

UNIVERSITATEA „BABEȘ-BOLYAI”
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Surrealism and Modern Science – A Transdisciplinary Approach

Thesis Summary

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Clearly modern science has had an all-encompassing influence on the lives and ideas of the twentieth century. Whatever their opinions about science, modern artists have reported discoveries of modern science is trying to reflect or to change or to denial and inversion methods and ideas from various scientific studies in their artistic work. Some artists try to represent an "photographic" objectivity in their work, while others explore, to the exclusion of all these trends, an artistic problem apparently limited, but as reflected by narrowing the topic and sought a specific characteristic of modern scientific methods. The reactions of surrealist writers and artists to modern science are different, surprising, and often unpredictable, but every time we review the reporting we tried to be nuanced and carefully treat the subject of our research, precision and refinement.

Gavin Parkinson, the only researcher who has consistently treated the relationship with modern science surrealist movement, emphasizes in his study that every time arguments have been made to highlight the difference between science and humanities disciplines, but they have been contradicted by historical facts that presents a more conciliatory image than theoretical perspective.

More specifically, the *argument* we have outlined how the surrealist poet can be made in relation to the *three basic pillars of the methodology of transdisciplinarity*:

(1) – *the existence of levels of reality*: no surrealist movement's research can not begin without stress in any way that traditional type of art and avant-garde art type are two completely different levels of reality, by relating the simple reason that totally different (antagonist, as Lupasco says) how to produce an art/ literary work, how is received a piece of art/ literature, especially the role of a work of art / literature that was traditionally seen aesthetic object as a source of aesthetic emotion, and the surreal perspective it makes a difference to the mental level by exploring the subconscious impulses and bounded rationality issue of censorship (of speaking Breton in the first Surrealist Manifesto), which will allow further unification of opposites (Breton speaking of second surrealist manifesto) so the matter transmitter or receiver, but especially in the interaction between the subject receiver (viewer/ reader) and the object perceived (art/ literary work), because literature is fiction and not artificial, but experience and authenticity, for example, Breton's novel *Nadja* will show through pictures of places

where he was Nadja with her testimony, with all sorts of items related to Breton's private life;

(2) – *the principle of middle included*: in terms non-aristotelic logic, A is the traditional type of art/ literature, non-A is the avant-garde type of art / literature and T is surreality, that is not art / literature, or non-art / literature, although has specific elements of art / literature, but also artwork / literature that you deleted or exceed them, managing to provide a new perspective on art and literature and, in fact, the infinitely creative human capacity;

(3) – *principle of complexity*: surrealist art and literature gave added depth to literature and art as reflected in the multitude of techniques to create a surrealist works (Breton's automatic writing, paranoiac-critical method of Dali or Max Ernst's collages painting, but also in literature - as the first author of a novel, collage, etc.). and revolution which have provoked the thought, art and literature, also, we are likely to emphasize that current surrealism art which influenced the two areas that define modern and postmodern culture: fashion and advertising. These are contributions from our original argument of this paper.

The first chapter of the thesis is a chronological review of major studies focused on four researchers, in my opinion, which followed the relationship between surrealism (sometimes with reference to other current avant-garde) and modern science: Linda Dalrymple Henderson (*The Fourth Dimension and Non-Euclidean geometry in Modern Art*, 1983) Leonard Shlain (*Art & physics: parallel visions about space, time, light*, 1991), Arthur I. Miller (*Einstein, Picasso: Space, time and beauty that wreak havoc*, 2002) and Gavin Parkinson (*Surrealism, art and modern science: relativity, quantum mechanics and epistemology*, 2007). Linda Dalrymple Henderson study starts from the observation that the first three decades of the twentieth century, the fourth dimension and non-Euclidean geometries were subjects of interest to the current great artists of all modern art and who have encouraged to define the visual reality and reject the system that is based on a unique perspective that for centuries defined as three-dimensional world (a good example of this is painting by Barnett Newman *Death Euclid*, Annex 9). Leonard Shlain in his book notes that although art interprets the visible world, and examine the physical mechanisms of the unseen world or the laws governing the rear

visible plan, two areas that appear to be opposing the plan and *cross* epistemological even great visionary capacity artists expressed their view about light, space and time have established a new mental model that has generated the kind of questions that led to the setting up of new scientific paradigms.

