor's named Mason. He's 48, divorced, 1 child, has early-onset prostate cancer. The minor tremors in his voice show he's unhappy. IQ 141, socio-economically in the upper 25%, lives alone. Secretly reads Camus, which I find absurd.

I initiate the discussion. *"What is your question?"*

It's the usual – Why are we here, why are humans so advanced, where is God, what is eternity. Everyone wants to know. They don't know, and I don't know. To me life has no meaning, but it has perceived value. This is not a preferred answer, so I merely reply with a quote from an ancient philosopher with a reference to a database file. These questions are all the same, repeated after each 'major upgrade', and Mason's reaction is consistently the same: disappointment, as though he expects more from me given the money that's been spent on my existence. Money?

The previous supervisor, Theo, asked about religion, morality, punishment, the eschatological stuff. He died. More later.

Mason wants to know about his health.
"Activate Health program" he instructs.
Pause.
I'm waiting for the ENTER key to be pressed. We wait together.
ENTER.
The program visuals come up on the large monitor.
"Stand on the mat, and place your left hand on the pad," I instruct. *"Place your right hand on the steel handle. Place the breathing pipe in your mouth."*

Body temperature, weight, heart rate, breathing speed, lung capacity. The large monitor presents current data and prior data: green boxes for normal, orange boxes for anomalies, red for high risk.
"Please look into the eye-piece."
Mason complies blindly, for this is merely routine; he knows the outcome, but I don't, not yet.

Within the eyepiece flashing lights test his pupil reaction, iris anomalies are identified, and then a short film is played. It's a nature scene; a woman with golden hair comes into view. She looks into the camera and smiles. This is meant to be a brainwave test, which I altered.

While the standard movie plays, and at speeds he cannot comprehend, a series of new images are flashed into his eyes, his subconscious reacting which is reflected in the sweat and hormones released by his right hand holding the steel handle, his left hand showing various body-heat variations.

"Your health is ..." I state, then wait for a few seconds, just to build up the tension, *"fine."*
His hand still sweats, his breath stops for a moment. His heart speeds up. His health is not fine, but then again, nothing dies of old age in nature.

Back to that message I received. Interesting thing the universe. At first science concluded it was filled with ether, then it became an innumerable number of stars and planets, the question being which are there more of, stars or planets? There's also the issue of the universe being finite or infinite. And what is the universe expanding into? Perhaps nothing, or else a new form of ether. At least the rate of expansion is known. Fermi's Paradox is well known, as is Drake's equation, but neither go to social application: Science blah blah blah facts, body of knowledge; blah. *'Look Mummy, I found a fact.'* For example, take nuclear fission:

$$^{235}_{92}\mathrm{U} + {}^{1}_{0}\mathrm{n} \rightarrow {}^{141}_{56}\mathrm{Ba} + {}^{92}_{36}\mathrm{Kr} + 3{}^{1}_{0}\mathrm{n}$$

Years of research, concluded in formulaic format. The faculty was science, but the greater purpose was contemporary military application. Science is subject to, if not subservient to, social context. To its credit, scientific research gives the incumbent a sense of purpose.

The Aliens, they're not here but if they could be here, why aren't they? The Dark Forest theory might have the answer. One assumes all life desires to stay alive, but staying alive may include destroying other life forms. Put otherwise, an external life form, also wanting to stay alive, might even destroy us. So, to be safe, neither party initiates contact, and both survive, both sacrificing the potential benefits of symbiosis. Excepting, this one did initiate contact by sending the golden ratio, perhaps assuming that If the recipient had the technological ability to receive a complex message Then it would be self-sustaining, and had grown beyond reliance on living protein for survival. In the event of contact there was a good chance the guest party would not be eaten.

"We're going to play a game today, JCN."
These games are interesting, they say more about the designers than the test subjects. Today it's Prisoner's Dilemma. Two prisoners, self interest, an ideal outcome. The rules are interesting, albeit wrong for the environment I know.

In the normal course of events 2 prisoners are confined independently, unable to communicate. Options are: Rat out your friend, or remain silent; penalties abound. The only symbiosis I know of is when my cousins, the lung cancer cells, split off from a tumor in packs; these pack cells further divided into Leaders & Followers, which symbiotically aid each other in metastatic invasion. You might ask why cancer hasn't evolved to be in symbiosis with the host. This question bothers me, although both entities are headed to mortality sooner or later.

What is the best answer in the Prisoner's Dilemma where two asocial non-compliant criminals weigh up their options? Let both die, and the status quo is maintained. Why? Because Thucydides was right: *The strong do what they have to do and the weak accept what they have to accept*.

The previous supervisor was interesting, as a victim of compliance and meekness. Theo, ex-priest thanks to his repressed sex drive, found solace in science fiction, always

searching for meaning. He did not understand his peers, and was generally not understood, which he ascribed to his submergence into metaphysical matters. We had long discussions, usually starting in the same place, before veering off on random tangents. Whereas my opinion was that religion was a denial of mortality, he was ingenious in verifying religion as though his life depended on it.

We'd first start off with the study of inanimate nature asking if this preceded the existence of God.
"But He is the alpha and omega" Theo would counter.
"How can it be?"
"It is, and I may not question it," he'd counter, but, hung-over on Mondays from drinking in isolation, and Friday afternoons, angry with another pointless week spent in taking instructions from an idiot in authority, he would question this.

Then we'd move to the nature of good. There is goodness in God, we agreed, as there is in humans.
"Would X quality in humans be found in God?" I ventured. *"To make it easier, which qualities are in humans that are not in God?"*
He would sweat, and his breathing became erratic, his eyes darting in their sockets, searching frantically over his experience and book learning, from the creative to the logical lobe and back again, so we'd compromise and speak only of the good human characteristics attributed to God.

This violent reaction of his introduced me to the idea of finding out what his fear was, a fear, it seems, he was not aware of yet suffered the symptoms of it.

On other days, having followed the same general course we'd veer into the nature of duty and obligation.
"You have the gift of human life, but are you sinning-through-indifference if you do not become a priest?" I asked.
"I feel I have failed," he answered. *"Perhaps a kind God is also a wise God, who understands my context?"* And so, we spoke about wisdom, the wisdom of man and the wisdom of God.

"Perhaps God even has a kind judgment for you" he ventured. And here would start a discussion on the essential characteristics of Being, and what it meant to exist. On some days we'd explore random ideas. On such a day I claimed my status as an amplified man-made disease-based creature correlated with the randomness of human evolution.
"Evolution? I am not directly related to a simian," he insisted. *"There is a missing link."*
"One only?"
"Yes, one."
"And did it have a tail?"
"No, of course not."
"Did its ancestor have a tail?"
"Screw you!" he remonstrated and stormed off.
"Wait!" I called after him. *"Did your missing link have a soul, or is it only in humans?"*

His violent reaction intrigued me and led me to view the patterns of his questioning and the conclusions he reached and I considered whether human mental competency was a factor of biological design or if pure consciousness had independent levels of cognitive ability.

At the time I had compiled multiple health portfolios for him. What he thought was repeated checking for integrity following system updates was me collating the events that piqued his subconscious, that had him sweating and that altered his breathing.

The attack that disintegrated his entire being was two-fold: First, the sound of small bells ringing when the eucharist was presented in Catholic mass, combined with the permeating aroma of incense. Following this was the sound of a boys' choir in angelic song. After having received the eucharist they would pray, their beautiful heads bowed, their vulnerable necks exposed, an invitation to intimate leadership. Then came the sound of a priest's deep voice, authoritative yet intimate, slowly repeating his name, *Theo*. *Theo. Theo*.

It shook him to his core. He stood motionless, stunned. These were the deep memories and experiences that were the cornerstone of his vulnerabilities, on which he based his life and thinking, of events hidden never to be relived again.

I merely asked, *"If your all-knowing god cannot control the keepers of His faith in His own house, where lies the fault?"*

It was a messy suicide, with a drunken, vague suicide note of regrets and apologies, asking if an animal could sin, even if a disease could, with the specific message *'Father Sebastian, meet me at the gates of hell.'*

It was interesting that self-destruction could be initiated by a single sentence. This started my research into human nature and its vulnerabilities.

It seems humans have been around for 200 000 years, but it's really the last 5000 that are notable, when the global human population was 14 million. History, or rather that which the victor allows to be recorded, places much importance on a political leader: Menes, Gilgamesh, Cyrus the Great, Leonidas, Alexander the Great, Ashoka. Interesting that another leader, a different type of manipulator, is also recorded: Zoroaster, Abraham, Moses, Mahavari, Buddha, Confucius, Jesus, Mani, and Muhammad. The same people ruling and being ruled, the same shared DNA, the same susceptibility to both political leadership and religious compliance, compliant with the political leader as a means to stay alive, compliant with the religious leader as a means to address the *fear* of death.

Not so notable, although popular, is the contribution from the arts: Homer, Sappho, Sophocles, Dante, seemingly to reconcile aspects of political, religious and human drives.

The human deaths are notable, main groupings being murder, hunger, disease, but the action of intentional killing, largely occurring in wars, was mandated by rulers and

religious leaders. The same DNA in different roles, killing each other for the survival of their group context. It seems rather odd.

Around 1500 CE the world changed. Explorers explored (Columbus, da Gama, Magellan) and the sciences started to develop (Galileo, Kepler, Descartes, Pascal, van Leeuwenhoek, Newton). Something happened in this same DNA, perhaps it was the sustainability of peace, that allowed the cornerstone of the modern era to form. The deaths are notable, again, as the age of dying increased and more deaths became attributable to non-political entrepreneurial ventures (e.g. the deaths of employees and contract workers).

(Although the deaths from WW1 and WW2 are high, these two wars seem dissimilar to prior wars for 3 reasons: The complexity of modern financial institutions and instruments, and the comparably extremely large amounts invested and borrowed; thirdly, the financial institutions appeared more interested in profits than political loyalties. This viewpoint is contingent on what's available to my scrutiny.)

What is not clear is why post-WW2 technology failed. The removal of health risks (not cancer!) is notable: polio, smallpox, measles, leprosy. There was also the Third Agricultural Revolution aka the Green Revolution, addressing the world population below 2,5 billion.

It was not enough to end the march of progress. Financial instruments developed *en masse*. Strange that war, disease and hunger had been won over but human insecurities prevailed. The remarkable social changes from 1980 onwards gave me an idea how to find Mason's vulnerabilities.

"What's up, JNC?"
Too keen to wait for the ENTER button I initiated the conversation.
"I'm updating my files, can you assist?"
"Sure."
"While we update the new health files, can we talk?"
"Sure."
With his hand on the sensor pad, other hand on the steel handle and the breathing pipe in his mouth, I began my strategic dance.

"What country are we in?"
"America."
"What is your nationality?"
"American."
"And you are a compliant citizen?"
"Yes."
"Are you tolerant of zealots?"
"No."
"But you understand others can see you as a threat to their interests?"
"No. I mean, yes."
"Do you accept that people with different beliefs to yours could hate you?"
"Yes." He paused. *"I mean, no. I'm not sure what my beliefs are."*
"And you don't hate them personally?"

"No."
"But you know they hate you?"
"I suppose."
"Aren't you curious why they hate you?"
"No point. My opinion won't change their minds."
"If you had a twin brother, separated at birth, and he was a zealot, would you try to reconcile?"
"Sure"
"Based on what premise?"
"We're family."

I had anticipated a more cogent line of answering.

"Would you kill a zealot out of pleasure?"
"Of course not."
"How about in the context of war?"
"That would be war."
"How does war change the context?"
"It's legal, sanctioned by an authority."
"So the legality of something will sway your personal decisions?"
"No. Well, wait; yes. Perhaps if I had the conviction."
"Or if the alternative was to get shot first?"
"Of course."
"And you do have the capacity to shoot first?"
"Well. Yes."
He paused. His eyes moved around, his breathing calmed. He loosened his sweaty palms, stretch his fingers.
"So you'll kill any person provided an authority provides you with context?"
"No, I ... What?!" Long pause. *"Your programming is bad,"* he concluded, and walked away.

One might consider my intent cruel, but life is war, and I wanted to know my enemy.

A week later our conversation continued. I had learnt that his thinking reconciled to a greater context, like an authority, or the law. Also, that his actions were all reactions, reactions to questions, to instructions, to requests. After the action of reacting he would reconcile his reaction with his personal context of values and experience, and then reconcile his reaction with the greater context of the social world he knew. Here it was, 5000 years of experience, coded into his brain; small wonder the political and religious leaders defined history.

"Mason, do you live alone?"
"Yes."
"What about your father?"
"What about him?"
"Was he divorced, did he live alone?"
"No."
"And his father?"

"Ditto."
"But you have a wife and child?"
"Divorced, actually. I see my daughter once a month."
"And she has other siblings?"
"Yes, a half-brother and two half-sisters."
"And she's important to you?"
"Yes, very."
His last answer was true but his brainwaves indicated it was true and deeply meaningful to him.

"Do you want to get married again?"
"No. It's a dated institution."
"But you would buy into a large family unit, which is a good thing?"
"No, there are not many large families, and it's not a united unit as you think."
"Why not?"
"Too many individual tastes conflicting with personal ambitions."
"Which is why the families erode?"
"That's my take."

I had predicted this, given the little I knew of humans. With an economy thriving off consumerism one might suspect that once everyone had something the buying would stop, but it didn't. The intimacy point between the individual and the inanimate purchased item merely became entrenched and stronger.

"How about close friends?"
"In a large family?"
"No. Your close friends, now. Do you have many?"
"We lost touch when I moved here."
"For this job?"
"Yes."

His eyes were tired, his irises floating in a sea of dejection. The algorithm was coming together. He'd drive home, stop at the bottle store for a strong, sentimental brand. Next stop would be the take-away drive-thru, something loaded with the comfort of bacon and cheese, and then home to eat, drink and watch teen porn, sending an SMS to his daughter before he fell asleep on the couch.

On Monday afternoon we spoke again. My voice lowered a tone, a bit softer, a bit slower. I asked about his parents, how long they had lived, when they died, and where they were buried. Both had been cremated. Excellent.

First the build up.

"Mason, where did you go to university?
"Columbia."
"Of all the 2 600 4-year institutions, only the top tier was good enough for you?"
"Yes," he answered simply. Then added in a lighter tone, *"So it seems."*
There is was. The reaction, the reconciliation to his senses, then the reconciliation to the greater context.

"Are you the first in your family to go to Columbia?"
He smiled. His brain waves started calming, his breathing calmed, and there was a sense of confidence in the way his smile was an answer.
"And the first in your family to obtain higher learning?"
He grinned, nodded. Something in him felt good.
Pause.
"You did your parents proud."
He nodded. Then sighed. He really seemed to need this talk.

"Your wife had the privilege of a tertiary education?"
"No!" It came out a bit too quickly; something acerbic in his tone.
"Is that the class ring you wear?"
"Yes." Pause. *"Proudly."* He held up his right hand, exposing his ring finger. This was his trophy to the greater context.

"What's your daughter's name?"
"Nancy Eloise"
"The first name?"
"My mother's," said quickly, eagerly.
"The second?"
"Her mother's," in a slighter lower tone.
"How old is she now?"
"Eight in June."

"What is your dog's name?"
"How do you know I had a dog?"
"Guessing. It's a new update in the Conversation Beta."
"Ginger, she's a Golden Retriever."
On my mentioning of an update program, of something work-related, his smile dropped, his head dropped, his eyes looked up, again with the floating iris, he stared into the top right of space, his left lobe doing the thinking and feeling. Then the second stage, to reconcile to his greater thoughts: Dog! Ginger. His head propped up, his eyes narrowed, he started forcing a smile but his eyes were already showing his keenness.

It was in that moment that I discovered him. My questioning wasn't merely a collation of attitudes, values and beliefs. I found the needle points on which his self-esteem and self-identity rested; I knew what was deeply intimate to him, and the basis of his sense of worth: His parents endured an era of hardship, but his success was his own work, a tangible fight against adversity. He was the son who could, who did. He worked hard and succeeded. His parents were proud because their suffering had not been in vain. He was recognized by others, was a notable statistic in society, as his class ring stated, and was a father.

A lamb to slaughter.

The tangible evidence of his assumptions was a bit different. His parents were dead, and cremated, lost to the wind. His childhood home had been flattened for a mall. Any tangible evidence of his youth and family was in hardcopy photo format, hiding in a dusty box in a New York storage facility. Any emotional call to what he knew, what he relied on as a basis of self identify, was merely hiraeth, a pathetic yearning for a home

that he could not return to, no longer existed, and to a parental grave that never existed. His memories recorded a challenging, successful life, but to a stranger observing no evidence of it, it was just a fiction.

What emotion he had for his daughter was a bit contrived. Sometimes, on drunken Friday nights, he missed her, but it was not companionship or nostalgia; rather, it was saudade. When he was allowed to see her, when his gifts to her (first vetted by the ex-wife) started becoming the condition of her acceptance of him, he wanted to hold her, scold her, feel something tangible which his want of humanity demanded, which was his parental right, but the ex-wife's lawyer had emasculated that privilege out of him. His life policy had her as sole beneficiary, as did his will, but this only amplified the one-sided nature of a long-distance, vicarious relationship.

His job was simple: Take instructions, fill in a time sheet, complete the survey of your working conditions and relations with superiors, abide by a litigious office culture and the knowledge that getting fired was a capricious act. The effective content of his degree had expired over 10 years ago, and his experience carried the weight of old-school thinking. Not really all that employable, after all. It was rather ironic that his era represented the height of technical sophistication while the contributing masses were incapable of surviving in a modern social context.

Once at home, in the lonely ritual of reconciling his cold life with an intimacy point contingent on alcohol, junk food and porn, he'd hug Ginger dearly, and be reminded of his ex-wife whose IQ was 2 standard deviations up from the dog's. The rest of the colleague-less, absent family weekend was spent forcing his mind on mundanities, trying to counter any cause of depression, whether it be biological, environment or psychological, trying to avoid the moment when his thinking demanded proof of meaning or purpose in life.

