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The Paradoxism in Mathematics, Philosophy, and Poetry

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ABSTRACT

This short article pairs the realms of “Mathematics”, “Philosophy”, and “Poetry”, presenting some corners of intersection of this type of scientocreativity. Poetry have long been following mathematical patterns expressed by stern formal restrictions, as the strong metrical structure of ancient Greekheroic epic, or the consistent meter with standardized rhyme scheme and a “volta” of Italian sonnets. Poetry was always connected to Philosophy, and further on, notable mathematicians, like the inventor of quaternions, William Rowan Hamilton, or Ion Barbu, the creator of the Barbilian spaces, have written appreciated poems. We will focus here on an avant-garde movement in literature, art, philosophy, and science, called Paradoxism, founded in Romania in 1980 by a mathematician, philosopher and poet, and on the laboured writing exercises of the Oulipo group, founded in Paris in 1960 by mathematicians and poets, both of them still in act.

KEYWORDS: Paradoxism, Mathematics, Philosophy, and Poetry

1. PARADOXISM: AVANT-GARDE MOVEMENT IN LITERATURE, ART, PHILOSOPHY, AND SCIENCE

Paradoxismis a neo-avant-garde movement in literature, art, philosophy, science, based on excessive use of antitheses, parables, odds, paradoxes in creations, set up and led by the mathematician Florentin Smarandache, started as an anti-totalitarian protest in 1980s against the closed society of communist Romania.

Paradoxism seeks to explore new possibilities in literature, art, philosophy, and even science through a paradoxist thinking algorithm. Meta fictional leads, playful expressions, or combinatorial processes of composition are employed for the conveyance of the paradoxes. Structural constraints are important, but without loosing the interest in the meaning of the message.

2. NEUTROSOPHY, AS EXTENSION OF THE PARADOXISM

Later on, the paradoxism as well as the dialectics and the Ancient Chinese philosophy Yin-Yan, consisting of the dynamics of the opposites $\langle A \rangle$ and $\langle \text{anti}A \rangle$, where $\langle A \rangle$ is an item (concept, idea, theorem, theory etc.) and $\langle \text{anti}A \rangle$ is its opposite, were extended to Neutrosophy (as a dynamic between the opposites $\langle A \rangle$, $\langle \text{anti}A \rangle$, together with the neutralities between them $\langle \text{neut}A \rangle$) generated the development in science of Neutrosophic Logic, Neutrosophic Set, Neutrosophic Probability, Neutrosophic Statistics and so on [1]. Neutrosophy is a new branch of philosophy and started in 1998 [2].

3. OULIPO LITERARY MOVEMENT

In 1960, Raymond Queneau – a member of *Société Mathématique de France*, most known for the screened novel "Zazie dans le Métro" [3], who had joined the Surrealists but then departed he movement after its support of the USSR – met the chemical engineer and absurdist writer François Le Lionnais, head of the Division of Science Education at UNESCO, and founded in Paris, together with a motley crew of writers, mathematicians, professors, and "pataphysicians", a literary movement of rigorous formalism based on Mathematics, called *Ouvroir de littérature potentielle* (Workshop for potential literature), in short *Oulipo* – later enlarged with a series of analogous workshops, including *Oumupo* (for potential music), *Oupeinpo* (for potential painting), or *Oucinépo* (for potential film).

Many inventive scientocreative works had emerged from here, such as the Boolean, Fibonaccian, and exponential Queneau's book "Cent Mille Millions de Poèmes" (One Hundred Thousand Billion Poems), formed by ten sonnets with the same rhyme scheme, each line of poetry being printed on a separate strip of card, as it could be combined with any other lines, generating 10^{14} different poems [4].

The Oulipo group were in a quest for new forms of writing developed from new methods of invention, but considered themselves merely a working group than a creative one, set up to offer practical solutions for writers by inductive research, seeking "to formulate problems and eventually to offer solutions that allow any and everybody to construct, letter by letter, word by word, a text" [5]

Their creed of literary freedom by automatic writing, originating in Surrealism, was paradoxically grinded by rule-bound formulas of mathematical constraints, as they were convinced that "it is not only the virtualities of language that are revealed by constraint but also the virtualities of him who accepts to submit himself to constraint." [6].

For instance, they invented the procedure $N+7$, meaning to choose a classic poem and substitute each noun with the noun found seven nouns away in a specific dictionary. Take for example the first stanza of "The Snow Man," by Wallace Stevens:

<i>The Snow Man</i>	<i>The Soap Mandible</i>
One must have a mind of winter To regard the frost and the boughs Of the pine-trees crusted with snow.	One must have a miniature of wisdom To regard the fruit and the boulders Of the pinions crusted with soap.

Another math-based structural constraint employed by *Oulipo* is the *snowball* poetry, with successive lines/sections progressively longer, e.g. starting with a line/section of one word long, going further with a second line/section of two words, a third line/section of three words, and so on; or starting with a line/section of one letter, going further with a second line/section of two letter, and so on with the following line/section longer than the preceding one. The interested reader can find a work that compiles Oulipean techniques, processes, procedures, rules, definitions, and personalities [7].

4. PARADOXISM AND OULIPO: CONNECTIONS

The main difference between Paradoxism and most neo-avant-gardism movements is its option for significance, while the others tend to instrument form to the detriment of meaning. As expounded above, the Paradoxism started not as a game of mind, but as an outcry over the power of any kind, especially deploying contra-dictions, anti-nomies, anti-thesis, anti-phrases, and in particular paradoxes, through any possible literary, art and even scientific vehicle. There are indeed similarities, intersections and connections though between Paradoxism and neo-avant-gardism movements, out of which we briefly discuss two common features between Paradoxism and Oulipo.

The first one refers to a kindred view on intertextuality as a potentiality for re-elaboration. A contemporary American writer, Harry Mathews (with many of his works employing the Oulipean style), suggested the "Mathews' Algorithm" for producing literature by permuting equivalent members in accordance to predetermined rules, in order to reveal the "otherness in language" [8], based on which Mark Wolff created a web application offering the reader an opportunity "to discover duplicities in texts" [9]. Even if the approach is different, the goal is the same: opening texts to exploratory quests towards the collective talent, exploring otherness and duplicities in texts. But really close to Paradoxism's view on intertextuality are Mathews' "35

Variations on a Theme from Shakespeare", where one can read: "To be or not to be: that's the problem", "Nothing and something: this was an answer", "Choosing between life and death confuses me" [10]. Many similar intertextual games are to be found in Paradoxist anthologies [11].

The second one regards practice, as there is an Oulipian method closely related to Paradoxism. It is called *antonymy*, and the experiment consists in replacing every significant word in each text with its antonym or opposite, based on a given thesaurus. Moreover, definite articles can be replaced by indefinite ones, or singular by plural, and vice versa. Proper nouns or words that have no direct antonyms are usually treated as symbols or generic objects. The results might differentiate the two movements, as Paradoxism tends not to accept random meanings or non-meanings, but rather alternative meanings.

5. CONCLUSION

To many, literary movements such as the Paradoxism or the Oulipo represent a washed moment in time, outdated experimentalism, a chink of postwar neo-avant-gardism. Still, these type of mixed sciento-creative manifestations do not show signs of lassitude. For its 50th celebration, Oulipo published an anthology of almost 1000 pages [12], while the Paradoxist movement has reached its fifteenth anthology in 2020 [13].

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