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Expansions of the theatre at the times of quantum: Temptation by radicalism

Nelly Kornienko*

Les Kurbas National Centre for Theatre Arts
01034, 23B Volodymyrska Str., Kyiv, Ukraine

Abstract

Relevance. This article explores the emerging field of “quantum theatre” and critically examines attempts to apply quantum concepts to theatrical theory and practice.

Purpose. This article aims to evaluate the current state of quantum theatre research and propose new theoretical frameworks.

Methodology. The author conducts a critical analysis of existing literature on quantum theatre, including works by Carol Fisher, Naomi Iizuka, Anne Bogart, and others. The methodology involves examining these works through the lens of quantum physics principles, while cautioning against simplistic analogies.

Results. The analysis reveals that many current approaches to quantum theatre rely on superficial analogies to quantum phenomena without sufficient rigor. The author argues there is not yet a true “quantum theatre”, but rather early explorations of quantum-inspired ideas. The author proposes new theoretical frameworks drawing on Rupert Sheldrake’s morphogenetic fields and V.V. Nalimov’s “fields of consciousness” to understand theatrical phenomena.

Conclusions. This article concludes that more rigorous interdisciplinary approaches drawing on quantum physics, biology, and consciousness studies offer promising directions for future research. The author suggests that theatre and artistic culture in general as open non-linear systems operating based on self-organization, self-regulation and self-development, with high degrees of freedom, can provide a unique understanding of quantum phenomena at the macro level, potentially contributing to the fundamental principles of cognitive theory.

Keywords: morphogenetic fields; quantum biology; non-linear theatre; space-time in performance; post-non-classical art science.

Introduction

The problem of quantum possibilities for the theatre has been essentially activated in the last two or three decades, when quantum physics awakened interest in the incomprehensible, fantastic resources of the human imagination. It was when Hugh Everett declared that “Everything that is possible happens”, and John Priestley also announced no less sensationally that “Everything created by the imagination must exist somewhere in the Universe”. The research into this agenda in the field of humanities is not extensive, although it includes some dissertation theses (studies by C. Fisher [1; 2] and articles

by D. George [3], J. Herrington [4], R. Guzmán and J.A. Cervera [5]).

A detailed analysis of the above-listed works is not part of our objective, yet we are ready to specify major research trends. From the very onset, it should be stated that this matter has not yet yielded to research stalkers, despite their reputable names and decent experience. In our opinion, one of the reasons of this is the lack of proficiency in modern level methodologies (which is the most outstanding problem in humanities today) and the predominance of generally narrow sets of basic knowledge and theoretical experience instead. I mean that, as a rule, one has fluent

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*Corresponding author



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knowledge in mostly one or two subjects, whereas today a more substantial – transpersonal – experience is needed, preferably rooted in several scientific fields.

Perhaps, that is why the practices of theatre, choreography, and performance prevail among the researchers (including the well-known and iconic ones, such as playwright Naomi Iizuka, theatre director Ann Bogart, choreographer Mary Overly, and others). For instance, the effect and effectiveness of Iizuka's dramas [6; 7] are reached through adaptation (using a partially non-linear resource) of an ancient plot – a classical play, chronicle, myth – to the present time. It triggers the effect of recognition. However, in general, the playwright stays within the “previous” system of the coordinates of art, in the non-classical zone, although radicalizes its individual components. The quantum-related matters, which are based on a “different” kind of nonlinearity, seem to be out of her area of interest. N. Iizuka does not attempt destroying traditional non-classical artistic systems through a perspective of moving towards post-non-classical, pre-quantum, and quantum matters.

Similar experience has revealed itself quite considerably in American, European, and Asian theatrical cultures. Anne Bogart's offer of the “collaboration between actors and directors, which generates ‘viscerally dynamic moments in the theatre’, becomes a creative impulse in her works [4]. However, when talking about the ‘visceral’, deep, inner resources of an organism, one would like to know the mechanisms, methods, and techniques offered by a stage director to extract energies – and primarily energies – in the acting process. The Tibetan and other ancient methods for extracting in-depth energies have long been known to the theatre. Their modifications pervaded the practices of Les' Kurbas and Mikhail Chekhov. And they are still in use today. The ‘created’, ‘primordial’ energy of the Suzuki theatre philosophy is an example. Using their efforts, the theatre would create its own proactive strategies. We would like to identify the novelty of the modifications made by Ann Bogart (The very fact of direct collaboration with the Suzuki theatre and visibility of results might be the answer). Here the author of the study wants to emphasize, as it seems to me, one serious methodological fallacy. What is especially sad is that this fallacy has haunted almost all the theoretical works we are familiar with (and which will be discussed later).