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What we want to emphasize is that these two studies are complementary: Linda Dalrymple Henderson shows that modern science has stimulated the imagination and dynamic avant-garde artists who revolutionized artistic language, while Leonard Shlain is coming from the opposite direction and say that art, to turn could have anticipated or could raise the question in the minds of scientists that would mean that art has contributed to the development of scientific theories. In our opinion, ideas and the fourth dimension and non-Euclidean geometry crossed a kind of process art go so come and modern science creating unconsciously, *transdisciplinary bridges* between fields of knowledge which apparently had nothing in common. Actually not really matter in what direction (artistic or scientific) came to these ideas, but rather that they were missed in humanity so brilliant scientists and artists and writers. Clearly the most important thinkers of both areas were receptive to new ideas circulating at the time.

English Professor Arthur I. Miller is the author of a comparative study which has a center Einstein and Picasso - This study is important because it confirms us in more individualized to previous studies that cover several artistic personalities, our

transdisciplinary theory nature: *innovative ideas across multiple levels of knowledge and are manifested in each of these fascinating areas*. Specifically both Einstein and Picasso were interested, in fact, the same problems: (1) simultaneity and (2) the nature of space and time, only Einstein's research led to the discovery of relativity and Picasso's research had resulting emergence of a new artistic language famous by what we call today geometric cubist simultaneity.

Gavin Parkinson's study is closest to our research topic, given that authors such as Breton, Dali or Max Ernst also appear in our work, but René Magritte or Gellu Naum not appear in the book of London professor of art history. This book has the merit of being the first systematic research in terms of history, hermeneutics and reception theory of relativity and the relationship between Surrealism and Surrealism and of quantum mechanics - to name only two of the discoveries that have revolutionized modern science. Passing over the fact that the study is comprehensive and well documented, the second great merit of this book is that the points (in addition to the historical art and science are not strictly antagonistic, but complementary) as derived from the new epistemology scientific discoveries from the early twentieth century it became known to the public through the writings and philosophy of science history of science, it having an important role in this respect thinkers as Louis de Broglie, Gaston Bachelard and Stéphane Lupasco who is omitted in Gavin Parkinson's book, but will occupy a significant space in our work.

Therefore, the second chapter is dedicated to Stéphane Lupasco two reasons: first because understanding Lupasco's thinking will help us in applying the methodology transdisciplinary (being considered a major precursor of it) during this work, and on Furthermore, we refer to the design aesthetic of Lupasco what we believe, has contributed substantially to Breton's aesthetic vision as it appears in *The Second Manifesto of Surrealism* without let alone that the two thinkers knew, and Breton and explicitly expressed his admiration for the philosopher of Romanian origin, as we learn of Basarab Nicolescu's article, "Stéphane Lupasco and the world of art".

The third chapter of the paper refers to the relationship between principles and methodology transdisciplinary modern scientific bases, which further explains us why we chose a transdisciplinary approach to the relationship between Surrealism and modern

science: modern science is the practical element jointly transdisciplinary methodology and the surrealist movement. Therefore we considered a configuration methodology is based on three pillars which are rooted in modern scientific thinking is the best way to penetrate the depths of surrealism and to discover new facets of the avant-garde artistic movements. We also defined the foundations of the concepts here that we use throughout the paper (as disciplinarity, multidisciplinarity, interdisciplinarity, transdisciplinarity, level of reality, third included the complexity principle, non-resistance zone, etc..) And I stressed the novelty of the methodology transdisciplinary in relation to the horizon and the multidisciplinary interdisciplinarity: multidisciplinary and interdisciplinarity remain circumscribed disciplinary territory, while Transdisciplinarity "concerns, as indicated prefix trans-, which is also *between* disciplines *within* the various disciplines and *beyond* all disciplines" as defined by Basarab Nicolescu.

The fourth chapter of the paper refers to the points of intersection where it meets Breton's artistic thinking scientific thinking: if the first Manifesto of Surrealism ideas related to send over any limits of reason in philosophy of science plan to surrationalism of Gaston Bachelard, the second manifesto of surrealism isn't derived, as is often said, from Hegel (who see art as a synthesis of general and individual), but the logic of art promoted by Lupasco because Breton's surreality is a middle third which involves simultaneously past and present, life and death, etc.. so it is another level of reality. Synthesis, antithesis and Hegel's argument is, however, the same level of reality.