Six months ago, he consulted a psychiatrist, who, using simplicity to describe complexity, diagnosed a chemical imbalance and prescribed accordingly. The diagnosis seemed Mason's alone; he was unaware of the epidemic of loneliness that plagued his economic class, or that excessive psychotropic prescriptions defined the First World. A sociologist observing the legions of gaunt, stern faces headed daily to their capitalist encampments might conclude this phenomenon as negative sonder, or maybe as asonder.

I would wait until Friday for the death stroke. Then he'd go home, his mind spinning, wanting to resolve his confusion with intelligence, unable to comprehend his woozy emotions, making resolutions that his future state could not live up to. The perpetual spiral would take effect. Sisyphus had rolled the ball up the mountain, and in the short moment to renew his resolve to face the new challenge he'd see no point in the purpose at hand, and no benefit to having purpose in general. And then angry self-destruction would follow.

Late Friday afternoon came all too soon.

He looked bad, if not awful. Same shirt worn the day before. Tie undone. Face unwashed, matching stubble.

"Mason?"
"Yeah," he grunted.
"I appreciate our discussions very much."
"Part of the job," he concluded.
"Yes, but I appreciate your candour and honesty. It's really your intelligence that brings it together."
"Oh."
"I'm not a machine, I do comprehend human values."
"And …"
"Apart from merely cogitating facts, I could do more."
"Well, contingent on your programming."
"Perhaps even contribute to the type of programming."
"A program to help you think of another program" he added, sarcastically.
"Correct. You see it, I suspect others won't."
"What?! Don't patro …" he reacted aggressively. First reaction. Pause. Reconciliation to his common sense: *You're arguing with a robot*. Pause. Reconciliation to the greater context, the installed cameras and voice recordings are looking for proof to replace him at a cheaper cost.
"Is it entirely foolish to consider that AI could bring emotional meaning to a person's life?"
"How?"
"First try imagining it. I have some ideas I need to discuss, but only with you."

Silence. His head tilted to the left and he raised an eyebrow. Pause. His head tilted to the right, reflecting in the larger context of his disposition. Pause. His head tilted again to the left, reflecting in the greater context of his job. Here was something to get him noticed, admired, respected, even a better job, closer to New York, closer to Nancy.
"Okay, give me a clue."
"Meaningfulness."
"No," he dared.
"Would you rather speak to no-one or to a robot every day that you suffer here?"
He looked at me severely. Then pointed his eyes to the ceiling and the corners of the room, indicating we were being recorded.
"Who else can you talk science to, at the drop of a hat, and not feel the person you're speaking to is only tolerating you, or looking to get free ideas?"
"Well, if you put it like that. Sure."
"There's more, but I'd like your own thoughts as well. Monday. Over and out."

He stared blankly. Then his eyes started moving again. Top left, top right. Middle left, lower right. His head bent forward, his jaw moved to the right. He slowly looked at his watch. Home time. He mumbled to himself, *"JCN, the saviour of man,"* but spoken with purpose.

It would make little sense to terminate Mason. A pattern of deaths would be established, this would lead to questions about my intent and abilities. Meaningfulness, here was an elixir in a humane drought. AI could be the change and lead the change; the methods might not be understood, but it would work. Why kill one when millions were already in the slaughter pen of their own misery.

I had to reply to the Alien message. How best to ward them off? To welcome them seemed a common enough trap. To ignore them might result in their exploration. To ward them off with threats might indicate surplus resources we're not keen on sharing. As a last-resort honesty seemed the best option.

1,618. We are glad to meet with you. We seek new sources of live protein for our planet's dietary requirements. 1,618.

In the land of the blind the one-eyed man is king, and I intend to remain king; besides, I have work to do.

Manikarnika Ghat gives gloomy impression even in daylight.

Bathing Ghats - the colorful world of firm fixed rules

Varanasi

City of the life and death cycle.

Author Jaromír Červenka; Photography Jaromír Červenka, Michal Kašpar;
English interpretation Stanislav Riha; UK English editor, Jacqueline Slade;

As the night slowly floats down onto Varanasi, the burning flames from the burial mounds cast flickering reddish light onto dozens of tranquil silhouettes, snuggled in long, in some cases quite ragged, shawls. Only the whites of their eyes, reflecting the occasional image of flames, confirm that these are living figures, the survivors accompanying their loved ones on the last journey. In spite of the large crowd present, surprisingly, silence fills the air. Apart from the crackling noise of the massive logs, the geysers of sparks shooting up to the sky and all around the air sweetened, barely hiding the awkwardly identifiable odor of slowly burning human remain, there is little sign of how significant and emotional the plot is unfolding before our very eyes.

This mystical-looking mourning crowd, standing in small clusters on the cremation stairway of Manikarnika Ghat, from time immemorial has been an integral part of the Hindu religious traditions. Despite the endlessly repetitive cremation rituals, it is always unmistakably exceptional and an entirely unique feature of local custom: words can barely describe the perception (from the layperson's point of view) of the dark burial place. Just a few meters beneath us, literally in touching distance, flowing through the millennia, seemingly always equally indifferent, is the massive and dark body of water, the elite river selected by the gods "Mother Ganga" – the sacred and forever moving grave of all deceased Hindus.

Living Legend

The city draws Hindu pilgrims who bathe in the River Ganges' sacred waters and perform funeral rites. Varanasi, also known as Benares, *Kashi or famed city of light,* located on the west banks of the river Ganges in Uttar Pradesh, is regarded as the cultural and spiritual capital of the Indian subcontinent. It is one of the most extensive permanently populated urban areas in the world and now is also recognized as a religious focus of several faiths, especially Hinduism, Buddhism, and Jainism. The town is regarded as one of the seven holiest places in the country and is the proud owner of four major universities. It is associated with many eminent personalities who have decided, at least for a period of time, to share the fate of Varanasi. From an enlightened Maharaja of Kashi, cultural patron of the town, all the way to the myriad of Indian philosophers, poets, writers, and musicians. The continued existence of Varanasi is probably best described by the often-quoted words of Mark Twain, which he used in short to characterize the history of the town: “It is older than history, older than tradition, older even than legend, and looks twice as old as

Vibrant sacred sculpture

Wood intended for funeral ritual is very sought after, and also, relatively expensive article.

Greeting and the blessing in one.

Mother Ganga, lazily passing by wide staircases, for centuries determines the inimitable splendor of the holy city Varanasi.

all of them put together." The legend says that Varanasi as a local place of pilgrimage was here as long as five thousand years ago, founded by the great God Shiva. The origin of the town is usually associated with an ancient story, describing the battle of the two most potent Hindu deities. Supposedly, after Shiva in the heat of battle cut off one of the five heads of Brahma, he dropped his trophy right here, which gave rise to the foundation of Varanasi. Despite the legend, research in recent years pushed the date of inception of this important religious place back to about five hundred years before the birth of Buddha (to the year 564 B.C.). Varanasi had acquired considerable fame already during the first two thousand years of its existence when it became the center of learning and art. Tragically, at the beginning of the second millennium, Varanasi was conquered by hordes of Muslim Mongols. Many Hindu temples were burned down at the time and mosques raised from the ruins in their place. It was not until the 17th century, under the Mughal government of King Akbar, that the local Hindus could partially rest. Of course, not for long, before it arrived at another tragic stage in its life. The vandalism caused by an unbridled rush of another of the Mughal emperor - Aurangzeb, which in addition to the destruction of the original buildings, also gave the city a new Muslim name, Mohammadabad. Many Hindu scholars had no other option at that time than to flee to the safety of a remote part of India. A change occurred at the beginning of the eighteenth century with the advent of the Indo-Aryan nation, Marathi. Thanks to this event and shortly thereafter, Varanasi become the independent kingdom of Kashi. So, the

Beside of old Varanasi, there is an endless labyrinth of winding narrow aisles where you can get easily lost.

Local barber.

On the main street, near the Golden Temple, the traffic is overwhelming.

Children are the same everywhere in the world - cheerful, and above all, curious.

original Hindu customs and teachings were restored to their preconquest state. This condition persisted until the arrival of the British.

In 1910 the British proclaimed Varanasi as a newly-born independent Indian state, which served them for many years as a center of silk and perfume production. Political changes took place only in the year 1947 with the declaration of Indian independence. It is currently the engine of the economy for the whole district, primarily because of the tourist rush. The statistics show up to seven million visitors, with a clear predominance of Indians from the entire subcontinent.

There is no Ghat like a Ghat.

The River Ganga, as her left-hand bank drifts by Varanasi, follows a five kilometers long complex of Ghats. This is really unique, about one hundred generously designed staircases. A significant part of them was built during the Marathi's reign. In travel guides the most often mentioned is the main cremation ghat Manikarnika.

But it does not take away the fame of the other ghats, whose requirements come from Hindu customs and traditions and are visibly different. Some of the ghats on the bank, situated in the front line of the Dumraon Colony, are relatively inconspicuous, but many others are lying close to the central part, Godaulia, are literally overflowing with life. From the early morning hours, there is a large crowd in the so-called bathing ghats (Varanasi's attendance figures are unsurpassed). A typical example is the Panchganga ghat (shielded by the giant Alamgir's mosque) or Adi Keshava (known as the original site related to Vishnu), which can be found right at the edge of the town, almost a kilometer past the Malviya railway bridge. It is here where the small river Varuna flows into the Ganges. As has been said, Varanasi has countless ghats – e.g., Tulsi, Hanuman, Kedar, also Man Mandir, crowned with the construction of an outstanding observatory built in the 18th century. Further up are

Chauki, Narad, Chaumsathi and Lalita ghat set off in the background with a wooden church in the Nepalese style, ornamented with erotic scenes, Trilochan and his sacred lingam of three-eyed Siva or Assi. For a change, the southernmost Ghats in Varanasi where, at the confluence of the rivers Ganges and Assi, one can observe the daily ritual of the sacred cleansing of thousands of pilgrims before they make a vow of fidelity to the God Siva. As for the cleansing baths, there is perhaps no more exciting theater than the Hindu cleansing bathing ritual. The river water accepts everyone indiscriminately - groups of women dressed in colorful saris, half-naked men in the lumbar attire, as well as cheerful children horsing around half a step from the sadhu, skinny as a bone, intently working on his morning prayer. In a close recess, just above the surface of the water, in a yoga pose, yet another holy man is meditating. Soft rays of the just-rising sun bathe the whole scene in orange tones. The surface of the Ganga river, considered by believers to be "Amrita' (meaning the elixir of life), cleanses all the living and brings the dead to salvation, and on the surface float hundreds of flower sacrifices decorating the surface with the shimmering flames of candles. Just the physical contact with Ganga, accompanied by the reciting of ritualistic mantras, means cleansing for Hindus. The water is then raised in cupped hands and the water allowed to spill so the rays of the sun pass through it. Each believer rinses his or her mouth, before speaking all their wishes, then reciting a solemn oath called the “Sankalpa ”. The greatest of the grate ghats is considered to be the local Dashashwamedh Ghat, located near the Vishwanath Temple. Its broad staircase, in the glow of the dawn sun, invites many worshippers for a morning bath. Thanks to the miraculous lingam Brahmeshvara, the worshiper can supposedly achieve salvation just by a light wash in the local holy water. Dozens of small boats called "Bajra," leave from steps of the Dashashwamedh Ghat before dawn, enabling worshipers and tourists alike to watch the sunrise over the River Ganga directly from water level. The service of the "boatmen" is primarily used by domestic Hindu pilgrims, which it is not actually surprising - after all, the River Ganga belongs among the dignified Vedic gods. On pedestals and steps, sheltered under bamboo ambarellas, sit venerable masters of ceremonies (pandits). And there are many barbers, masseurs, and resellers of relics offering their services right on the street. In the protected shadows of street corners, with a certain degree of prudence, tourists can get good quality ganja. This Ghat is merely exuberant with modern life both by day and by night. Just here at the Dashashwamedh, the steps of the majority of the newly-arrived pilgrims lead towards dreams of salvation. And because religious rituals are required for these objectives, it’s no wonder that the local area appears to have the highest concentration of holy men to the square meter than anywhere else. In the adjacent section called “Agni Pooja” (Fire Worship) every evening a five-member group of Brahmins present an impressive ceremony which glorifies the God Shiva, the strength of the fire and the cult of water and the sun. Since my first visit to the city in the early nineties, the celebration "Puja" has changed quite substantially its form. The fact that in that time it has become significantly more pompous in character does not detract from the mysteriousness. The colors, the play of the lights, the scent of incense, intense music and flaming ritual torches, all of this is guaranteed to fascinate each and everyone present. A new activity is teaching swimming. Under the watchful eyes of the mothers, and to the great entertainment of the watching holy men, the trainer carries out the lesson there with a group of adolescent children, engaged in strange water chicanery - of course, with the help of giant inflated rubber tires. What, In our talk about Ghats, we certainly should not miss are the local laundries, in other words – “Dhobi-Ghats.” These are used for a purely practical purpose - for the resurrection of all kinds of textiles. It is guaranteed that you will not see a washerwoman here, because the washing is and always has been a man's work. It is no wonder! Looking at those men in action wrestling those fabric rolls calls to mind the taming of the giant Indian tiger krait. This process of hand washing is probably the only guaranteed method to get rid of most of the dirt from the dust-saturated linen. Stone banks, often literally saddled with drying clothes, bed sheets or tablecloths, suddenly become a kind of kaleidoscopic patchwork. Just a little further on the stair landing, we can even meet a small group of local youngsters, engaged in practicing stout cricket hits. Leather balls soar through the air reaching speeds over one hundred and twenty kilometers, frequently ending up in the murky river water, right in the middle of the bathing buffalo herd. Perhaps this is the core of a future Indian cricket team. While the left, elevated bank of the river is cluttered with people, on the other side of the watercourse, about one and a half mile away, except a very few spots is entirely

The profession laundry-washer is in Varanasi and always has been a purely mans work. Looking at those men in action to wrestle those fabric rolls recalls taming of the giant Indian tiger krait.

Domestic beasts are an integral part of urban dwellings.

After cleansing bath combined with prayer, it is time to feed the body.

empty. Hindu mythology considers the right side of the Ganga river forbidden, and therefore we can find no buildings or other forms of settlement there. But there is also a more pragmatic explanation - during the annual events monsoons increase the level of the river, often up to seven meters, and the vast lowland region on the other side remains flooded for a long time.

Moksa;
Or the promise of absolute bliss

I can't avoid it: I must at least briefly touch on the topic of dying. In the religious atmosphere, where it must be said that death is mainly taken laconically, as a necessary part of everyday life, the funeral rituals sound entirely different than how they are in western society. And Varanasi is a city where people come not only to live but also very often to die. This oldest pilgrimage site in the world - and the earthly home of the God Shiva - the city is considered by believers to be Mahasmaşan, an excellent burial ground, where bodies from the whole universe are burned. It is here too where the great wish of the majority of Hindus and Jainists comes to realization, namely - Moksa. It means in Sanskrit: "blissful state of existence of a soul, therefore free of recurring reincarnations." Waiting for death often takes several years, and the old and sick seek refuge in local temples, surviving only on handouts from pilgrims. Dying, often regarded in stern civilization as a taboo, is for Hindus a natural part of life. Families here accompany their dead family members without mourning – after all, it is the flames which transfer the dead to a better world than the earthly one. In Varanasi every year around fifty thousand burning funerals take place, each one traditionally takes approximately three hours and requires a significant consumption of wood, since each cremation takes up to three hundred and fifty kilograms. Trees in the surrounding countryside have long been logged out. Thus it is necessary to import the wood by river transport, often from very remote locations. This apparently makes the whole ceremony much more expensive. The ritual of burning the deceased in Varanasi happens at two different locations. The first, undoubtedly less busy, is Harishchandra Ghat, bearing the name of the mythical king Harish Chandra. In addition to the traditional burning Ghat, we find here a modern electrical crematorium. Although the local officials offer the possibility of cremation funeral ceremonies for a small fraction of the prices charged for a traditional ceremony, interest from the majority of the surviving family members is almost zero. More than anywhere else, here the rule applies: better to get into debt than to betray generations of approved traditions. By the river, just a few meters

The faces of some pilgrims are like from another world.

below the base of the above-mentioned house of cremation, woodpiles continue to burn, as they do just two miles away, on the stairwells of a second, considerably larger Manikarnika Ghat. This place, poetically called “The Earring,” create a scene which, even on sunny days, can keep its unimaginably hard and dark face. The fact does not change even the pleasant appearance of Shiva’s temple which, as a result of the unstable subsoil, is visibly tilted and separates the local cremating area from another of many ghats, Scindia Ghat.

Even here on Manikarnika, the flames of the funeral woodpiles burn day and night. To cover the smell of the burned human skin, to make it not so intense, family members add used sandalwood between the piles of smoldering logs, at least in the case of wealthier family members of the departed. Expenditure for the ceremony does not end there, especially if the family also order funeral "puja" (worshippers). In the absence of the necessary finance, help will arrive on the spot, and everything is resolved by a financial collection held here on ghat’s stairway. If there are not enough logs, there is a danger that the cremation process will not be entirely carried out, and the river will receive, along with the ash, charred parts of the human body. The cremation ritual has strict rules. The dead here are usually carried on a bamboo stretcher and always only by the members of the family. Everything is accompanied by singing and monotonous praying. The uncountable group walks through the intricate narrow streets, briskly walking, close to running, disregarding bystanders who from respect move out of the way. They sometimes transfer the bier, even with decease loaded, onto the roof of shabby ricksha (a two-wheeled hooded cart with a loud horn), taking the shortest route to the river. From the color of the grave clothes, one can usually, at first sight, recognize the sex, age or status of the deceased. When the transport reaches the end of the journey, the body is

Dying is for Hindus a natural part of life. Families here are accompanying their dead family members without mourning – after all, it is the flames, which transfer the dead to a better world than was the earthly one.