The problem is caused by a direct, linear transfer of certain concepts from the lexicon of quantum physics onto artistic phenomena following an inadmissibly dangerous principle of external ‘similarity’. The mere fact of the artist's observation and the ‘imitative’ transfer of the latter onto the spectator cannot sufficiently prove the presence of the quantum principle in a particular artistic act, as argued by Anne Fischer and Naomi Iizuka. Neither can Redon's proposal to shift the focus of the observer's problem from ‘meaning’ to perception, which is allegedly identical to the behaviour of quantum physics, be such proof. May we remind that an Observer in quantum physics is a subject of a special kind, or ‘ontologically’ essential, if you wish. Its functionality is not the same as the functionality of the observer in the above-mentioned cases. It is even more abnormal to suspect observers of being a materialized ‘wave or particle’ of the energies of the hall [2].

It is likewise insufficient to propose, based on C. Jung and his rejection of the linearity of mind, ‘a quantum shift in consciousness’ as an example of quantum quality, as insisted by Odilon Redon, an artist and critic, who was a contemporary of Picasso, Einstein (while observing his own subconsciousness, Redon felt a parallel with the theory of relativity), and Iizuka. Similarities are not always consequences of executing the same laws, especially since the quantum zone has virtually no cause-and-effect relationship. This article is a segment from this horizon of exploration. It enters a mediated dialogue (polylogue) with the studies, and yet preserves a high level of autonomy both in the theoretical and methodological sense.

The future of quantum theatre: Theoretical foundations and methodological approaches

In recent years, there has been growing interest in applying quantum concepts to various fields beyond physics, including the arts and theatre. This interdisciplinary approach has led to intriguing possibilities, but also potential pitfalls in interpretation and application. Before delving into the specifics of quantum theatre and its theoretical underpinnings, it is crucial to examine the nature of such analogies and their limitations. This critical analysis will provide a foundation for understanding the current state of quantum theatre research and its prospects.

R. Guzmán and J.A. Cervera [5] investigating the nature of analogy and parallelism, warns of the harmfulness of transferring analogy from one field of activity to another if the nature of analogy is misinterpreted. Virtually none of the analysed research works escaped this threat. As a result, a strategic fallacy appears namely, it is not quantum theatre what the author calls it that way. At most, we are dealing with a quasi-quantum object or even worse, a simulacrum. You will agree that the resulting interpretation is no less dangerous, especially when it comes to theory. An illusory world of illusory realities is provoked and raised. Certainly, the theoreticians' works are more substantial, deeper, and their hypotheses are creative.

His descriptive article focuses exclusively on the genesis of the quantum ideas – from Planck and Boltzmann to Einstein and Paul Ehrenfest, touching the context of artistic culture mostly by guessing and arguing that ‘The use of metaphors, analogies, and other imaginative resources subject to a variety of interpretations by their own nature, remains necessary for the advancement of science, even if it implies a certain risk for its objectivity’ and assuming that “...the study of black body and the eventual introduction of the quantum were guided by a series of analogies, idealizations, mental experiments and analysis methods adopted from the study of different phenomena rather than radiation, and how this constituted the origin of a radical transformation in physics” [5]. This important heuristic anticipation of the fundamental role of figurative systems of artistic culture for natural scientific knowledge and for the cognition of being as such provides us with a foundation for up-to-date research and an additional argument for supporting our theoretical and methodological approaches [8; 9].

The concept of quantum theatre remains hypothetical at present. Research into its potential manifestation is in its nascent stages. We must approach this subject with

empirical skepticism, acknowledging the absence of conclusive evidence. Our current investigations focus on analyzing the probabilistic nature of energy flux patterns and their potential to give rise to quantum theatrical phenomena. The emergence of quantum theatre from these observed potentialities remains uncertain and requires further rigorous study.

The researchers who are fascinated with this agenda would sometimes trust naive empirical material, instead of mature intuition. The researchers fascinated by this issue sometimes trust naive empiricism instead of mature intuition. Still, we are oriented at productive concepts and ideas. These are present in the works of leading thinkers: we can mention Erving Goffman, an American sociologist, philosopher, and psychologist; Richard Schechner and David E.R. George, performance theorists, and others. There is a visionary remark on 'quantum' made by Edward Edinger, a Jungian psychologist, on the links between mental contents and one's Ego in the individuation process, when 'a possibility of creating a new increment of consciousness' arises, deepening the process of extracting quantum resources, particularly, for the theatre, which is the centre of our interest.

What we are interested within the study of quantum matters is the ancient, ontological origins of the world unity, in which the rational thought of the West confirms, as it has become clear today, the 'direct knowledge' of the East, in which the concept of 'quantum presence' hardly sounds metaphorical. Indivisible space-time 'owns' the laws of superposition, the behaviour of the 'invisible', the teleportation of entities, i.e. the fundamental foundations of the quantum world, which validates the presence of such components in the research of the artistic world. This study distinguishes itself through a dual approach at both theoretical and methodological levels. It places particular emphasis on exploring the deep 'potentialities' of brain activities. Notably, this research incorporates a methodologically adapted version of Rupert Sheldrake's theory of morphogenetic fields and resonances. While controversial in natural sciences, this theory finds applicable ground in humanities and especially in the arts. This integration represents a novel approach in the field. His system of evidence behind the 'work' of quantum macro-scale and human-scale mechanisms has been considerably expanded. The author of this study has analysed the problem of quantum decoherence, which is still controversial among physicists, but fundamental for our research task) [8].

