

Do Patterns Really Exist?: Mallarmé, Oulipo and The Performance of Constellations¹

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Fibonacci has shown us that nature can follow mathematical sequences. The strawberry, for instance, contains seeds in two spirals: $8 + 13 = 21$ and $13 + 21 = 34$. What makes the strawberry particularly interesting is that, whilst following this rigid structure in terms of its seed formation, it develops from a larger ‘rhizomatic’ arrangement: its supporting runners cross over and swerve in indeterminate directions. The growth and structure of the strawberry (formal patterns ensconced within a more unpredictable and arbitrary network) can be seen as emblematic of the ways in which art and language perform in postmodernity, and may be explored in terms of a ‘pataphysical’ reality of ‘*as if*’ rather than one of ‘*as it is*’.

This paper is interested in the use of ‘mathematical’ patterns and constraints in poetry, and what these imply for our understanding of language and ‘reality’ in relation to nature and ‘natural patterns’. With help from Stéphane Mallarmé’s ‘performed constellation’ in *Un Coup de Dés*, and the mathetic, Oulipian writings of Raymond Queneau and Georges Perec, I will contemplate the (in)stabilities produced by *excepted* poetics, questioning whether or not ‘order’ in the universe is a dynamic, postmodern field of ‘particulars’, as opposed to a fixed, pre-established fact.

Fibonacci has shown us that nature can follow mathematical patterns.³ The strawberry, for instance, contains seeds in two spirals: $8 + 13 = 21$ seeds in one direction and $13 + 21 = 34$ in the other.⁴ What makes the strawberry particularly interesting is that, whilst following this rigid structure in terms of its seed formation, it develops from a larger ‘rhizomatic’ arrangement⁵: its supporting runners cross over and swerve in indeterminate directions. We may perhaps regard the strawberry as a possible allegory for the role that patterns play within our universe, and this notion prompts me to ask the following questions: if we had no concept of constraints, rules or structure, what would we see on

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³ Fibonacci (c.1175-1250) was an Italian mathematician, and is best known for his Fibonacci sequence of numbers.

⁴ The Fibonacci sequence {0,1,1,2,3,5,8,13,21...} follows the rule $1+1=2$; $1+2=3$; $2+3=5$; $3+5=8$ and so on, with each successive number being the product of the sum of the previous two numbers in the sequence. The Fibonacci sequence has been closely related to The Golden Ratio, which occurs frequently in regular geometrical figures (rectangles, circles, pentagons, pentagrams). For example, if a rectangle has sides a (length) and b (height), where b is shorter than a , the ratio of the sides, calculated by the formula $a \div b = 1.618033989...$ is always the same. This is the Golden Ratio, or Golden Number. The ancient Pythagoreans believed that this ratio expressed the fact that reality was numerical.

⁵ The strawberry grows on runners known as ‘stolons’, which have been compared to rhizomes. The difference between a rhizome and a stolon is that the former grows below the surface of the soil, and the latter runs above the ground.

the surface of the strawberry's red flesh? Would the coincidence of its configuration prove as wild as its entangled lifeline? Or, is order 'natural'?

This paper is interested in the use of patterns and constraints in literature, and what these imply for our understanding of language and 'reality' in relation to nature and 'natural patterns'. With help from Mallarmé's 'performed constellation' in *Un Coup de dés*, as well as some of the 'pataphysical works of Oulipo writers Georges Perec and Raymond Queneau, the following dissertation will contemplate the (in)stabilities produced by a poetics of the exception,⁶ questioning whether or not 'order' in the universe is dynamic or static, fact or fiction.

Stéphane Mallarmé: Constellations of Chaos?

A swift glance at Stéphane Mallarmé's extensive oeuvre will reveal that he is not a whimsical poet, but a writer paying close attention to the constraints of poetic form – his sonnets and strictness with rare rhyming words demonstrate his passion for constructing a tightly ordered poetic universe on the page.⁷ Despite all overt appearances, his most renowned and radical poem, *Un Coup de dés* (1897), is no exception, or should I say for the purposes of this essay, *equally exceptional*. The poem's seemingly random verbal pool is at closer inspection a tight-knit constellation – a fixture with purpose and meaning.

It is Mallarmé's use of the constellation in *Un Coup de dés* that interests me most for this discussion, for it foregrounds a *structure* which is nevertheless imposed by humans upon the universe. The grouping together of stars divides an otherwise incomprehensible cacophony into a series of conceivable units separated by the black void of Space, demonstrating what Mallarmé suggests to be humanity's urge to impose a 'limit on infinity' (Mallarmé 138-9). Mallarmé hints at the human ordering of the universe – 'a total account in the making' – in his content and themes: the 'virile' sea-captain attempts in vain to master the sea, and by extension the universe, by means of human navigational tools and signs. Alas, at the mercy of the unpredictable ocean, his journey ends in shipwreck. The Master's untimely end establishes the general location of this work, situated at the intersection of fate and chance. Mallarmé seems to suggest that order exists in the intimacy of chaos.