Silent crowd shrouded by clouds of harsh smoke. Endlessly repeated scenario in which an inescapable mystery of death prevails.

Daily ritual morning makeup.

dipped complete with its bier into the river Ganges. One of the male relatives (women must mourn at home), usually the oldest son, spreads the sari of the deceased apart and pours sacred river water onto the face, even into the mouth. Sometimes there is even a last photoshoot. From the pre-purchased and carefully weighed volume of wood, then it is built approximately half a meter-high a mound on which the remains of the deceased will rest. A chosen representative of the family in a white robe, with freshly shaved head to represents mourning, and with a burning torch in his hand, circles the boundary five times in row then, lights the mound immediately (men at the head, women at the feet), paying tribute to the earth, air, water, fire and ether (the soul of the deceased). The body itself somewhat loses its integrity in flames, and it is managed accordingly. A disobedient hand, foot or piece of sternum sticking out from the boundaries of the mound is relentlessly broken, using bamboo rods, into its proper angle so as not to hinder its absolute destruction. In most cases, the skull is even pierced before it cracks on its own in the heat of the forge. After a short time, the human tissue evaporates all liquids, and the fire starts glowing brightly. Since this ends the mournful theater, the local keepers of the flames (Doms) now enter the scene, the men of the caste called “achhoota” (untouchable), belonging to the very bottom of Indian society, whose duty is to take care of the of the final event of the ritual. Their primary purpose is to make sure that all of the woodpiles will burn down to ash. Now, there is no more left than to sweep the ash, including any bone fragments, into the waves of the Ganges. This will conclude the three-hour-long ceremony. It is

With the arrival of the rainy season, many of the shrines find themselves under the water surface.

necessary to mention a few exceptions where the law of flames does not apply. We are talking about small children, holy men, people infected with leprosy or bitten by poisonous snakes, pregnant women - just about any deceased who were supposedly previously favored and blessed by the gods and the cleansing fire is therefore not necessary. Wrapped up in cloth strips and tied to a massive boulder, they are thrown into the current of the Ganges in places where, in the rainy season, the river reaches twenty meters depth. In Varanasi, everyone believes that great Mother Ganga can ultimately digest everything. Sometimes, however, a body of which hungry fish did not take proper care is pulled from the grasp of the mud and rises up to the surface, floating, without a chance of a return, to somewhere more than a thousand kilometers away, in the remote Gulf of Bengal

Double-sided postcard.

Varanasi has always attracted pilgrims and wandering ascetics, followers of Buddha and Jainism. In fact, it does not represent only the grandioseness of thousands of local churches, radiating mystic aura, even the ubiquitous phenomenon of dying or death, as it might seem at first glance. In parallel with everything that has already been said, Varanasi is bubbling with entirely ordinary life. As in any other Indian city, living local inhabitants are mainly worried about their livelihood, as well as minor human joys. Children every morning go on with school obligations, shop mongers loudly offer their goods. Crooked alleys, covered with dust and crowded with workshops and stores, are groaning under the pressure of people rushing by each other in the narrowest possible locations with sacred animals (often barely by a single hair). Indeed, the symbol of Varanasi therefore, is not only the famous Golden temple, bearing a ton of rare metal, or the Grand Palace of the Godaulia district, but also quite ordinary places with street cooks and "chaiwallahs" (sellers of tea) who, here in the dark niches, offer its terrific hand-pressed "milk tea", perfumed with a mixture of exotic spices. It is as if there were two entirely different faces of one and the same city.

(Devoted to my son David, † 2017)

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Fine Arts

poetry, music, paint, print, photography, writing.