The horizon of our expectations covers a broader area of theoretical implications. Today, sensory and intellectual resources, as well as subconscious and out-of-conscious assets, are appealing to the potential of new quantum spheres: quantum psychology, quantum biology, medicine, and quantum physics. In other words, mutual integration processes are emerging in these fields. They are exactly the object of our interest. We are interested in such new theories, philosophies and methodologies that will define the theatre of the future and that will be based on the 'integration' theories of cognition, primarily artistic and aesthetic theories which have proven to be quite autonomous and subject-based in a synergistic sense [10].

Does the theatre inspire its own quantum physics?

It's becoming more apparent that there is no space and time as separate and independent concepts. There is an integral phenomenon of the space-time. To convince of this, physics presented the world with the theory of relativity in the person of Einstein. Including a special theory of relativity, based on which G.A. Lorentz, A. Poincaré, G. Minkowski and A. Robb worked. Its experimental base was proposed by Albert Michelson.

The logic of extraction of these categories to be independent depends, first, on the fact that mathematics and geometry came to us from the Greek philosophy that insists on irrefutability and eternity of certain truths, which are called geometric theorems. Absoluteness of their logic and beauty was perceived by the Divine Revelation, as physicists claim. The logic of the strict, rational, "geometric" pictures of the world always dominated in the European consciousness until the XX century and the early XXI century, periodically discovering some persuasiveness and even agreement with the argumentation of alternative, Eastern approaches. Nevertheless, the palm of primacy and "finality" of the truth about essence of the space belonged exactly to Euclidean geometry within two millennia. The alternative philosophy of the East identified the world according to fundamentally different criteria – there were no final truths in it, any intellectual procedure of the mind was perceived as relative, even illusory. And the pictures of reality were nothing more than a visual reflection of certain states of consciousness.

Those people, who have been really involved in the East or who are still under the impression of the staggering wisdom of his philosophies, including me, cannot but be tempted to compare the picture of unity of the world with unity of two brain hemispheres. One obeys the harsh laws of rational thought, the chastity of constructions, it regulates the world generally with the help of the cause-effect senses and the improvement of rational mechanisms of cognition; and the other appeals to contemplative, meditative, irrational, intuitive, poetic, unstable and always relative images that fulfil the role of verifying mechanisms of cognition. Therefore, the high intellectual discussions of the millennia about the advantages of certain truths in both cases represent, in my opinion, just a correct illustration of the principle of complementarity of Bohr, which was verified by the nature, leaving us with a wonderful opportunity to unravel it.

Rational representations about differentiation of time and space significantly wavered once again with a wave of the latest Western interest to the East, the Western physics to the Eastern mysticism [11-15]. We fell back on the authorities of Western physics and Eastern mysticism, in particular, the works of Einstein, Herman Minkowski, Mendel Sachs and others, as well as the works of Aurobindo, D.T. Suzuki, Chuang Tzu, Huiheon, Lama Govinda. Not without particular interest are the interpretations of F. Capra [12], the modern philosopher and physicist – the theoretician in the field of nuclear physics and quantum mechanics. He convincingly and correctly proves the equivalence of Western and Eastern – scientific and mystical – types of knowledge of the world in fact. And more importantly, the dialogue of the new Western rationalism and the Eastern mysticism loses its sharpness and paradox at the interpretation level, lying in

the plane where relativistic physics confirms much of discoveries of the mystics. Scientific insights and discoveries of the East, which appeared in the historical horizon, acquire an argumentation in the rational philosophies of the West later.

Current research indicates an evolving relationship between these systems, suggesting potential for mutual influence and complementarity. Preliminary data hint at possible synthesis, though this hypothesis requires further investigation and empirical validation. F. Capra [11] sees solution of the so-called problem of unsolvability of “the paradoxical nature of open phenomena” on the ways that I would define as creation of a kind of convergent network under the conditions of subtle, sensitive interdependencies of the Western “advanced” methodologies and the Eastern esoteric, direct knowledge based on the mystical experience. The vision of the author of this study of the space-time (or space and time – just yet) in the theatre and the new theatre science will be based on the designated context and the authority of the modern physics, which explores new dimensions. I remind you that the coordinates of space and time depend on the Observer. On the effects of gravity. Finally, on the choice of the coordinate system. The list is not exhausted. I will allow myself to actively involve at this stage the arguments obtained by modern physics “in support” of Eastern philosophies, the arguments which are equally close to both the naturalist and the humanist, and the philosopher of, so to say, “direct knowledge”: “For example, the classical physics recognizes that the lengths of a moving and resting rod are the same. However, the theory of relativity found the falsity of this statement. The length of the object depends on its movement regarding the observer and changes depending on the speed. This change is as follows: the object shrinks towards moving [...] It’s important to understand that the question of the “true” length of the object doesn’t make sense, just like the question of the true length of your shadow. A shadow is a projection of points, which are in the three-dimensional space, on a two-dimensional plane, and its length depends on the angle of projecting” [12].