⁶ I refer here to one of the many definitions of 'pataphysics – as a science of *exceptions*. 'Pataphysics deems that the laws of the universe are merely correlations of exceptions. This will be explained later in this paper.

⁷ Mallarmé's sonnet en -yx, for example, is not only constrained by the sonnet form, but it also follows an obscure rhyme scheme of words ending in -yx. Raymond Queneau, mentioned later in this essay, believes that Mallarmé's sonnets are amongst rare examples of poetry where the meaning of a line culminates at, and is encapsulated by, its end word. Such attention to detail and structure leads me to believe that it is Mallarmé's intention for each word to be purposefully placed on the page.

The *visual* layout of *Un Coup de dés*⁸ is perhaps more important for the purposes of this study, for it connects the structure of the poem not only to the constellation – an inverted night sky of ‘black on white’ – but also to the black dots on the white, cubic dice. The material words seem at first randomly scattered (similar to the stars, and the ‘rolling’ dots of a thrown dice), yet when these are considered alongside the *language* of the poem, one senses a well-thought-out pattern that collides the supposedly ‘polarized’ ideas of chance and determinism. The intentionally ambiguous title – *A Throw of the Dice Will N/Ever Abolish Chance*⁹ – suggests that it is not philosophical-ontological chance, but *stochastic*¹⁰ chance (with a fixed set of potential results) that is expressed by the dice throw. It scatters the words across the pages, but then *fixes* them, as the poem says, ‘at some terminus that sanctifies it.’ The terminus, we might say, is human consciousness – human perception – which gives the universe coherent form and a comprehensible reality. Mallarmé shows us that intelligence has constituted the dice, the night sky, and finally, the poem.

Our reading of *Un Coup de dés* is confounded in several ways by Mallarmé. His use of the double page spread as one ‘folio’,¹¹ for example, foregrounds the ways in which written, visual texts have contributed to the (mis)recognition of *space*. In this poem, the reader must skip backwards and forwards across the ‘trough’ in the middle of each folio, which somewhat imitates the Master’s ship in distress – it rocks from ‘starboard to larboard’. Mallarmé draws attention to the *presence* of this trough, which we would normally ignore during conventional reading practices. The materiality of this space is important in that it connects, but also separates, the pages. The reader’s active participation in the reading of the poem – shifting from page to page, word to word – may be compared to our perception of stars against the black night sky in the way that the two elements (space and stars) are inseparable, yet contingent upon one another, in the recognition of the constellation. *Spaces* serve an important (yet often forgotten) function in the establishment of patterns.¹² Mallarmé uses this phenomenon in a disorienting fashion, but also in such a manner as to draw the reader into an intimate relationship with the inevitable and valuable spaces of literature and life.

Another way in which Mallarmé disrupts our conventional reading practices is with his radical (at least for his time) scattering of the words across the pages, which means that each reading creates a new textual order at the discretion of the reader. This predicament

⁸ In *Un Coup de dés*, Mallarmé has scattered words and phrases in a seemingly arbitrary manner across each folio, or double-page spread. The reader may choose to read *across* the two pages, or to scan each page separately. The phrases on these pages do not necessarily flow logically, and this disrupts ‘transparent’ narrational and reading techniques. The physical appearance of the text has often been metaphorically compared to the ‘foaming’ ocean and crashing waves to which the poem refers.

⁹ Mallarmé achieves this through the placing of *jamais* before *n’abolira* in the title of the piece – *UN COUP DE DÉS JAMAIS N’ABOLIRA LE HASARD* – which is itself broken up and scattered throughout the text.

¹⁰ *Stochastic* chance is associated with random processes or probability, such as that encountered with the dice throw or the coin toss, where a result does not determine subsequent results.

¹¹ By ‘folio’ I am referring to each double-page spread, which is used by Mallarmé not only as an innovative technique that subverts traditional reading practices, but also to draw attention to the ‘trough’ in the middle of the page, the full significance of which will not be discussed in this essay.

¹² Consider also the strawberry’s red flesh, which is forgotten by Fibonacci.

somewhat resembles the way in which our reading of the stars is dependant on our physical and psychological orientation, or the way that we interpret the result of a dice throw as the side showing ‘face-up’ at the termination of its movement. All of these concepts demonstrate elements of chance in the reading, the result of which is set by the rule-driven and calculating machine that is the human mind. When Mallarmé says ‘All Thought Emits a Throw of the Dice’, he acknowledges the exceptional eventuality of all events and circumstances, which are, nonetheless, the outcome of a humanistic, perspectival determinism. Thus, whilst there may be chaos or chance in reality – the unavoidable Abyss of the unknown – our rules have harnessed the *reading* of this reality.