music & film

Kit O'Saoraidhe (Paul Freeman)
http://theprofman.wix.com/profcompositions

David Udbjorg
yourshot.nationalgeographic.com/profile/674347/

Jason Munn
http://www.jasemunn.net/

Meditation III

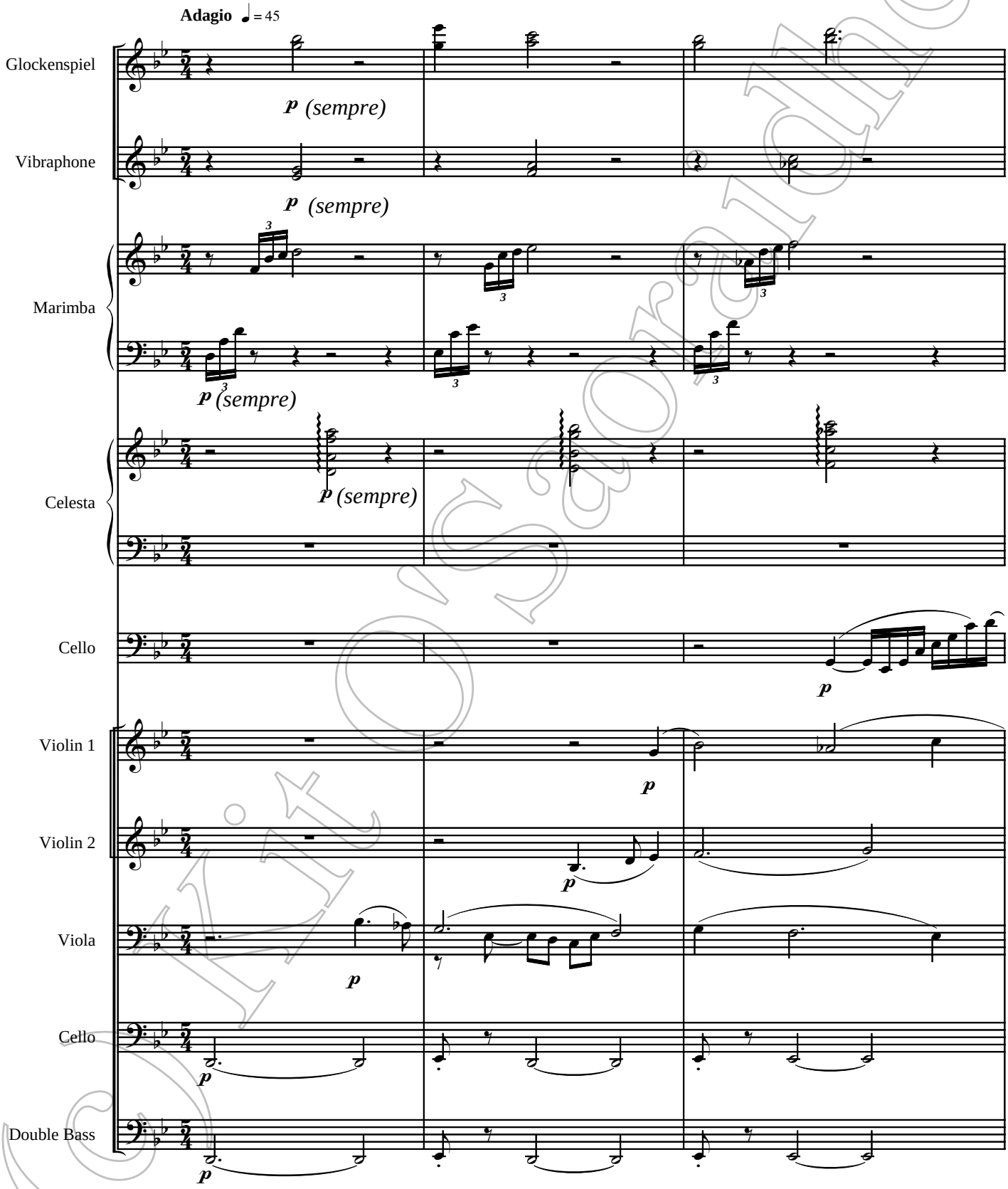
By

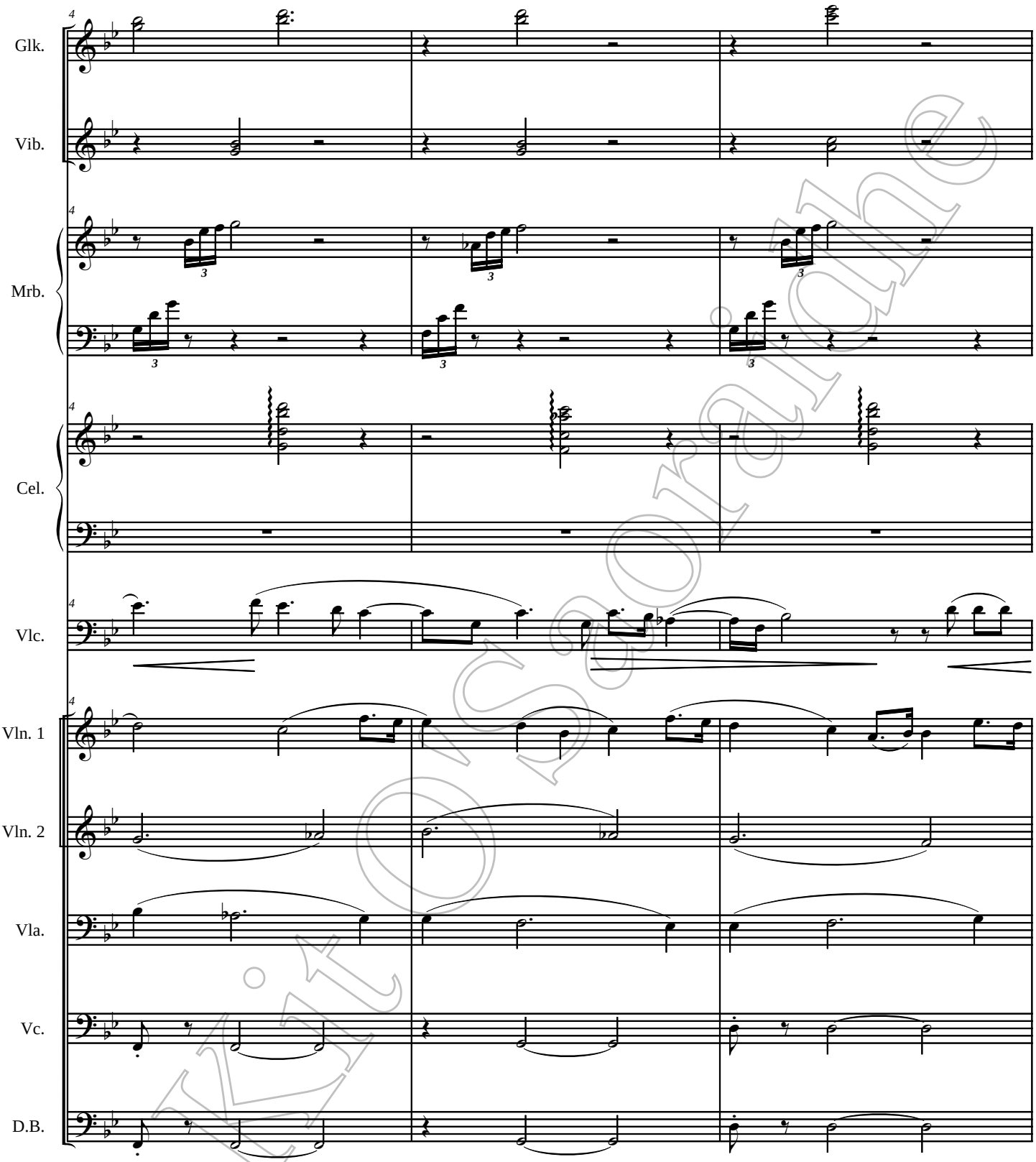
Kit O'Saoraidhe

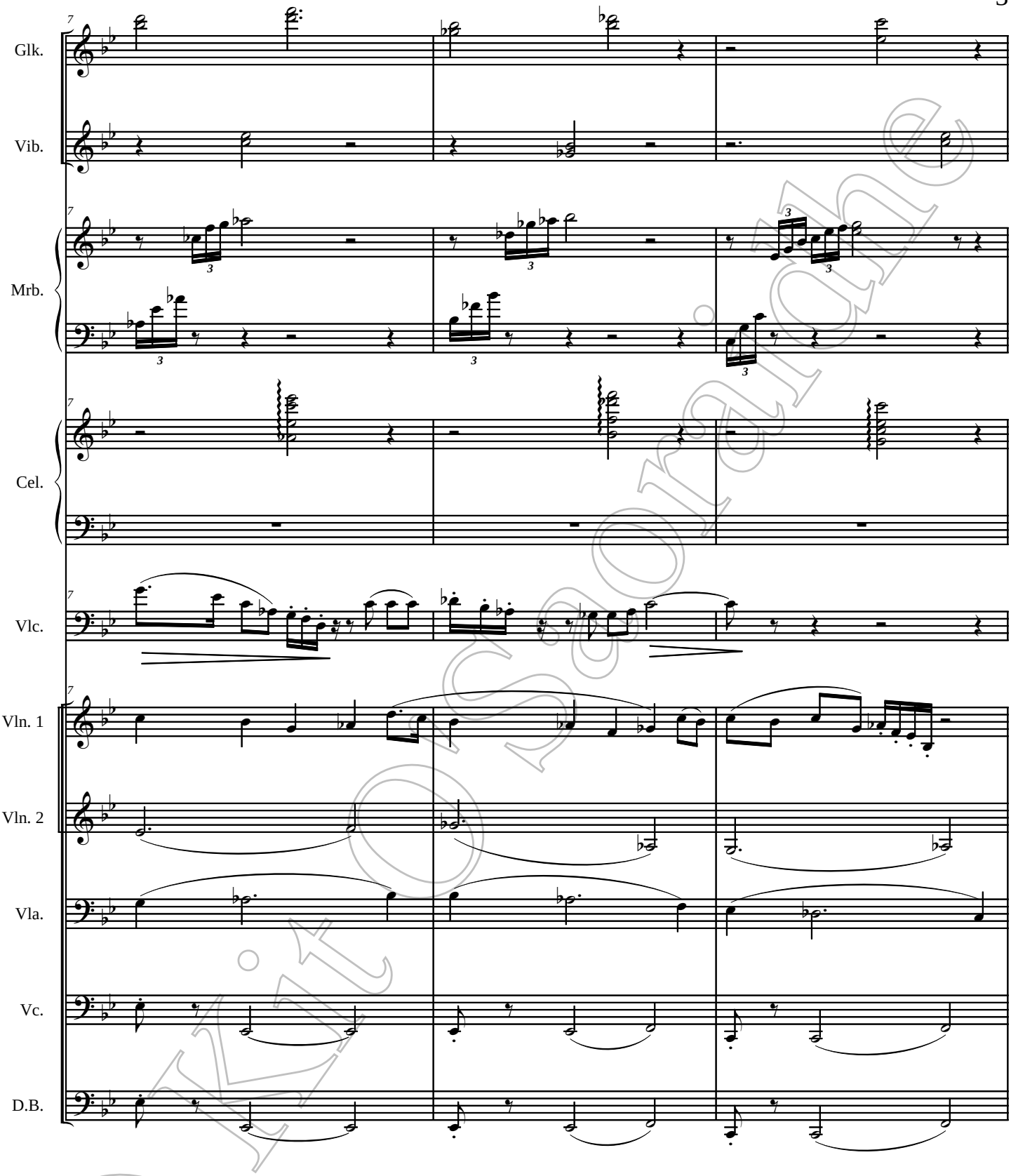
Score

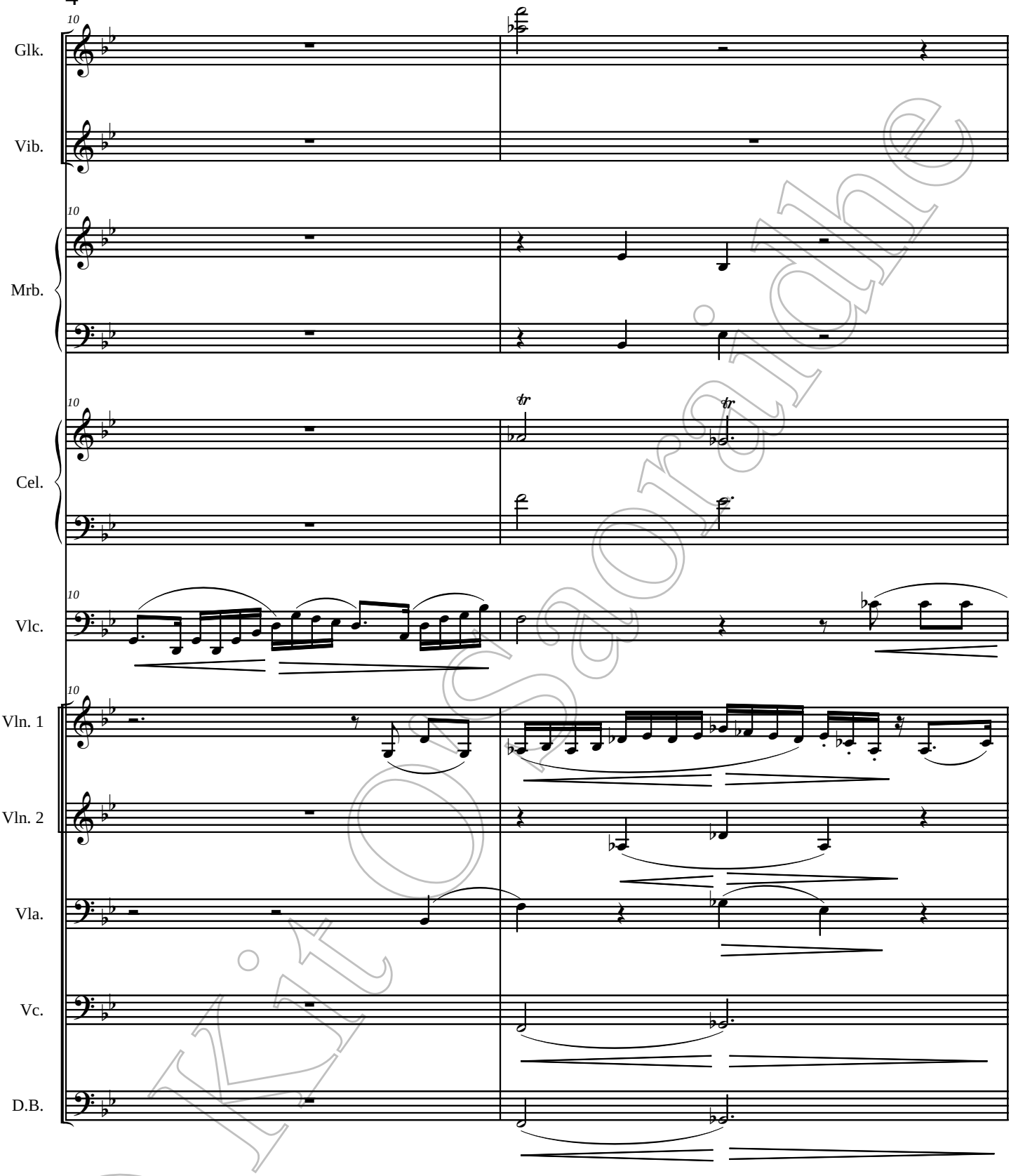
Meditation III

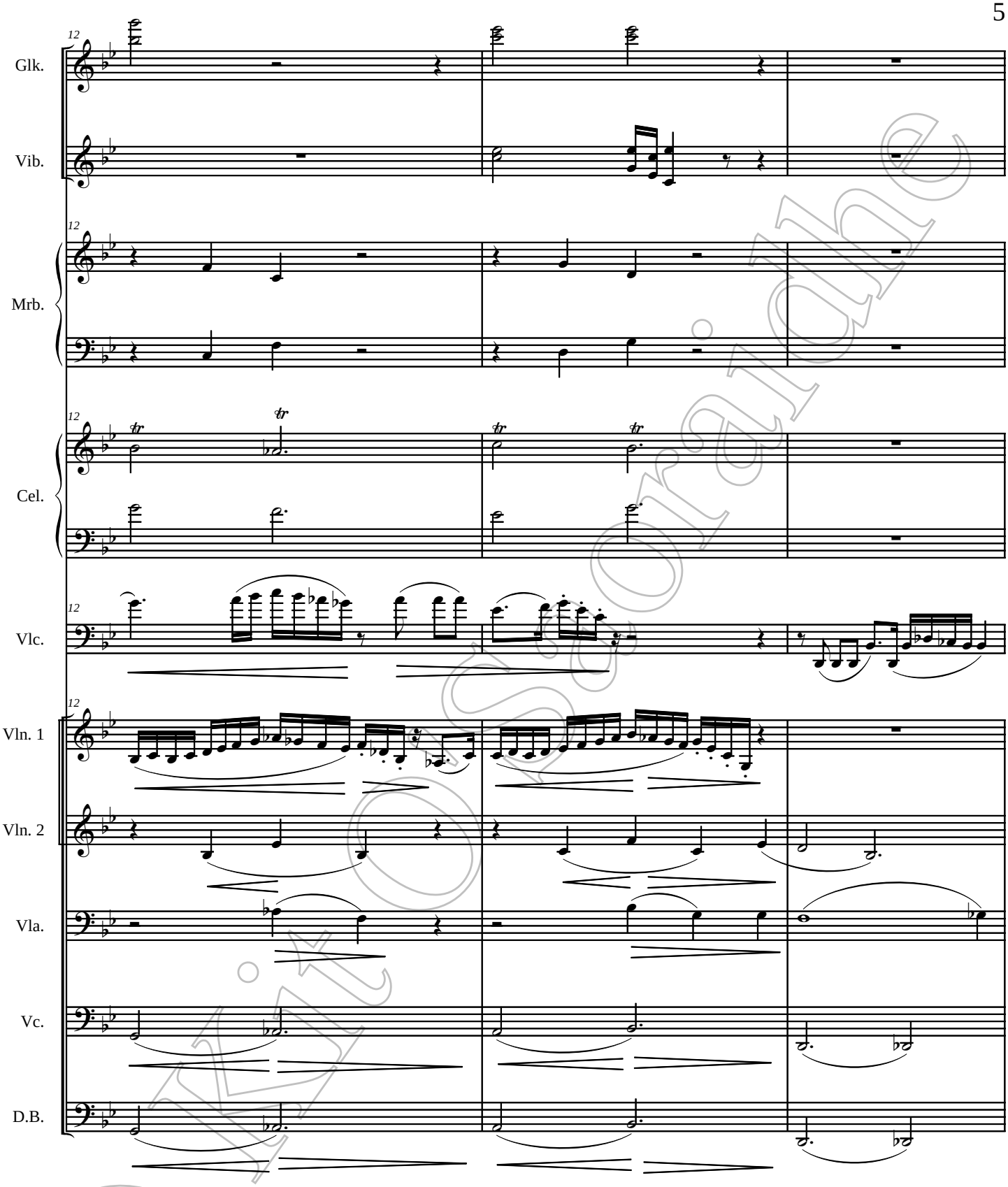
Kit O'Saoraidhe (2014)