“Three-dimensional patterns look differently in different coordinate systems, moving objects don’t look like static ones; the clock reduces its speed while moving. These conclusions seem to be paradoxical to us only because we don’t realize that all these unexpected effects are only consequences of the projection of four-dimensional phenomena in the three-dimensional world of our senses, just as shadows are just projections of three-dimensional objects” [12]. As you know, multidimensional reality becomes accessible within the boundaries of a special state of consciousness. It doesn’t constitute a problem for the Eastern mystics. This state of consciousness is marked by assimilation of images and visions inspired by other, super-third dimensions, meditation extracts new fields of view, involving the state of consciousness in the tunnels of unusual energies that suppress the linear flatness of the “previous” perception. You can get acquainted with these phenomena in the specified literature or through your own experience, which, of course, requires certain spiritual efforts and time.

“The thing, which is the space for one observer, will be a combination of space and time for another one. The

theory of relativity found that the space isn’t three-dimensional, and the time isn’t independent. Being closely and inextricably linked, they form a four-dimensional continuum, which is called “the space-time” [12]. “The theory of relativity identified that all changes in space and time lose absolute significance, and it kept us to abandon the classical concepts of space and time”. The exceptional significance of this discovery is revealed in the following words of Mendel Sachs: “The truly revolutionary content of Einstein’s theory is that... it negates the objective nature of the space-time coordinate system. The theory of relativity confirms”.

The convergence of quantum physics and artistic expression: Exploring new dimensions of reality

For the last half-century, change of modalities of artistic texts has witnessed experiments in artistic culture with basic concepts – the space-time, roles of the observer, subjectivity as such. In this theory, the original quantum physics paradoxically appeared through a language convention. The theatre, working with the subconscious, as we have seen, offered, as an analogue of hitherto unknown dimensions of space-time, the aesthetics of the unpredictability of dreams, hallucinations, unfolding programs of an ancient, previously hidden, actualized here-and-now memory. A new reading of the time in the performances, for example, in the performances of E. Nekrošius and A. Zholdak, and not only them – literally exploded absoluteness of the standards of the classics – I remind that time turned out to be present, past and future simultaneously? And this new “physics of theatre” has closed with the mystical experience of the ancient oriental philosophies like in case of the relativistic physics. I will address to D.T. Suzuki via F. Capra: “There is no time delimitation for the past, the present and the future in this spiritual world: they become one instant of burning life... This moment of illumination contains the past and the future, but it doesn’t stand still with all its contents, it is in constant movement” [12; 16].

The modern physics confirms in the four-dimensional continuum, in this set of patterns, that “particles can unfold in all directions”. The mathematical formulas of the field theory, the graphs of collisions of a photon with a positron and a photon with an electron – lead to the emergence of possibility of a “double interpretation...you can see either positrons moving forward through the time or electrons moving backward through the time! These two options are identical in a mathematical relation: movement of the antiparticle from the past to the future and movement of the particle from the future to the past are expressed using the same formula” [12]. There is a humanistic temptation (perhaps, right?) based on this concept to confirm the time reversibility discovered by art practice for nonlinear systems – on the condition that concept of the identity of two above-mentioned options of moving particles through the time is correctly adapted in our subject and object.

The question arises: is it possible that the proposed interpretations from the field theory are valid only for “life” of the particles and can be inapplicable to systems of another scale? However, when we talk about the human consciousness (subconsciousness), the flow of time in it – back, forward, turbulent, fixed and demonstrated by the theatre and artistic culture, the ability of artistic patterns to

materialize on the stage (canvas, screen) the fact of indistinguishability of the past-present-future – we deal with the logic of relativistic physics. Or with the “direct knowledge” of the mystics. In our system – with the thing, which I allowed myself to call the artistic theory of relativity. We should understand what thing is equivalent to concept of the particle in our case. I will not say anything extraordinary or exotic if I begin to approve the obvious thing for the expert of the theatre that the energies of “patterns” of subconsciousness and consciousness and the field of their possible recombinations take on the role of the particles: the energy particle-wave can be both open and hidden, belonging to the parasic fields. They are assimilated by the energy of the emerging, constructed holistic image. “Rhythmic patterns are determined by molecular, atomic and nuclear structures” in physics, and so “rhythmic patterns” are determined by their analogues – particle-waves of the energies in the artistic, imaginative space. We are in the field of action of the infinitesimal “subatomic particles” of the artistic matter, for which the above-mentioned laws of field theory are valid. The art practice pre-empted the thing discovered by the theory later. Let me remind you of the fundamental unity of the laws of the artistic and scientific creativity [17]. We have already represented the artistic experience of one stage masterpiece of Les Kurbas, the Ukrainian modernist-reformer, – the performance “People’s Malachi” [18].