Following this concept, it is worth noting the arrangement of the eleventh folio of the text, which is reminiscent of the layout of the Big Dipper – ‘Le Septentrion’ – mentioned in the verbal content of the page. This imitation of an *imposed* structure throws up its own set of questions: does the poem’s *structure* in fact imitate the *chaos* of the night sky? Does this ‘layering of orders’ attest to an inherent capacity of the human mind to create a ‘natural’ order? Is this natural order our only option, as intelligent humans, and can we transgress this? Hans Vaihinger suggests that ‘we construct our own system of thought and value, and then live “as if” reality conformed to it’ (Vaihinger 91). So one may read the poem as a proposition that perceived order and science are in fact contingent upon the mind that creates, and is created by, language. In other words, we have created a language that in turn explains or creates the patterns of our perception. Such concepts are included in the ‘scientific’ scheme of ‘pataphysics.

‘Pataphysics¹³: A Potential Solution?

‘Pataphysics was devised by pre-Surrealist writer Alfred Jarry, who described it, in his fictional 1898 text *Exploits and Opinions of Dr. Faustroll, Pataphysician*, as a ‘science of imaginary solutions’, and also as that which ‘extends as far beyond metaphysics as the latter extends beyond physics’(Jarry 21). Jarry intended ‘pataphysics to be a science that described a supplementary universe – exceptional to this one, with its rules and its scientifically-minded human beings. However, as I will explain later in this essay, it may be contended that Jarryite formulations parodically map *our* universe.

Drawing from Lucretius’ theory that the existence of matter arises from the accidental *clinamen* or swerve of particles,¹⁴ Jarry proposes that all scientific ‘realities’ are thus the result of *exceptional circumstances*. ‘Pataphysics contends that, as Mallarmé proposed in *Un Coup de dés*, events are not as predictable as science would suggest. Extending this thought, ‘pataphysics maintains that there is no definitive nor provable requirement that reality be comprehensible or representable to a particular viewpoint, which may explain the often parodical and non-sensical nature of ‘pataphysical doctrines: Jarry’s Dr. Faustroll, for example, travels the world in a sieve, the possibility of which is explained

¹³ Jarry states in *Dr. Faustroll* that the apostrophe in ‘pataphysics is used to discourage the use of puns, such as *patte à physique* (leg of physics).

¹⁴ Lucretius (c.94 BC-c.49BC) was a Roman poet and philosopher who wrote *De Rerum Natura* (*On the Nature of Things*). In this work, Lucretius attempted to allay man’s fear of the gods by demonstrating that the creation of matter, and the operations of the world, could be explained in terms of the random movement of atoms through space.

in scientific terms that parody physicist C.V. Boy's scientific essay *Soap Bubbles and The Forces Which Mould Them* from 1890.¹⁵ We thus gather a sense that reality does not exist in and of itself, but is merely a phenomenally projected perspective, which is described and communicated in irrational, linguistic terms. As Dr. Faustroll says, "[u]niversal assent is already a quite miraculous and incomprehensible prejudice" (Jarry 23).

In Jarry's terms, patterns, like those demonstrated by strawberry seeds, are seen more as a 'correlation of exceptions' than as a sequence following a rule – a concept that is perhaps difficult for us to grasp, conditioned as we are to pursue ordered and 'provable' explanations of the world. By valorizing the role of exception, 'pataphysicians aim to collapse the boundaries between the nomic orders of science and the ludic play of poetry. Thus, in showing the fallibility of rules, 'pataphysics introduces an artistic, *poietic* play into the scientific mix, a creative ethos that has been demonstrated and accentuated by the structured writings of Oulipo.¹⁶

Oulipo: Masters of Constraint

Oulipo stands for *Ouvroir de Littérature Potentielle*, or 'Workshop for Potential Literature', and it was formed in 1960 by Raymond Queneau and François Le Lionnais. This group of poets and mathematicians revised Jarry's hypothesis on exception, proffering the contention that chance arises from the *constraint of programs*. In other words, it is the constraint placed upon a text that proffers the most potential for producing the exception. Bök explains this obscure notion in his survey on 'pataphysics, saying that 'to explore the rule is to be emancipated from it by becoming the master of *its potential for surprise*, whereas to ignore the rule is to be imprisoned in it by becoming the slave to *the reprise of its intention*' (Bök 71). Thus, in response to the idea of 'artistic freedom' proposed by the Surrealists – a metaphysical *anti-order* – the Oulipians claim that these ideas are merely ignorant of conscious rules. They hope to invoke the 'pataphysical *clinamen* by applying arbitrary restrictions to an absurd, hyperbolic level, thus giving rise to a 'pataphysical *ante-order* (Bök 67).