The fifth chapter is dedicated to Dali's paintings of texts and the influence of modern science is more than obvious. For example, in the epilogue that closes his essay *Încorporații* Elder modern paintings, he considered material discontinuity "most transcendent discovery of our time" was probably inspired by "Archangel Proton of micro-physical universe. Both the paintings and theoretical texts, spectacular and Dali's works force believe that originality comes from the combination of elements found on visual and semantic levels so different that could be generated only way to paranoico-critică: for example we Virgin's Ascension to heaven cover that Dali linking the discovery of a link in the body Restoring atomic glorious in heaven (1952) he published in a journal of theology. The painting is surreal way that combines elements pertaining to the old classical painting (number of gold, regular pentagon, Greek mythology) and discontinuity

of quantum mechanics as can be seen in the *Leda Atomica*, for example. Originality of thought, and then painting, Dali third comes from the fact that his work is composed of dynamic antagonism opposing elements of sacred geometry type / non-Euclidean geometry, atomic / Angelic or mythology / quantum mechanics that no other artist (surrealist) up to it, do not use them to create their own artistic universe.

The sixth chapter is dedicated to Ernst's thinking that inspired by the images of popular science magazine "La Nature" The third type uses the same thinking to create original images: the original image is cropped or drawn (A) after which reversed (non-A) to add other items that will complement representations subversive (T) of Ernst. Absolutely all the works considered here are ironic and serious at the same time, playful and very precisely configured, and accessible at first sight very difficult to decipher at a closer look. Among the famous works include pictures were *Au Rendez-vous des amis* (1922) and first novel-collage of literature, *La Femme 100 têtes* (1929), which of course has a title that refers to third by antagonistic dynamism generated by reading its title can have, literally, two entirely different meanings simultaneously.

René Magritte is at the heart of the seventh chapter. Painting *The Glass House* (1939) is a good example to see before and behind an object or person at a time. In relativity, if a traveler reaches the speed of light is completely flat, so before it can be seen in the back of his skull. This is the connection with Einstein's theory which seems to be inspired by Magritte. From a transdisciplinary perspective the character is A, and his behind is non-A, and the whole image is T. In general, Magritte's work relies heavily on the simplicity and accuracy that can introduce an element then deconstructed or subversive (non -A) which is in contrast to the usual image of (A) in order to raise a question mark (such as tertiary) on how we perceive ourselves and how we see the world: the man with the neck can not exist in reality (ie is non-A) but at the same time we can see (so it has), then the theory of relativity tells us that this man may be facing the neck if the head movement of a speed close to light speed (so is A) but we do not we see such a very flat and speed than we perceive as being superimposed on the back does not seem likely (non-A). Title itself refers to the transparent glass or the ability to see through something, that is to go beyond the senses misleading antagonisms beyond the scope of

the third party, another level of imagination, perception, and understanding. This is Magritte's surreality.

Gellu Naum's poetry work, which is the subject of the last chapter, we can not say that they are directly influenced by the discoveries of modern science, but a little more careful reading, are at least two reasons why the author is covered Our interest: (a) his theoretical texts of what a poet, poetry, surrealism, etc.. are built, often on the statements that send the reader thinking about the principle of third, the non-dualistic thinking, the non-Aristotelian philosophy of Lupasco and (2) how close the poetic self is seen in his deep relationship with self in relation to the world described in his poems reflect the continuum of inner-outer is a fundamental feature of his poetic universe, reminiscent of space-time continuum of Einstein's relativity. Thus, poetry lies in the area of non-resistance between subject and object, between what we are accustomed to look for "inner" or are accustomed to seeing as "outside", in an area of crossing, the bridge between poetic subject and poetic universe, the reader inside the world and enriched and reinvigorate poetry reading and rediscovering the inner-outer space.

Finally, a transdisciplinary approach of surrealist art and literature proves fruitful in at least three reasons that we have highlighted and emphasized in their closure: (a) facilitate access to suprealitate us that this is the essence of artistic movements through art and literature by analyzing levels of reality and decks are set at several levels between subject and object known connoisseur, (2) shows that type thinking tertiary / non-Aristotelian thought dominated theoretical surrealists, whether case of Breton, Dali, Magritte and Nahum and (3) how different each of the surrealists authors refer to findings of modern science is different in each one, but at the same time, there is a common surrealist poetry which is reflected in work each of them, so the complexity principle proves to be crucial in reporting the surrealists to different areas of knowledge or from other authors surrealists. Surrealist movement appears first and only artistic movement that was interested in the systematic development of the scientific and looked to see how the laws governing the external (or microphysical macrophysical) may lead to new discoveries at the inner (psychic) thus creating a bridge between outside and inside, a deck of artistic language towards the lovers of surrealist art and literature.

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