F. Capra [11] essentially proved identity of essential characteristics and methods, which is especially important in physics, psychology, biology and cybernetics in the work “Turning Point”, exploring new ways of science and its new opportunities in the early 1980s. The works of S. Grof and K. Wilber, M. Murphy and R. Walsh, as well as other scientists based on transpersonal measurements (with all their differences), declared the need for integration into traditional approaches not only of the experience of the East, but also of the European spiritual and religious traditions [19; 20]. And now we will renew the subject of time reversibility/irreversibility in nonlinear systems (art culture, art) from the perspective of visibility of new horizons, having put it in the context of new achievements again, this time – biology. Robert Lanza, a remarkable scientist and a biologist of a new type and a new generation, who works “on the edge of the biotechnological revolution”, was able to clone a banteng (declining species of a wild ox from the Red Book) of a carcass of an ox that died 25 years ago. He was on the team, which cloned a human fetus for the first time to obtain stem cells. He has hundreds of discoveries in various fields of biology and biotechnology. He is an author of a new scientific theory – biocentrism. Robert Lanza confirms: “Life is an adventure that surpasses our ordinary linear thinking”. He proves successfully that “death is an illusion”.

This confirmation is phenomenal, and it deserves a separate discussion. But now I’m interested in that part of his system of evidence that argues with the classical type of thinking, convinced and convincing of objectivity of existence of the world. Of existence, independent of the Observer (we have already touched on this problem in part). Invoking the uncertainty principle of Heisenberg, relying on the experimental base of genetic engineering and on the experiments with “quantum entangled” particles

of the light that “learned” about “the intrigues” of the experiment (the Observer) and changed their properties, Lanza proves brilliantly in the logic of dependence on the observer that “reality is a process that includes your consciousness” [21]. I will allow myself to give an extensive quotation for the purposes of correctness of Lanza’s statement. Especially since this quotation will certainly be of interest to each person, who isn’t strangers to the search intentions: “Until we realize the universe in our heads, attempts to understand reality will remain a road to nowhere. Let’s look at the weather from the outside: you see the blue sky, but your brain cells can be changed so that the sky will look green or red. In fact, using the genetic engineering, we could do it so that everything red will vibrate or make a noise, or even appeal your sexual desire, as it happens with some birds. You think it’s light now, but your brain currents can be changed so that you see the twilight. You think it’s hot and humid now, but it seems to a tropical frog that the weather is cold and dry.

This logic is applicable to everything practically. Bottom line: the thing that you see can’t be present without your consciousness. Truly speaking, you can’t see anything through the bones that surround your brain. Your eyes aren’t portals to the world. Everything that you are seeing and experiencing right now, even your body, is a flight of information that occurs in your mind. According to biocentrism, space and time are not rigid, cold objects, as we think. Wave your hand in the air: will you take away all that remains? Nothing. The same thing applies to time. Space and time are just tools for placing everything”.

Experiments of the French scientists found that photons could “change the things that have already happened in the past with retrospective effect”, and they were able to be “reincarnated” first into a particle, then into a wave, exercising an option. These amazing discoveries of “quantum behaviour” have been considering belonging only to the microworld and to be limited by it. But the further experiments (2005 and later, with other scales of phenomena) have refuted this assertion. “This concept of two worlds (in other words, one set of physical laws is for small objects, and the other is for the rest of the universe, including us) has no basis, and it is challenged in laboratories around the world at the present time. [...] Thus, quantum behaviour is manifested in the ordinary world of a human scale”. The effect of dependence on the Observer is basic and, more importantly, it “cancels” (transforms) the classical formulas of concepts of matter, event, phenomenon. And we need another moment – a non-classical (post-non-classical) view of space-time, in which time can behave in the logic of “quantum behaviour”. Perhaps, we are gradually approaching a fundamentally new view – post-non-classical and quantum-based measurement – on the problem of time reversibility/irreversibility. And here we are indebted not only to the discoveries in physics and biocentric science, but also to the independent discoveries and insights in artistic culture following the same logic. And if you allow yourself the freethinking of correctness, you must agree that the discoveries in artistic culture are often significantly ahead of the discoveries in modern sciences. The potential of artistic culture is a heuristic field that today offers fundamentally new theoretical and methodological meanings to sciences that respect risk and search.