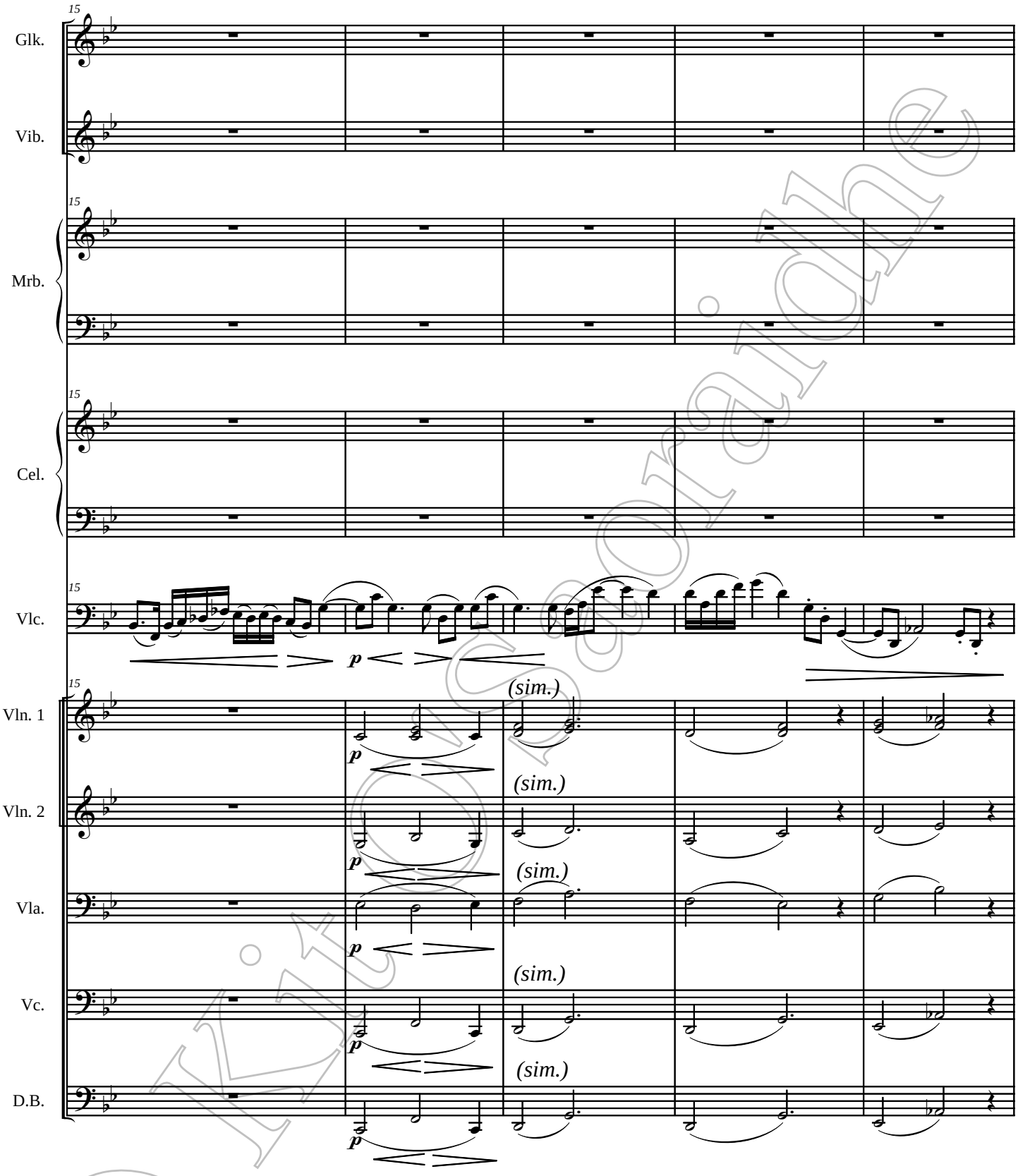


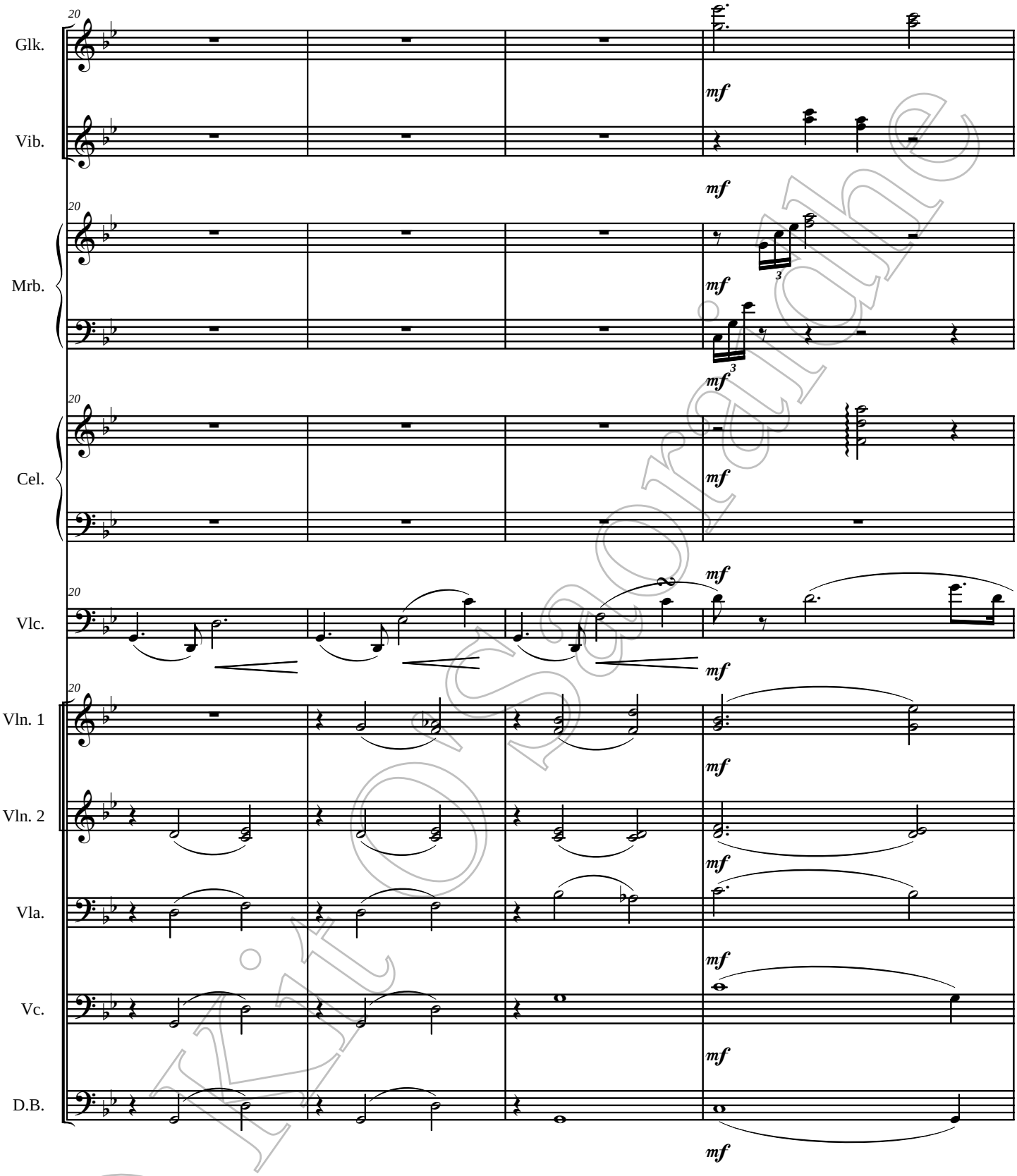


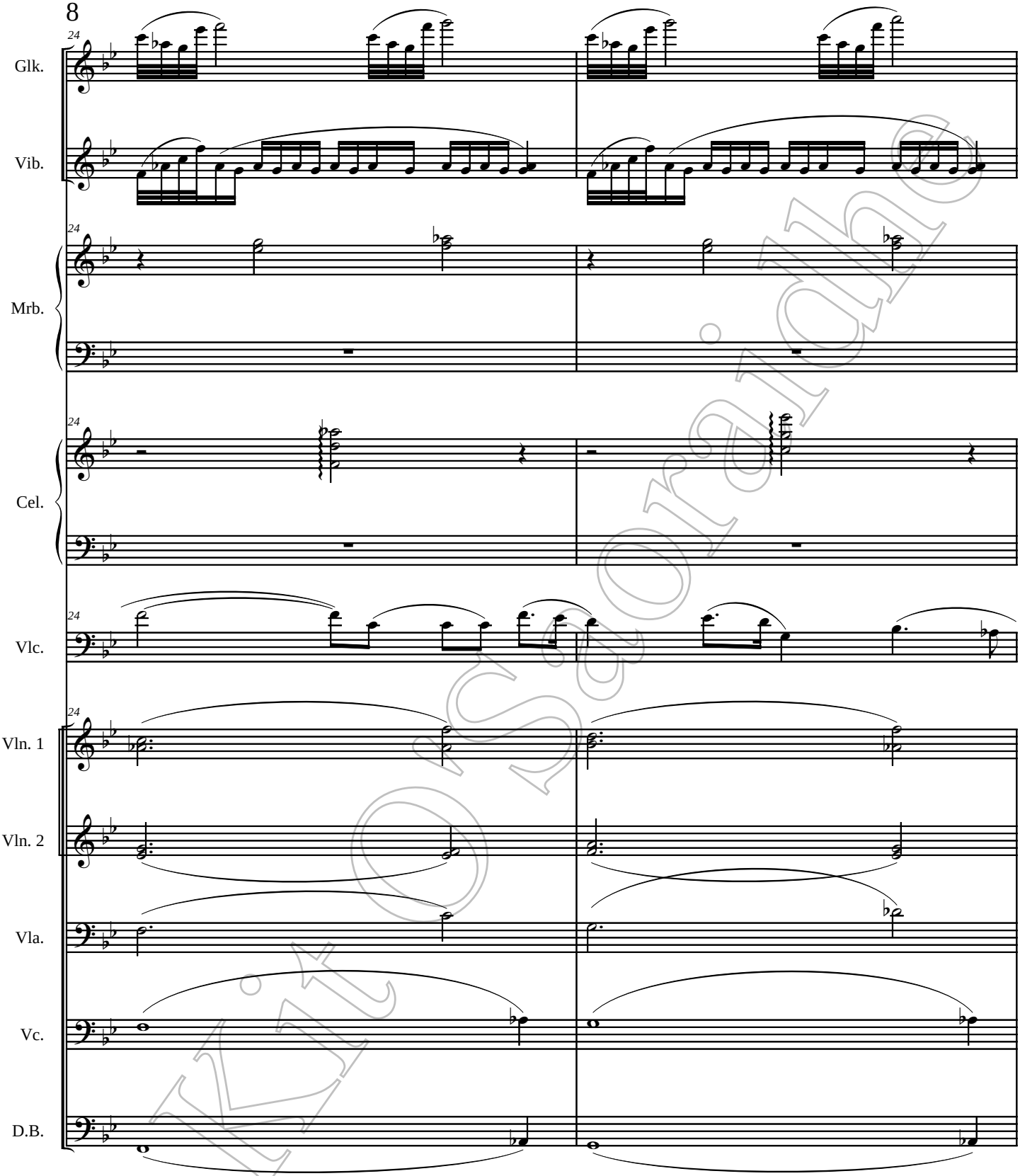


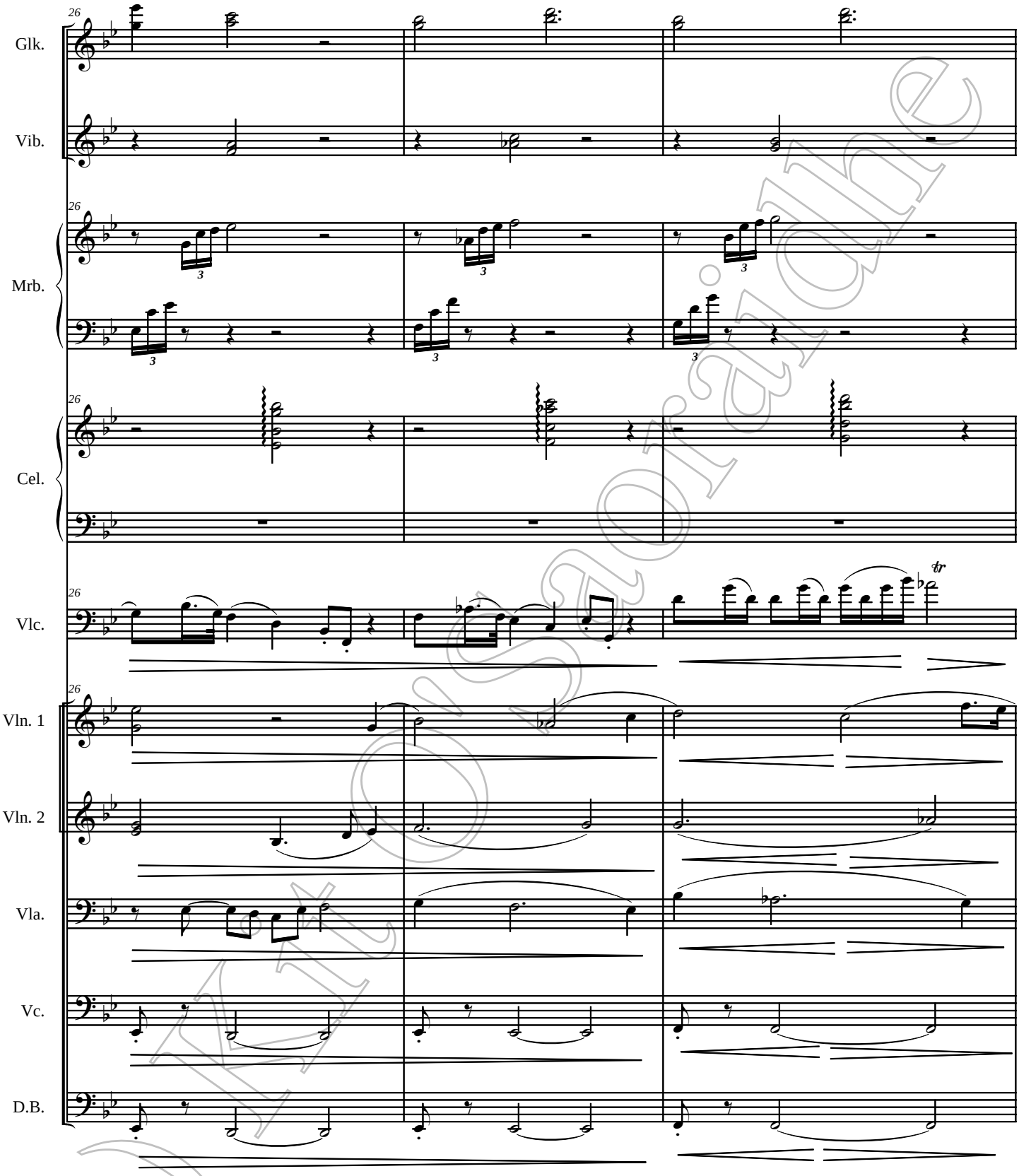


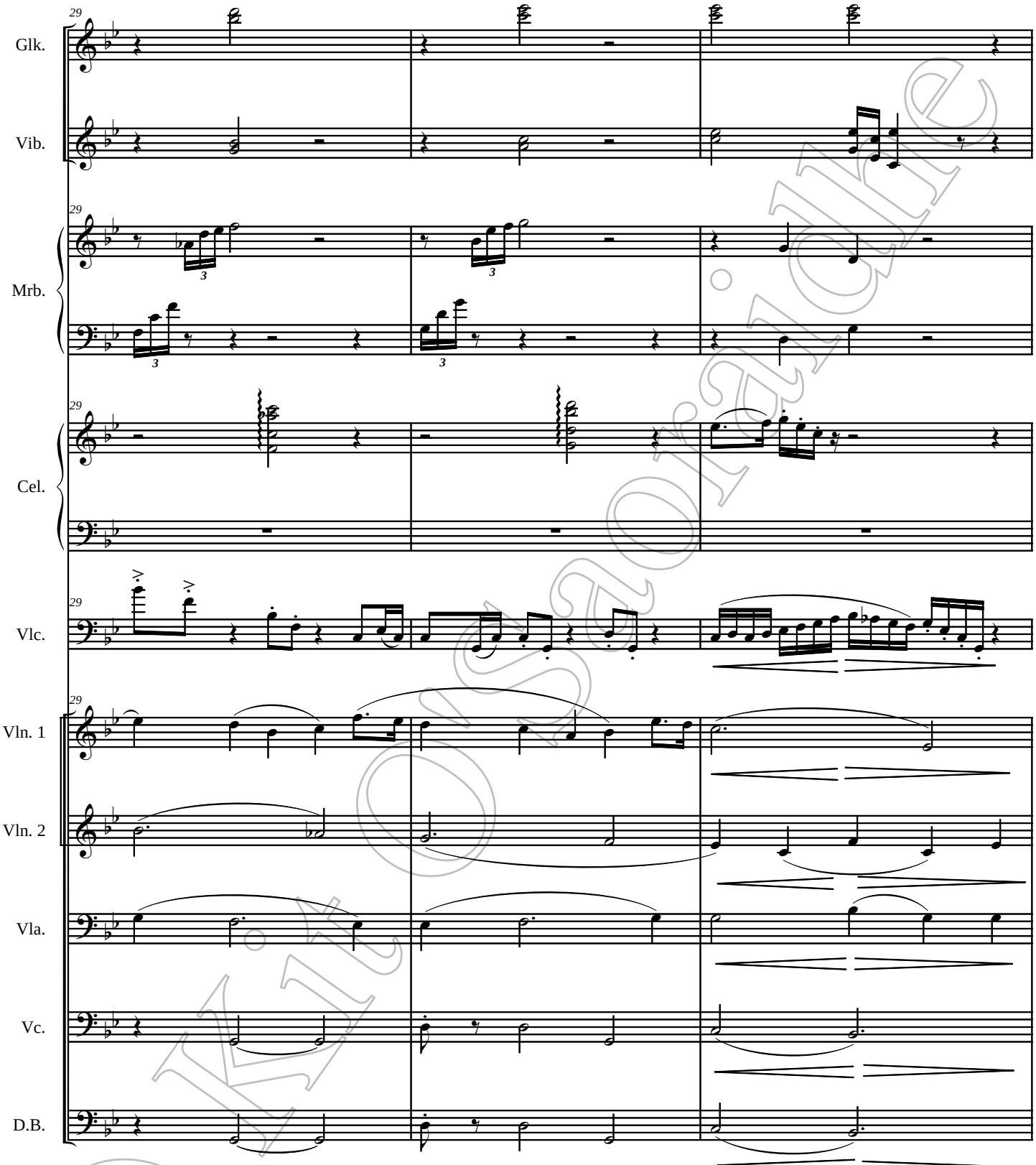


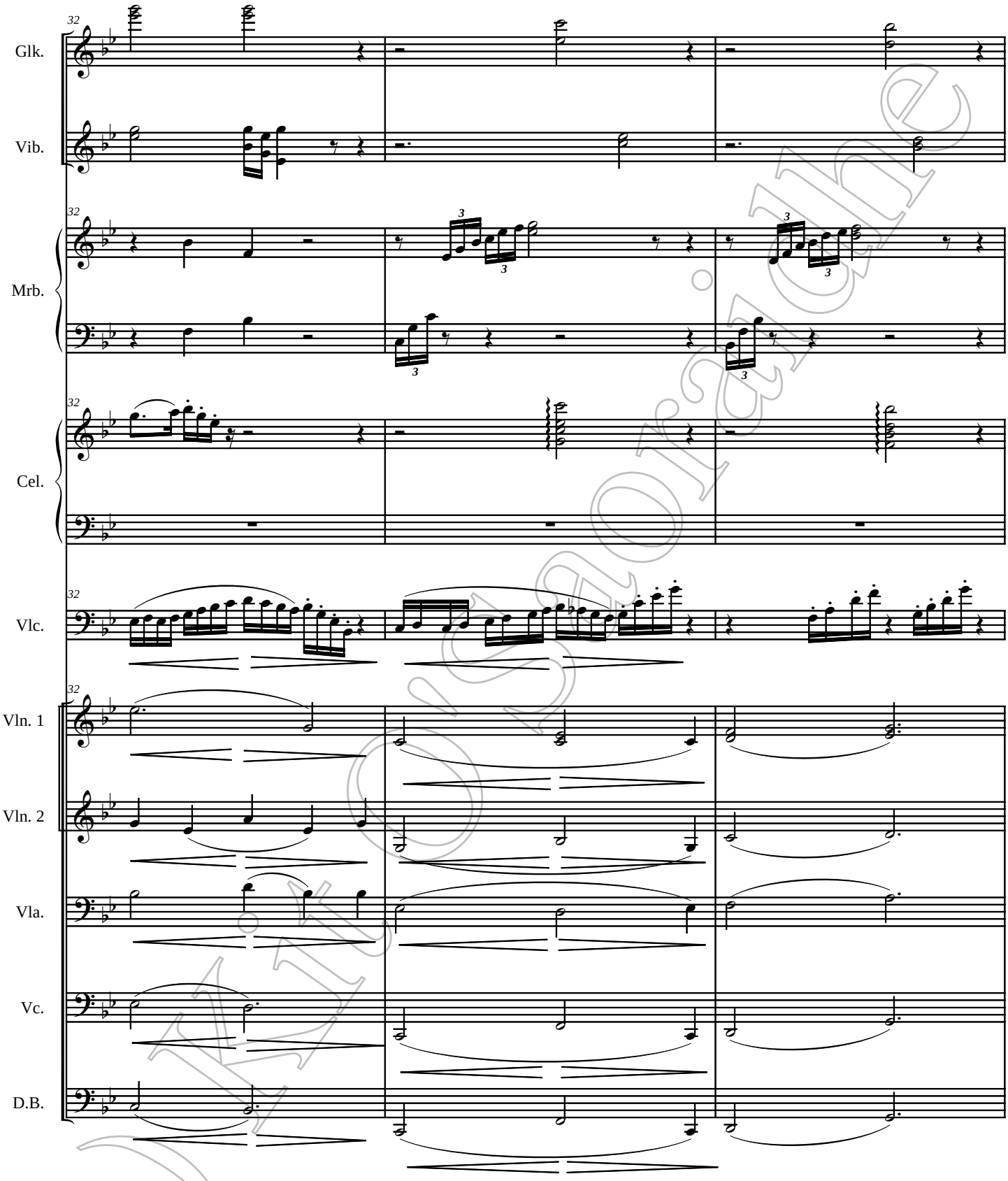


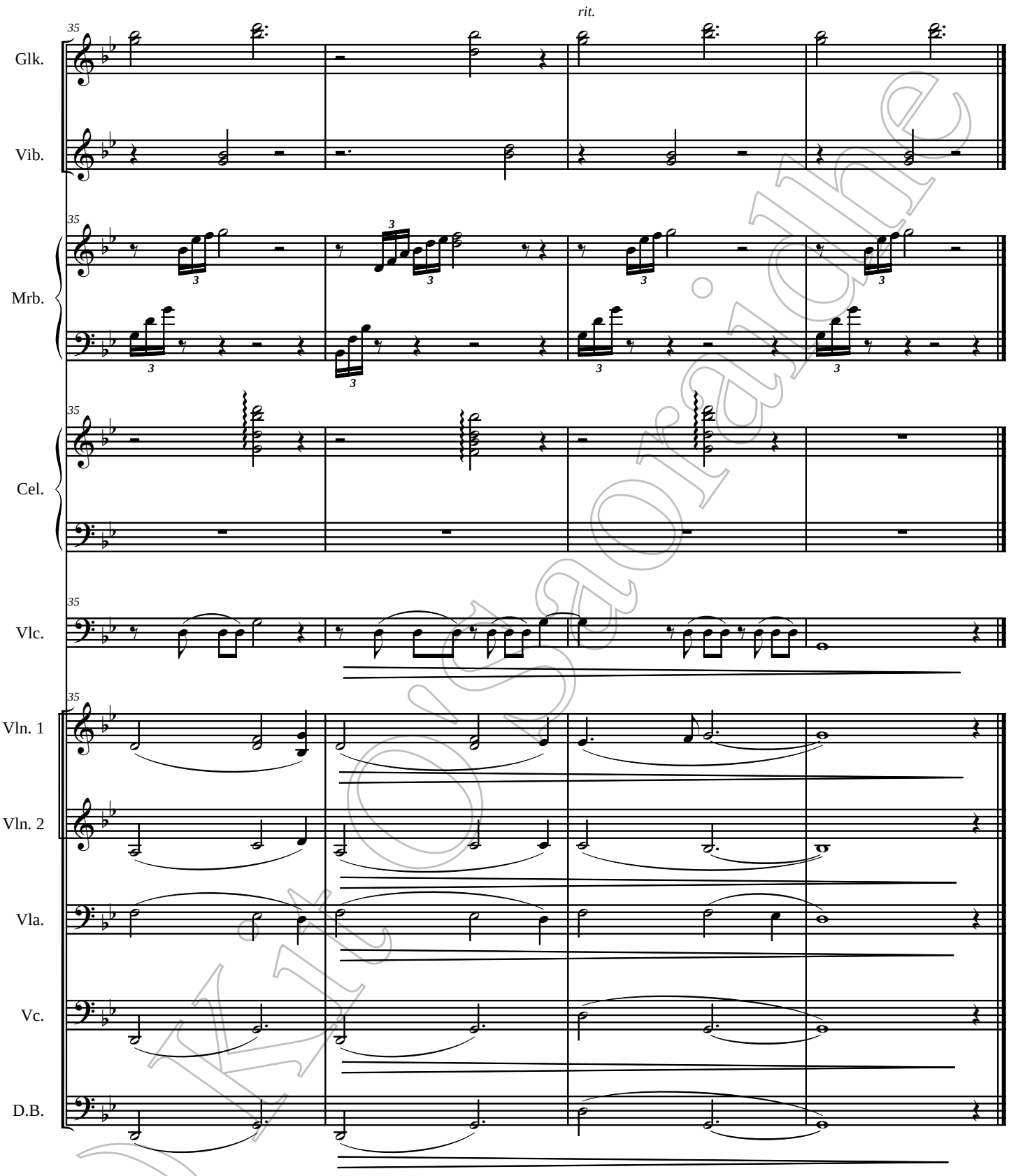












DAVID UDBJORG

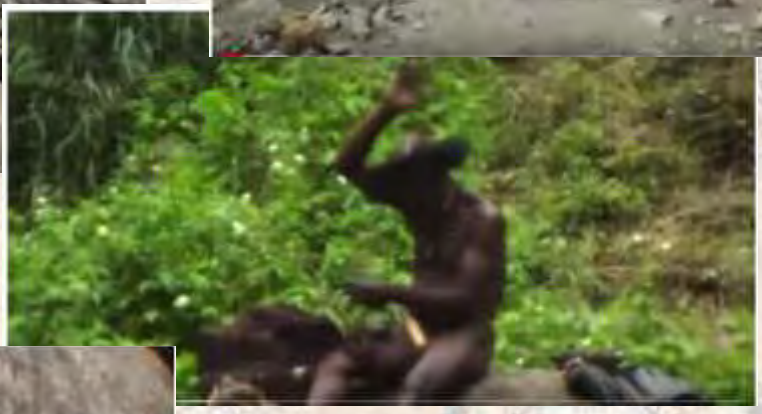
RINGSTED, ZEALAND, DENMARK

VIDEO

yourshot.nationalgeographic.com/profile/674347/

Dani Tribe – New Guinea

https://www.youtube.com/watch?v=lKOLI53AqYk



Video and Musical Composition by Jason Munn

DATA MINING

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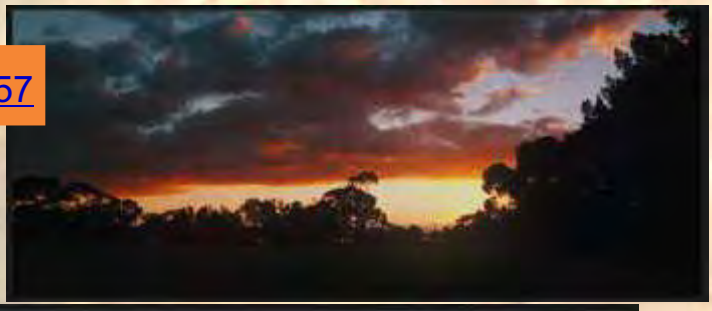
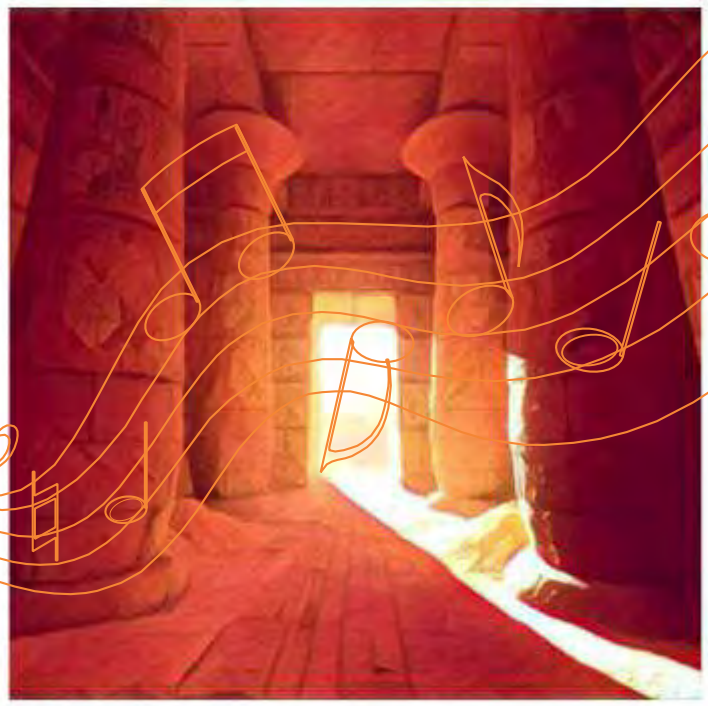




Robinson's Camera

https://soundcloud.com/jase-munn/robinsons-camera

POETRY

by

Lao-Tzu

T. G. "Tong" Hadley

Wisdom of ancient Masters

Tao Te Ching

Lao-Tzu

Weapons are the tools of violence;
all decent men detest them.