The Gift of Shelldrake: About artistic reality and morphogenetic fields

The non-classical and the post-non-classical theory of cognition takes as its basis the principles of complementarity, probability, and indeterminism. An echo of the holographic Universe can be discerned in the modern holistic model. “We can now replace the previous model of the Universe, consisting of finite indivisible particles, with a holistic model – a hierarchy (or holarchy) of levels nested one into the other. Each of these levels is both a part and a whole at the same time. Atoms are a whole consisting of subatomic particles, which themselves are whole at a lower level. Molecules, as something whole, consist of atoms, and crystals — of molecules. Cells are the sublevels of tissues, tissues are the sublevels of organs, organs – of organisms, organisms – of communities, communities – of ecosystems, ecosystems are sublevels of Gaia, while Gaia is a sublevel of the Solar System, and the Solar System is a sublevel of the Galaxy, and so on: everywhere one level is embedded in another, and each system is simultaneously a whole consisting of parts, and a part within a larger whole” [22]. Of particular interest, in my opinion, and particularly valuable for humanities, especially for art and culture researchers, is a theory from Rupert Shelldrake about morphogenetic fields and morphogenetic resonance. The criticism of the scientist from the natural-scientific community and certain intolerance towards his ideas do not appear to us as a convincing argument against investigating the possibilities of the theory in other environments. I think we will have an opportunity to engage in this fascinating search.

The researcher and author of the theory of the morphogenetic field proceeds from the assumption that such fields are the carriers of memory which is inherent in nature. They “organize the development of structures in the material world. Having emerged once, such a structure... can be reproduced in similar forms in the future, while overcoming the spatial limitation at the same time” [22]. Whereas the example of a protein chain folding and its reproduction mechanisms – the basis for Shelldrake’s system of evidence – could invoke criticism in the natural-scientific community, Shelldrake’s logic looks like an unexpected suggestion of correct arguments in humanities and arts to explain the examples already recorded in arts practice. However, for a correct assertion, it is necessary to rely on the origins. Omitting the detailed history of Shelldrake’s hypothesis, which has become a radical and productive theory, I will mention only a few preceding names and ideas. It all began with the idea of the existence of extracellular information structures, first suggested by P. Weiss, an Austrian researcher. He assumed the existence of a certain field around a cell, and he called it morphogenetic. He believed that each cell of an organism has its individual morphogenetic field which carries all the information about the whole organism and its programs of development.

The fields of individual cells are combined into a single morphogenetic field that envelops and permeates the entire organism, stays in continual communication with each cell, and controls all the operations related to the formation and functioning of both each cell and the entire organism. According to this concept, the carrier of hereditary information is no longer the cell nucleus, but its

morphogenetic field, and DNA only reflects the information carried by the field. The morphogenetic field is constantly changing, reflecting the dynamics of the organism development. So, the concept of morphogenetic fields is built on the thesis of extracellular information” [10]. The discovery of extracellular information, carrying out the relationship among all the elements of an organism and its genetic memory, made it necessary to essentially revisit all major problems of biology.

The concept of morphogenetic fields explained many things, however, as it was believed in the scientific community, it remained within the boundaries of “a conditional analogy.” (The scientists of the soviet biological school were also developing similar ideas). The real verification of the theory of morphogenetic fields was not helped by the effect of the corona aura around biological objects, discovered by Kirlian. Then suddenly, V.V. Nalimov [24], a brilliant scientist with universal research interests, proposes the concept of “the fields of consciousness”. He writes: “...A question can be asked: how can we imagine a mechanism by which a human connects to continuous streams of images? ... In a deep sense, a human thinks through his or her whole body... A reflection on the whole variety of the information about the role of changing states of consciousness in intellectual life allows for raising again the question of whether a human is the creator of continual thinking or only a receiver of the streams flowing outside him or her. If the second assumption is true, then all the efforts of a human aimed at perceiving these streams – meditation, participation in mysteries, or, finally, the ability to ask oneself questions using the language of discrete concepts and wait for answers to them – all these are just various ways of tuning in for the reception” [24].

V.V. Nalimov makes a correct guess about the same extracellular forms of information. The electronic resource which we are referring to now points to a connection between Nalimov’s ideas and the ideas of the Swiss psychologist C.G. Jung [23] who believed that “...the progress is in the preparation of consciousness and in perception of ideas from some flowing streams beyond it”. And if we turn to his principle of synchronicity, which he opposes to the “fundamental physical principle of causality and describes synchronicity. as a permanently functioning nature’s creative principal ordering events in a “non-physical” (non-causal) way, only based on their meaning”, here we will hear an echo of the same processes which include not only an insight into the indivisibility of space-time, but also a search for, actually, such a phenomenon as morphogenetic fields. It is no longer a simple connection being referred to that is established, but a kind of synchronicity of two types of fields – morphogenic fields and “fields of consciousness.” Of biology – psychology – philosophy – physics. And this is directly related to the subject of our study, which is assimilated through all these four (and more) horizons.

The synergy of memory, archetypes, and energy in artistic expression: Exploring morphogenetic fields

The artistic (spiritual) as a synergetic system (phenomenon) is an unconditional carrier of memory inherent in the nature of the human (sacred). The extraction

from memory and reproduction of archetypal meanings which are so valuable for these and surrounding systems; the extraction of images, some irrational configurations, flows of energy and matter, and information fields from the memory of consciousness, beyond-consciousness, and unconsciousness; “free” (overcoming all the distinctions) movement of events in space-time – the whole array of these phenomena is nothing else, in our opinion, but the active state signals of the system of artistic morphogenetic fields. Certainly, this is only the beginning of research and reflection on a topic that has not existed in our science before. Very many questions can be asked to the author of this theory, too. However, the laboratory and theoretical effect of this search is undeniable.

The author of this article supposes that a carrier of the genetic memory of artistic culture is a kind of a “vertical” hierarchy of “nestings” which includes worldviews selected by historical “filters”, values, habits, dynamic standards, stereotypes, programs and scenarios for the unfolding/folding of the activity of an open non-linear system, space-time matrices in evolutionary dynamics, and other components of the system. The “nestings” are arranged like the principle of rocket stages, with each of them preserving the efficiency and “passionarity” of the previous one. The entire array of the artistic as a living system is permeated with artistic and aesthetic morphogenetic fields enveloping each unit and each stage. The latter are represented by energy and information structures ensuring the processes of self-organization of a continually renewed integrity. These are not just information structures in a traditional sense, which are necessary for a system communication with the environment. And here the problem of the “fields of consciousness”, proposed by V.V. Nalimov to prove the presence of their “satellite” – artistic “fields of consciousness” (let us remember this term), becomes topical. It was not once that the practices of artistic culture gave certainty and visual evidence to, say, stage phenomena which no rational logic could explain. All known mechanisms of “reading” paradoxical phenomena have turned out to be powerless. This is where analogue systems should enter the play. However, it will be discussed somewhat later (we partially touched on this in the chapter on projective thinking).

Let me recall our examples with J. Cheshlyak, an actor of Grotowski’s theatre, who can perceive and “respond” to a partner at an energetic level. The case of Hryts Hlady, who while moving on to a new *mise-en-scene* in Dostoevsky’s “The Meek Girl”, left behind a distinct “phantom self-portrait” (energetic). Or the mystical insights of Anatolii Khostikoiev in “Othello”, when the ancient memory of his family spoke through his words and deeds: it was this memory that was reproducing the words in a distant and forgotten language of childhood (old Ossetian) and the ritual, previously unfamiliar to the actor. Margarita Terekhova, playing the love that flared up in Princess Tarakanova to Earl Orlov, was flying across the stage in the direct meaning of this word – a flight of weightlessness and “not touching” the floor accompanied all the lyrical scenes with the Earl (Leonid Markov). The sense of this lyrics cannot be read outside the optics of “weightlessness”, which violates the known physical laws

of gravity and appeals to the inner, to the energy-based “comprehension” of happiness.

And the dialogues of Maksym Sukhanov as Cyrano de Bergerac and Iryna Kupchenko as Roxana in Vakhtangov Theater demonstrated their presence in a single energy and information “field of consciousness”, although they were separated by floors of different spaces and could not see each other. Visualized in this way, the synchronicity of the “fields of consciousness”, their unity and uniqueness – led to the formula of a meeting as a fatal premonition and foreshadowing. The emotional delight from such “accuracy” of the unpredictable was experienced by many who are sensitive to the “inner” and able to capture energies (attune to them). It was evidenced by a direct survey of a group of spectators (19 people), naturally, unrepresentative. Ukrainian actor Stupka as King Lear, in a scene lasting less than a minute, when he touched the lips of dead Cordelia with his fingertips and sent this tragic, tender kiss into the audience, correlated his “single” message with love as eternity. The energy of this scene “covered” almost all the related verbal space. This minute became the main one in the performance. “Sheldrake suggested that there is a certain field of images which is common to all people... Anything can become an image in such a field: information, a feeling, or a behaviour pattern. Moreover, animals, birds, insects, plants, and even crystals also have similar fields”. Since extracellular information is the source of morphogenetic fields discovered by Sheldrake in biological structures, then, according to biologists, morphogenic fields should also disappear with the death of a cell. However, it does not happen, and as long as at least one cell is alive, scientists say, the morphogenetic field is also preserved.

The existence of a particular field of images common for everyone (for the whole mankind) and the proof that virtually “anything” can be that field, as well as the later more encompassing (not limited to biological only) interpretation of morphogenetic fields and their nature compels us to assume, on the basis of reproducing artistic and psychological events (phenomena), a possibility of being present in this zone of morphogenetic fields. All the examples taken from theatrical practices witnessed that the motion of the semantic fields of a performance (an acting role or director’s decision) is, in a certain sense, derived from the “fields of consciousness”, from morphogenetic fields. Something like a transformation of biological and psychological (mental) energies-fields into artistic ones which are now read through more subtle and complex programs of information imprints of the entire experience of the theatre (its director, actor, and author) takes place. The energies of the psychological (mental)-biological fields were transformed into the energies of the artistic through the mechanisms of synchronicity. In the long run, the fact that V.V. Nalimov viewed morphogenetic fields as “existing outside of a person and having an analogue nature” allows for correlating the processes of similar transformations in an artistic field with casual phenomena continuing to “break” linear dimensions and multiply exits into multidimensionality.