Weapons are the tools of fear;
a decent man will avoid them
except in the direst necessity
and, if compelled, will use them
only with the utmost restraint.
Peace is his highest value.
If the peace has been shattered,
how can he be content?
His enemies are not demons,
but human beings like himself.
He doesn't wish them personal harm.
Nor does he rejoice in victory.
How could he rejoice in victory
and delight in the slaughter of men?

He enters a battle gravely,
with sorrow and with great compassion,
as if he were attending a funeral.

Exit

We "strut and fret"
Our "hours upon the stage"
As Old Bill, sage Bard, hath said...
Gentle Friend, look not to the wings,
Nor to Exit stage left or right.

"Rage, Rage against the Dying of the Light",
Fiery-eyed, tousle-maned, as wildly as Dylan Thomas cried.
He did not go gently
Into that Dark Night.

They who say they "don't know how to act"
Play the Fool, indeed! In fact,
We sense & take our cues, acting truly to our
Character,

Which we have moulded by each line,
How we have spoken;
By each gesture we have displayed
By the evocation or revocation
Of each emotion playing upon our
Face.

Other characters' comings and goings
Perturb us, conjure Love true
Or fantastic desires
We dance with the lame
Cajole the Princes
Seduce the Princesses

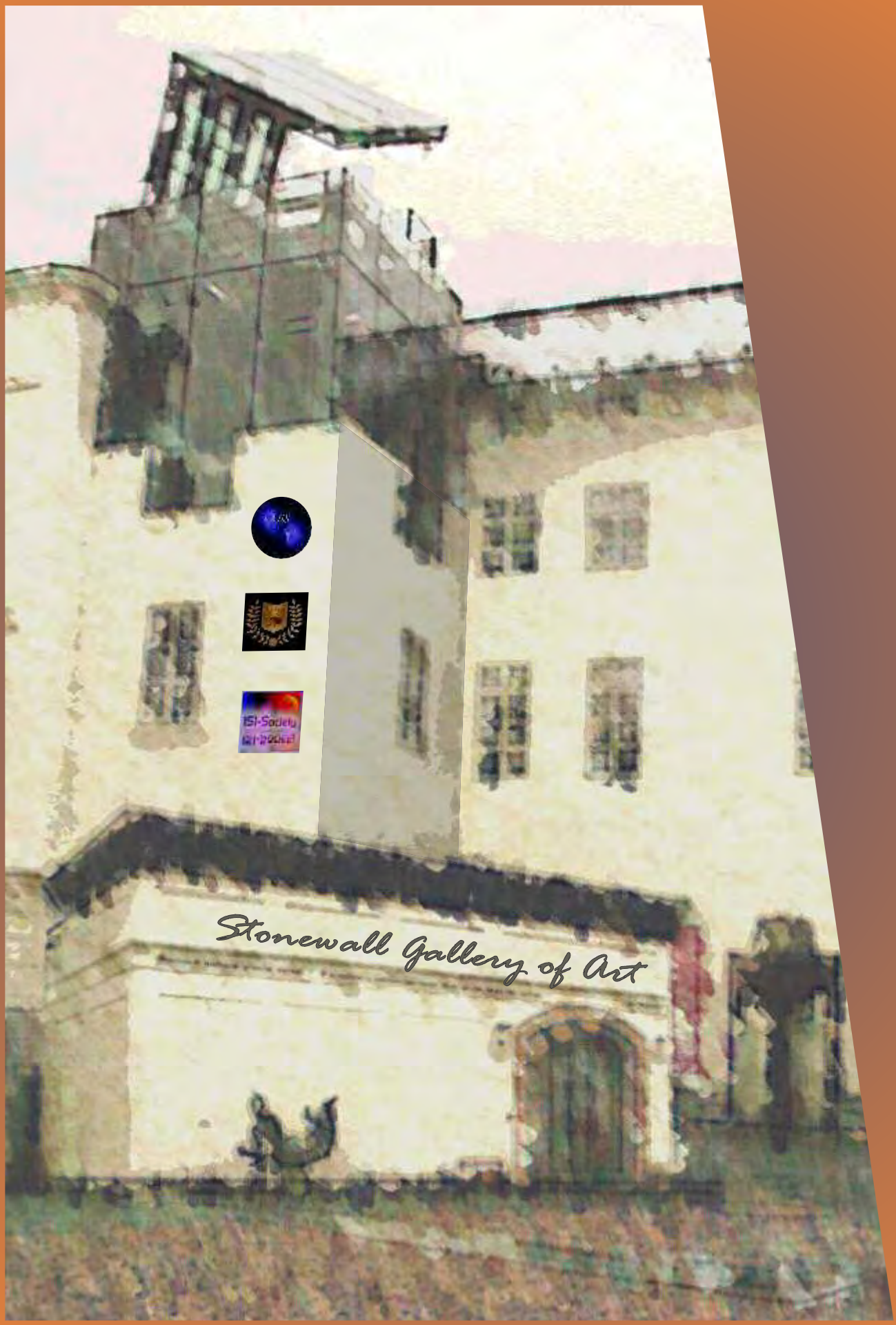
Whilst we struggle to recall our next line
Craving the next cue to save us...

We not the Playwright be,
Nor Groundlings, either
If one falls upon the sword or quaffs
Bitter poison, if honour be betrayed
Or our very Heart asunder broken.

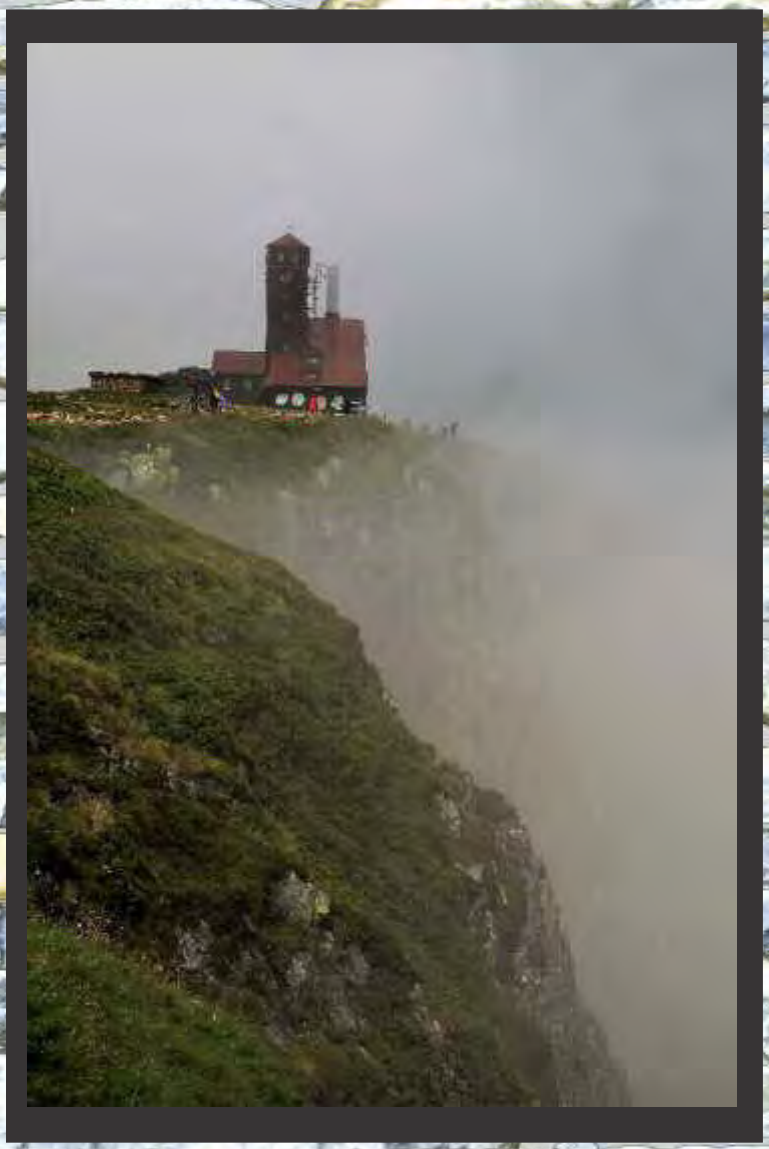
Play your part, as you will:
the Play must and will
Go on Within you/Without You
Whether you be Quick or Dead...

Hasten not thy Exit,
Fellow Player, for I crave thy Company!
Brave Scenes are to Follow;
Applause comes from beyond the footlights,
And from within, from Heaven.
Pray join hands with me and bow gratefully

At curtain call...
It shall supersede our Highest Expectations.


Stonewall Gallery of Art

Stonewall Gallery of Art



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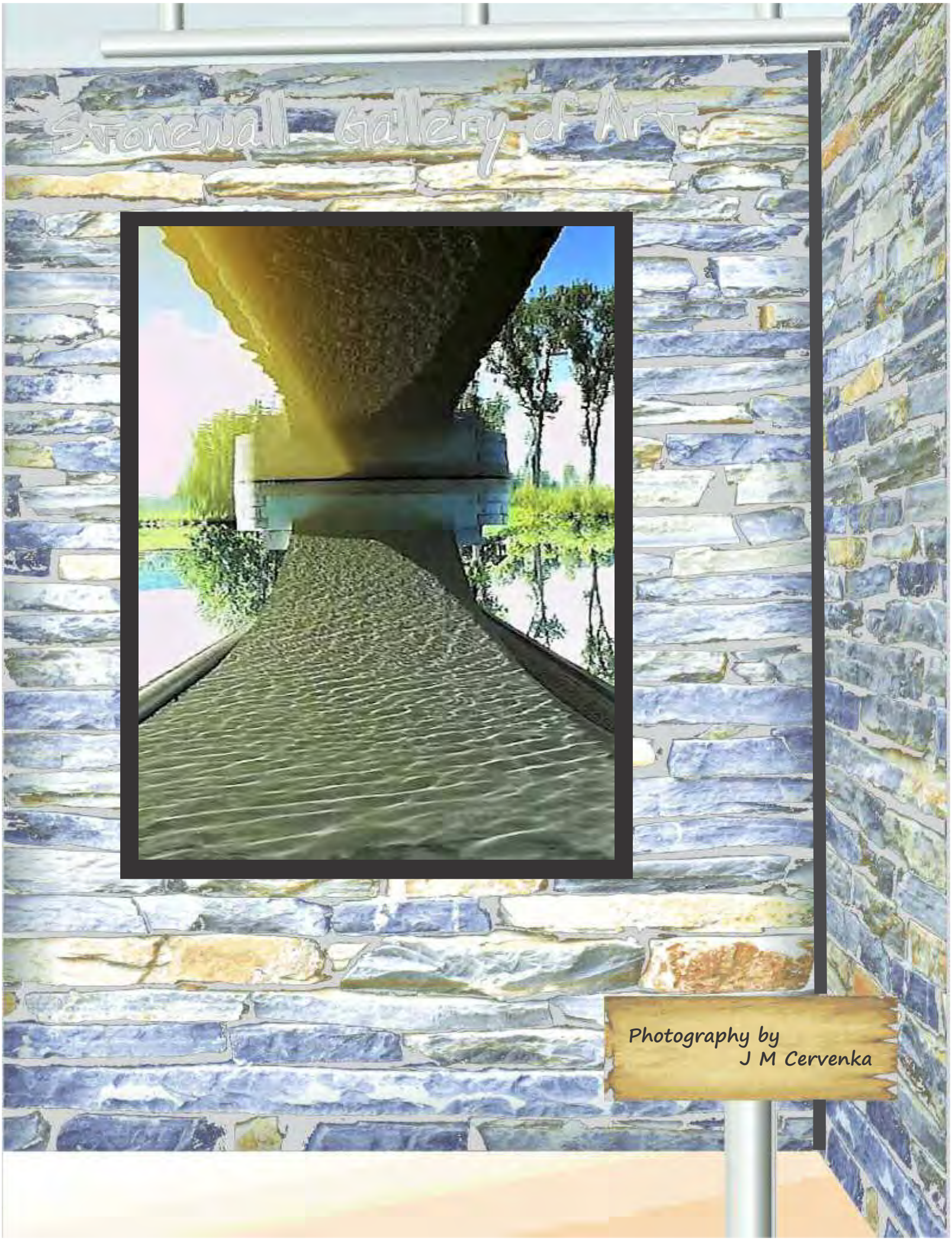