V.V. Nalimov as the author of the probability-oriented philosophy was concerned with the construction of such type of human personality which, from our point of view, would correspond to the growing need for creativity as

unpredictability. The need raised by the 21st century. The processes we are discussing correspond to the need for a “probability-oriented semantic model of the human personality,” as V.V. Nalimov defined it in his book “The Spontaneity of Consciousness” [24]. He was clearing a route to not only a semantic model, but also to the very probability-oriented personality. And in this context, the role of artistic culture and, particularly, theatre becomes especially relevant as a medium of a “living”, here-and-now life, with its biological, physical, psychological, and psi-energetic components. The identity of the theatre as an event and as a phenomenon can no longer be read from the old matrices. The descriptive and empirical theatre studies reserve the right to describe phenomena as accurately as possible, while ascending to higher and higher levels.

Conclusions

The exploration of quantum concepts in theatre and performance reveals both promising avenues for future research and potential pitfalls to avoid. While a true “quantum theatre” may not yet exist, applying quantum principles to theatrical theory and practice opens intriguing possibilities for reimagining space, time, consciousness, and reality on stage.

This analysis highlights the need for caution when drawing analogies between quantum phenomena and theatrical concepts, as superficial comparisons risk misrepresenting both fields. More rigorous interdisciplinary approaches drawing on quantum physics, biology, and consciousness studies offer the most promising directions for future research. Theories like Rupert Sheldrake’s morphogenetic fields and V.V.

Nalimov’s “fields of consciousness” provide intriguing frameworks for understanding theatrical phenomena through a quantum lens. Theatre and performance may offer unique insights into quantum phenomena at the macro scale, potentially contributing back to scientific understanding. Artistic practices have often anticipated scientific discoveries, suggesting the value of continued dialogue between arts and sciences. Moving forward, researchers should maintain scientific integrity while remaining open to the radical possibilities suggested by quantum concepts. Continued exploration of non-linear, multidimensional, and entangled aspects of theatrical experience may yield valuable new perspectives on the nature of consciousness, reality, and artistic creation. The convergence of quantum theory and theatre points toward a more holistic understanding of human experience – one that transcends classical notions of space, time, and causality.

While many questions remain, this emerging field offers exciting potential to expand our conception of what is possible in theatrical art and scientific inquiry alike. As we continue to probe the intersections of quantum physics and performance, we may uncover new ways of understanding the profound interconnectedness of reality and the transformative power of artistic expression.

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Conflict of Interest

None.

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Експансії театру за часів кванта: Спокуса радикальністю

Неллі Корнієнко

Національний центр театрального мистецтва імені Леся Курбаса
01034, вулиця Володимирська, 23Б, м. Київ, Україна

Анотація

Актуальність. Ця стаття досліджує нову галузь “квантового театру” і критично аналізує спроби застосувати квантові концепції до театральної теорії та практики.

Мета. Ця стаття має на меті оцінити сучасний стан досліджень квантового театру та запропонувати нові теоретичні рамки.

Методологія. Автор проводить критичний аналіз існуючої літератури про квантовий театр, включаючи роботи Керол Фішер, Наомі Гідзука, Енн Богарт та інших. Методологія передбачає розгляд цих робіт крізь призму принципів квантової фізики, застерігаючи при цьому від спрощених аналогій.

Результати. Аналіз показує, що багато сучасних підходів до квантового театру спираються на поверхневі аналогії з квантовими явищами без достатньої строгості. Автор стверджує, що ще не існує справжнього “квантового театру”, а радше ранні дослідження ідей, натхненних квантовими явищами. Автор пропонує нові теоретичні рамки, спираючись на морфогенетичні поля Руперта Шелдрейка та “поля свідомості” В.В. Налімова для розуміння театральних явищ.

Висновки. У статті зроблено висновок, що більш суворі міждисциплінарні підходи, що спираються на квантову фізику, біологію та дослідження свідомості, пропонують перспективні напрямки для майбутніх досліджень. Автор припускає, що театр і художня культура загалом як відкриті нелінійні системи, що функціонують на основі самоорганізації, саморегуляції та саморозвитку з високим ступенем свободи, можуть забезпечити унікальне розуміння квантових явищ на макрорівні, потенційно сприяючи розвитку фундаментальних принципів когнітивної теорії.

Ключові слова: морфогенетичні поля; квантова біологія; нелінійний театр; простір-час у перформансі; постнекласичне мистецтвознавство.