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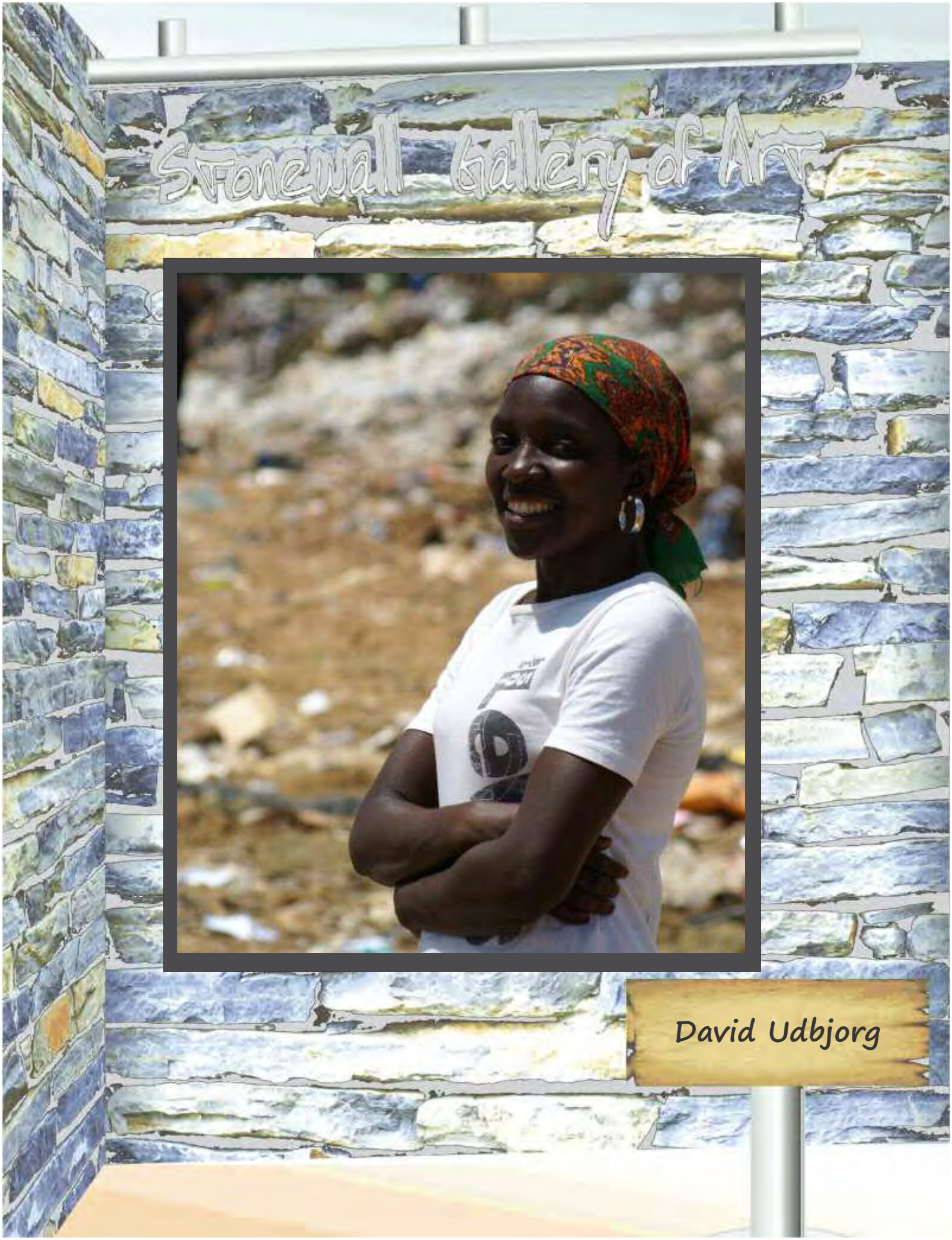
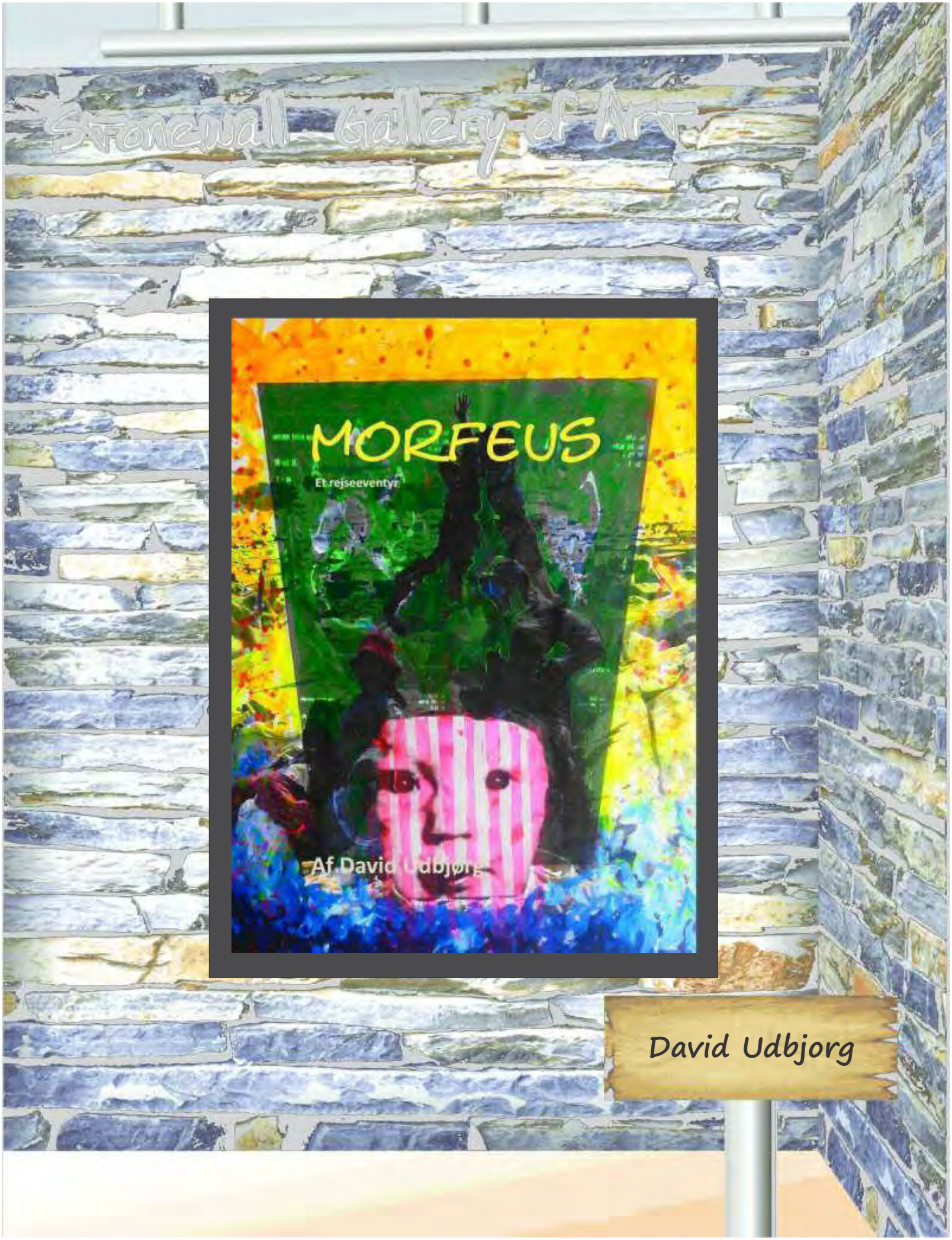
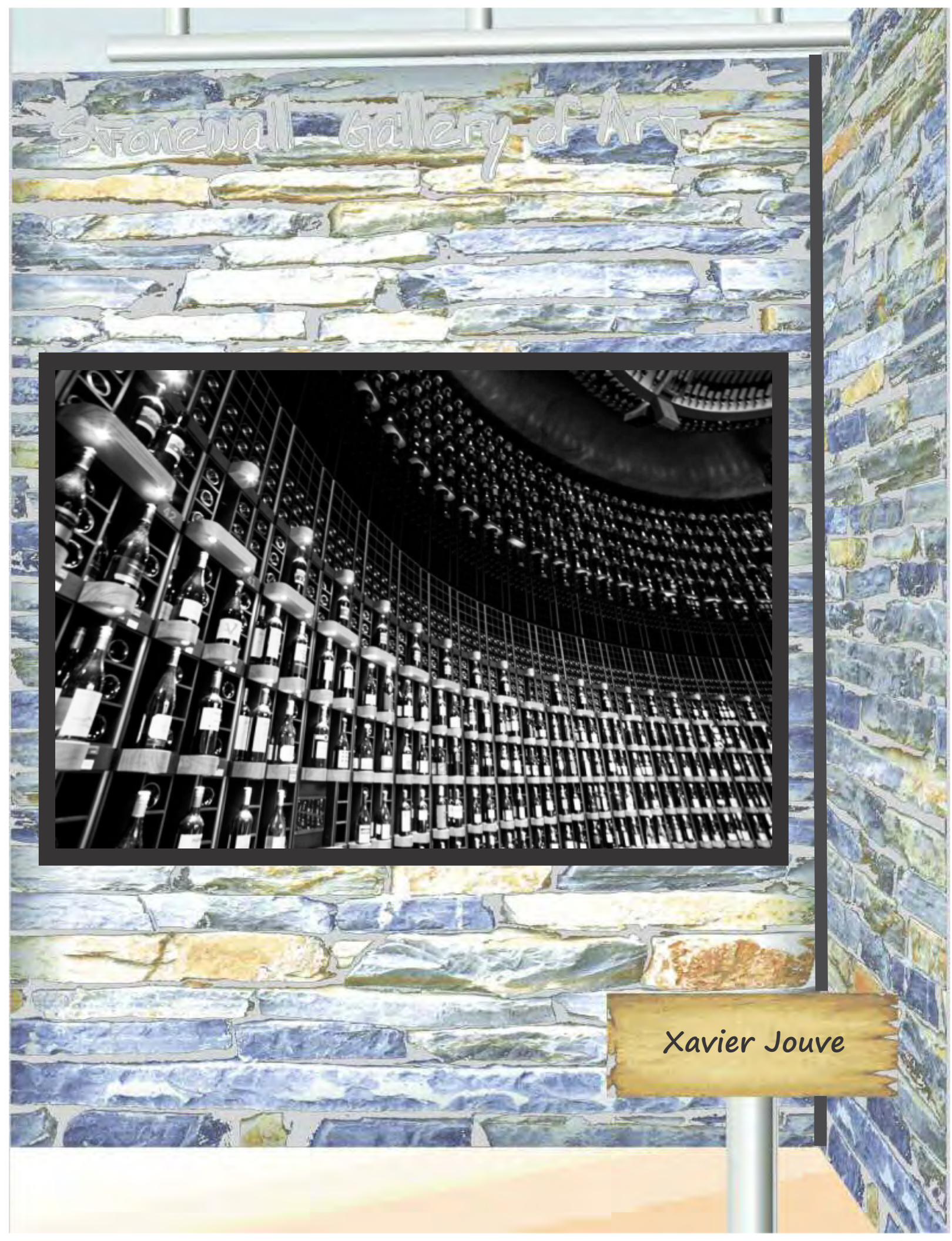

Stonewall Gallery of Art
David Udbjorg


Stonewall Gallery of Art
MORFEUS
Et rejseeventyr
Af David Udbjørg
David Udbjorg

Stonewall Gallery of Art

Xavier Jouve


Stonewall Gallery of Art
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Stonewall Gallery of Art

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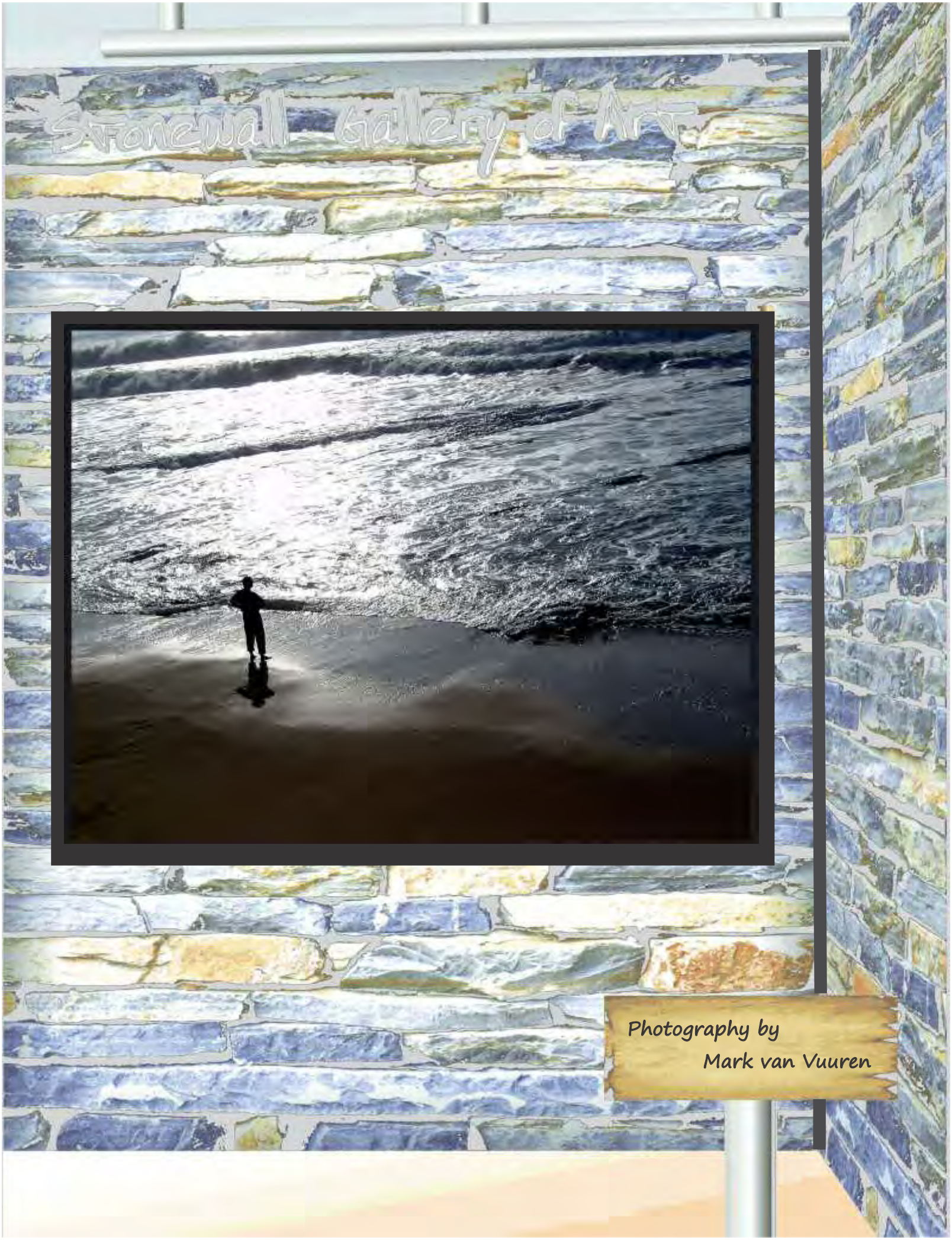

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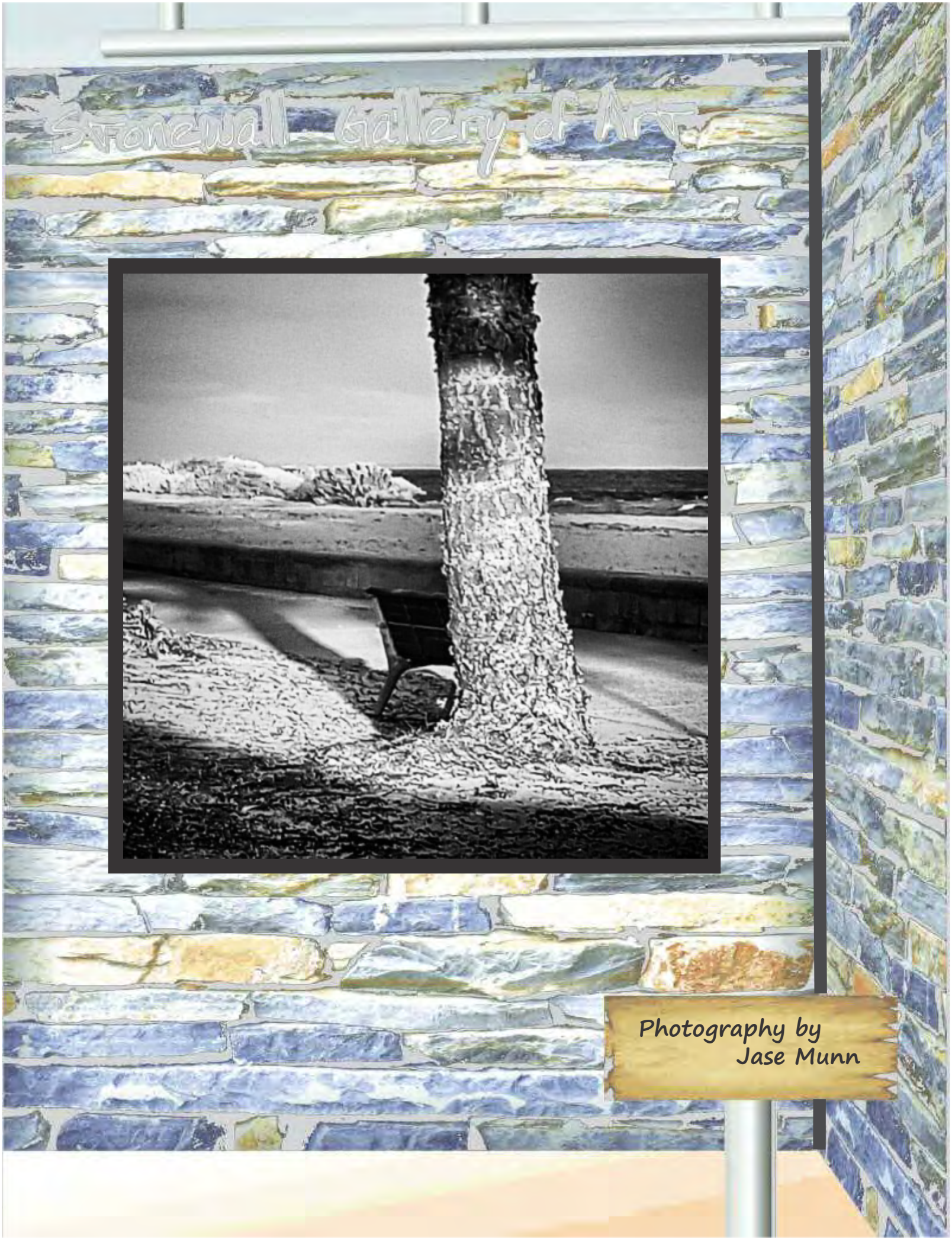
Mark van Vuuren

Photograph by
Marilyn Grimble


Stonewall Gallery of Art
Watercolor
by Marilyn Grimble

Stonewall Gallery of Art

Art from the past
The Artist's Studio by
Gustave Courbet



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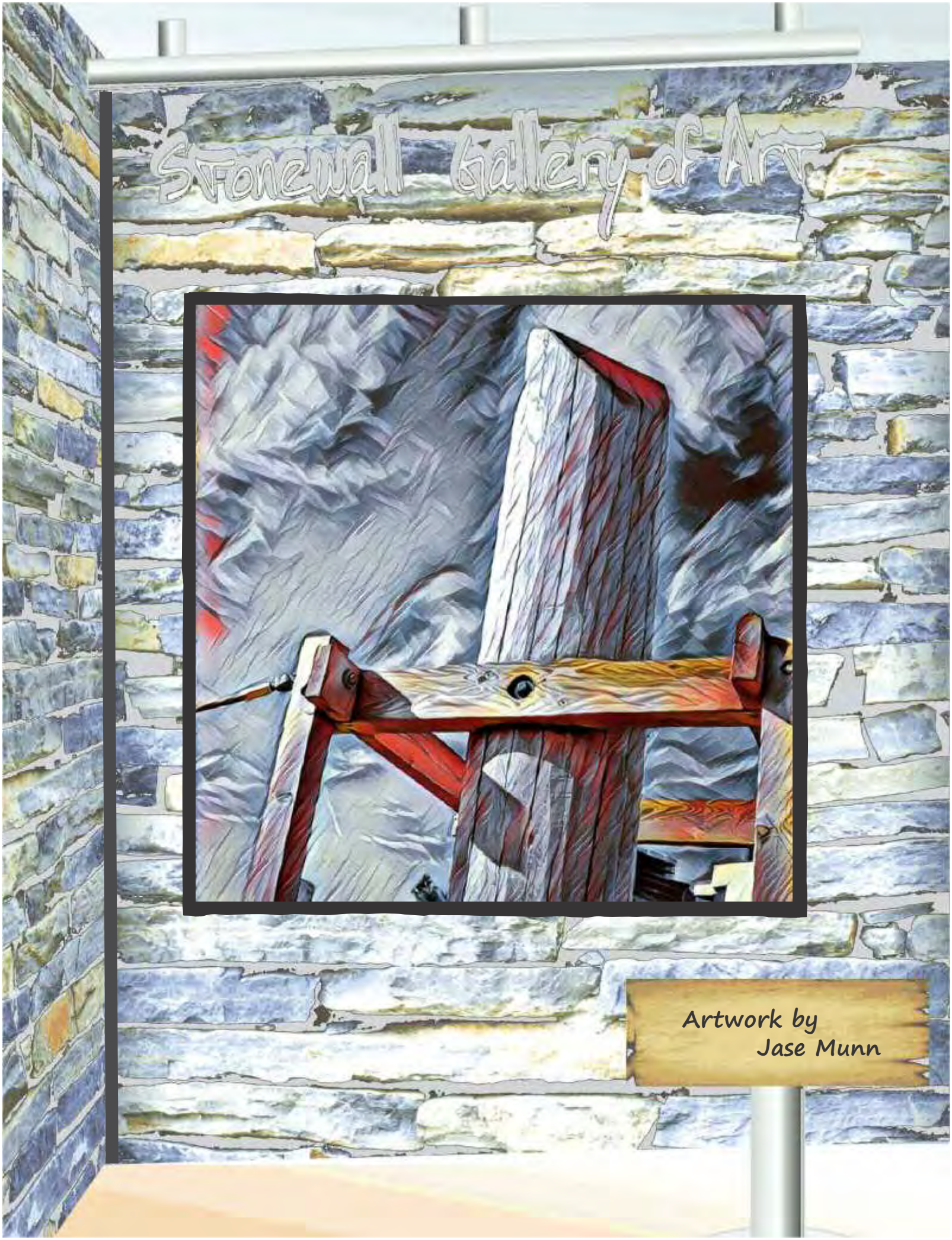
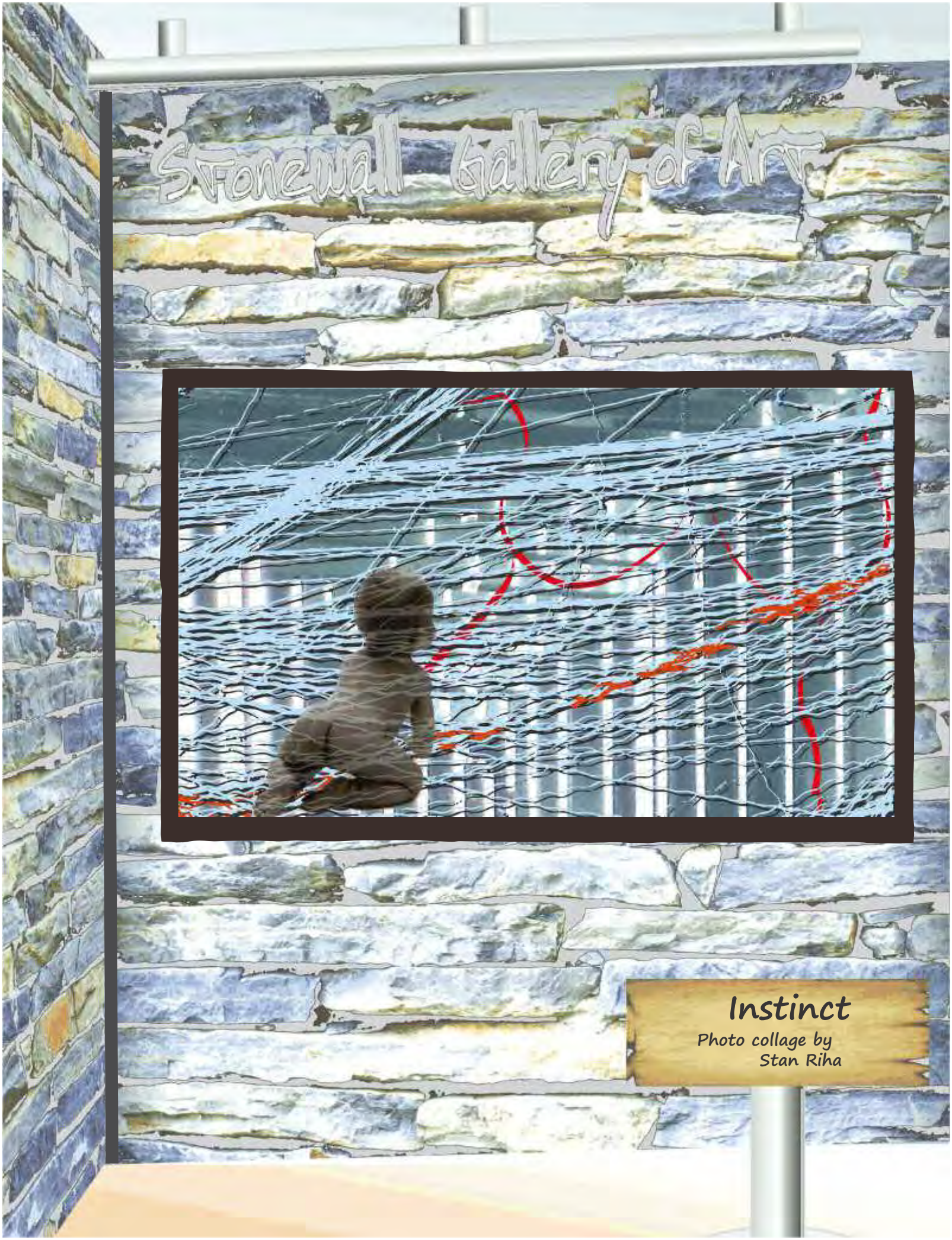
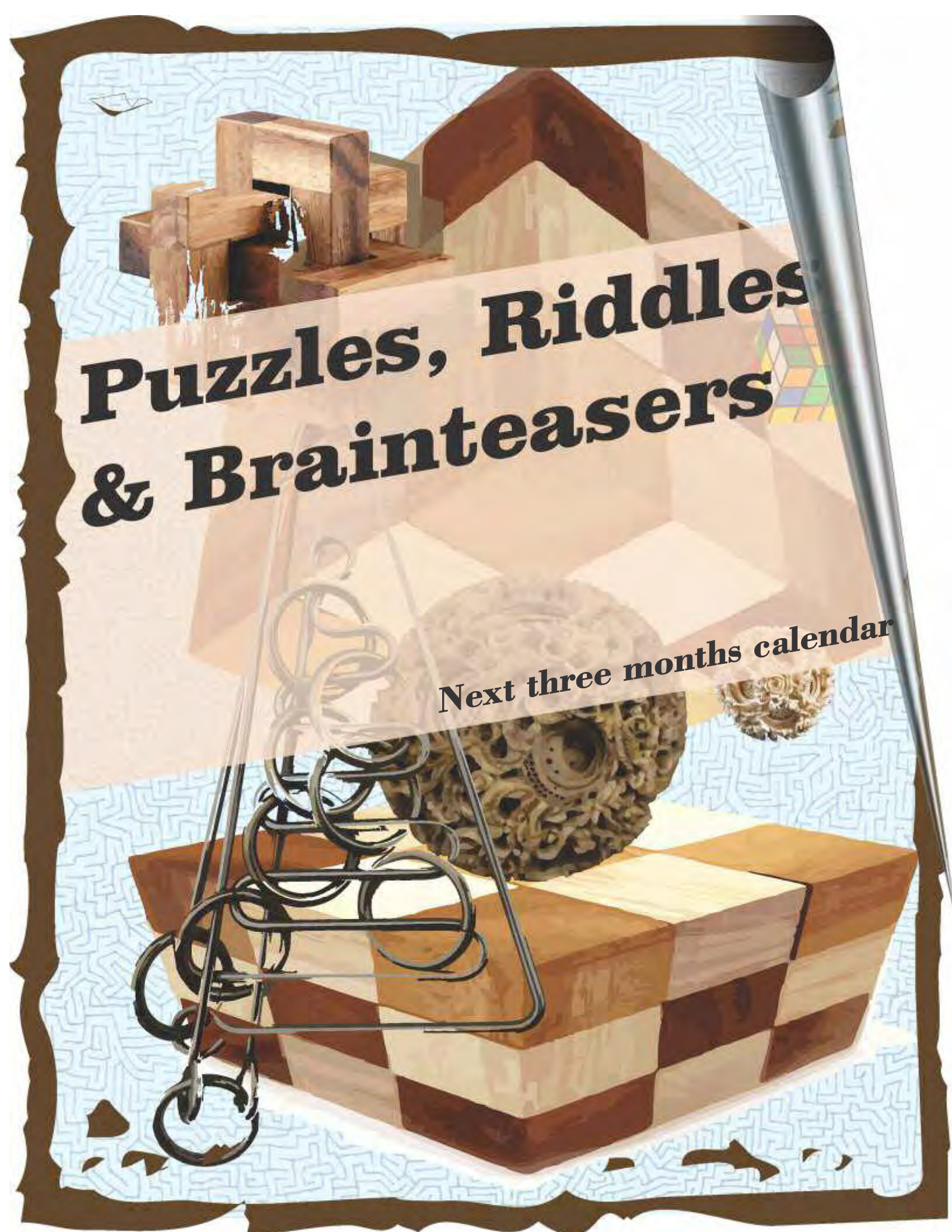

Stonewall Gallery of Art
Artwork by
Jase Munn

Photo by
Stan Riha



Instinct

Photo collage by
Stan Riha



Puzzles, Riddles & Brainteasers

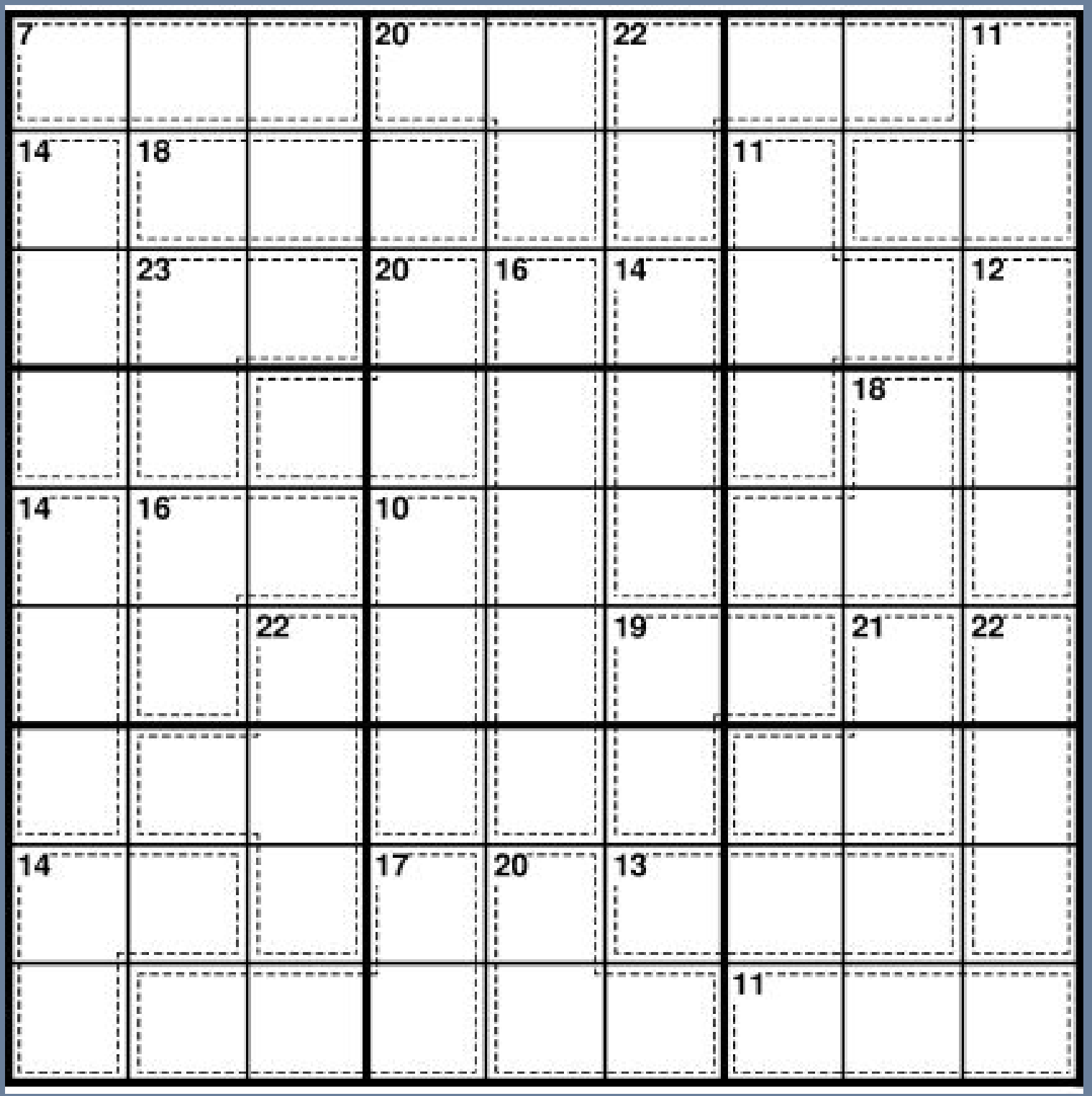
Next three months calendar

Solution of killersudoku from IQ Nexus Journal Issue 10 Vol. no. 2

17 9	7 1	6	10 7	3	5 4	7 5	2	18 8
5	3	12 4	8	7 2	1	10 7	10 6	9
28 7	10 2	8	19 9	5	11 6	3	4	1
6	32 9	2	1	7	5	23 4	8	25 3
8	5	1	4	6	3	2	9	7
4	7	20 3	2	9	10 8	1	5	6
3	13 8	5	6	9 1	2	15 9	8 7	11 4
7 2	4	12 9	3	8	16 7	6	1	5
1	13 6	7	9 5	4	9	11 8	3	2

Rules

As in regular sudoku, every cell in each row, column, and nonet must contain a unique digit. In other words, each row, column, and nonet must contain all the digits from one to nine.
The values of the cells a cage must sum up to the total for that cage.
The values of the cells in a cage must be unique.

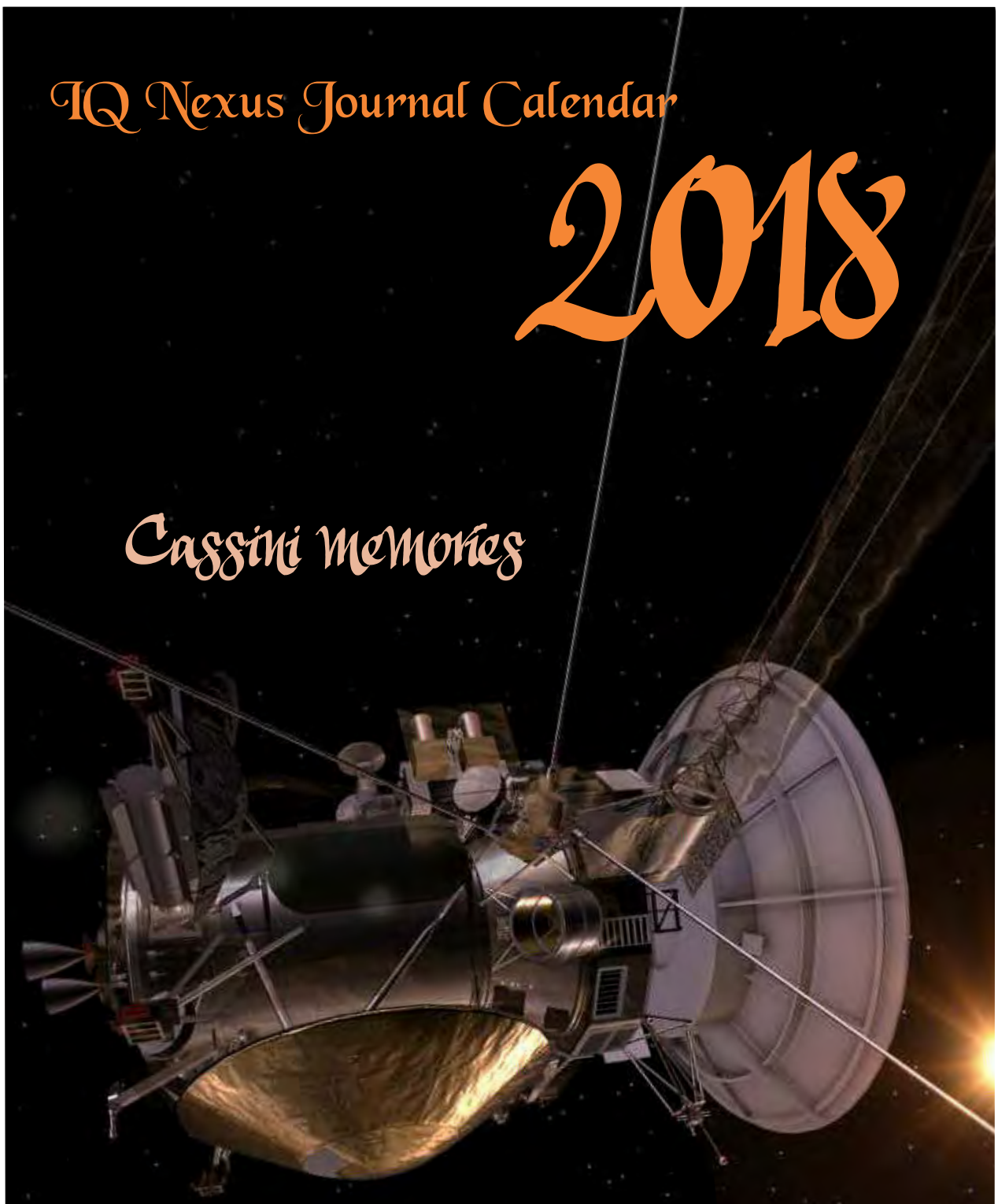


Solution to this puzzle will be published in the next issue of the IQ Nexus Journal

IQ Nexus Journal Calendar

2018

Cassini memories



IQNexus Forum

Online Calendar of IIS, ePiq & ISI-S Societies, members of WIN

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	*Saturday*
	1	2 ◑	3	4	5	6
7	8 ●	9	10 Thanksgiving	11	12	13
14	15	16 ◐	17	18	19	20
21	22	23	24 ○	25	26	27
28	29	30	31 ◑ Halloween			

November

October

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

December

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	*Saturday*
				1	2	3
4	5	6	7	8	9	10
11 Remembrance Day	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

November

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December

January

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	*Saturday*
						1
2	3	4	5	6 ●	7	8
9	10	11	12	13	14	15 ◐
16	17	18	19	20	21	22 ○
23	24	25 Christmas Day	26 Boxing Day	27	28	29 ◑
30	31 New Year's Eve					

Representative products and gifts for the IIS, ePiq, IQ Nexus and ISI-S members and friends.

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IQ Nexus

Forum of ePiq, IIS & IISI-S societies

presents award of excellence in arts and science

for contribution to

IQ Nexus Journal Vol. 10, No. 3/2018

to

Jaromir Mira Červenka

David Udbjorg

Vernon M Neppe

Xavier Jouve

Adrian Klein

Jason Munn

Mark van Vuuren

Kit O'Saoraidhe

Edward R Close

Marilyn Grimble

T.G. "Torg" Hadley

Stan Riha

Publisher / Graphic Editor - Stan Riha; English Editor - Jacqueline Slade; Web master - Owen Cosby