Consider Georges Perec's *Life: A User's Manual* (French title *La Vie mode d'emploi*) (1978), a text written according to several bizarre constraints including 'The Knight's Tour',¹⁷ which was a popular rule followed by Oulipians. The story follows several narrative threads, yet arguably the most fascinating is the tale of Bartlebooth. This man embarks on a fifty-year project that involves traveling the world and painting a watercolour at a different port every two weeks. These watercolours are to be made into jigsaw puzzles, which he will then solve in order to send each re-created picture back to the location where it was produced, to be immersed in the water until the colours dissolve. The desired outcome of this effort is to erase fifty years of work. However, the

¹⁵ Simon Watson Taylor makes reference to this in his notes on *Dr. Faustroll*, page 117 of the text.

¹⁶ I have chosen to look at the work of Oulipo because it is not only a more contemporary example of 'pataphysical ideas, but its writers also pay such attention to language that their texts almost become small worlds in themselves, seemingly *devoid* of 'nature', and yet I think that these serve as a parallel to the ways in which we perhaps construct *our* universe.

¹⁷ The elevation of the building that is the setting of the text was envisaged as a 10x10 grid. Each room is assigned to a chapter, with the order of chapters determined by a knight's moves on the 'chessboard' grid.

bizarre project is a failure – the very last piece of the puzzle is in the shape of a ‘W’, not the required ‘X’ that would fill the final gap. In the manner of Mallarmé’s floundering sea-captain, who was unable to navigate his way through all the possibilities of his universe, Perec also encounters the *clinamen* – the inevitable ‘anti-constraint’ that is implied in all cases of constraint – and therefore demonstrates the *potentiality* of the literary to ‘evoke its own disintegration’ (Bök 74). Perec aligns his work with the progressive nature of science, which involves a process of continual development, replacement, and renewal. The inevitable exception (which tests the rule) forces writers to consider new patterns – new constellations – for the creation of literature and meaning.

Perec’s *La Disparition* (1969), a 300-page novel containing no *e*, also evokes the concept of a potential literature. This is a story about the disappearance of a man, Anton Voyl, and the letter *e* disappears from this world too. The “void” is filled by substitutions, variants, and distortions, creating a potential new *e*-less world, the outside of which the other characters are unaware. *La Disparition* enabled its author to tap into a potential language that would not normally be utilised, a text where the abolition of the most common letter – *e* – encourages a re-orientation towards a potential solution, a language previously ignored, and therefore, a world previously undiscovered. This alteration of a simple linguistic component not only reveals how new rules inevitably take the place of old ones in order for the world of communication and description to continue, but it also invokes the realm of the *as if* it were true, the ‘beyond metaphysics’, which Jarry claimed was the realm of the ‘pataphysical. We sense this in Anton Voyl’s diary excerpt:

“If only you could shout out: Aha, at last, now I know what it was that I found so disturbing! If only you could jump for joy, jump up and down, find a way out of this linguistic labyrinth, this anagram of signification...But you simply can’t fall back on any such option: you must stubbornly go on, pursuing your vision to its logical conclusion.”(Perec, 1994: 26)

I read this as the character’s acknowledgment not only of the structures that we set as ‘true’, but also of a supplementary universe, an *e-full* world. On this note, it is perhaps worth mentioning that the ‘true’ Oulipo text must refer to its own constraint (Bök 71). Thus, Perec’s lack of ‘*e*’ is implied not only by his main character’s abduction, but also in Anton’s surname – Voyl is an *e*-less form of *voyelle* meaning ‘vowel’. In referring to its own constraint, the Oulipo text not only foregrounds its absurd and playful self-reflexivity, but demonstrates its containment within language. It shares the knowledge of its limits, and the inevitability of its disintegration at the mercy of the exception.

We may use these ideas to consider our own predicament, and the potential that lies outside of the constricted ‘*a-z*’ realm, or outside of certain other rigid laws through which our perceptions may filter. We can see in the work of Perec a hypothesis that follows Alfred Jarry’s formulations, where taking things at face-value, believing in the world ‘*as it is*’ – in *a-z*, for example – is to understand on behalf of a metaphysical truth that cannot be proven; to misconstrue on behalf of error, however, is to be creative, conceiving the ‘pataphysical, (dis)simulated world of the *as if*’ (Bök 18).

Perec comments in his postscript to *La Disparition* that the constraint of writing a text containing no 'e' was "not a handicap, not a constriction, but, all in all, a spur to [his] imagination." (Perec 1994: 281) The ease with which Perec wrote under restricted conditions is telling of another belief held by Oulipo – that writing, and the mind that formulates it, is automatic in the sense of being a programmable machine for textual production. The Oulipo writers acknowledge our rule-driven natures, and therefore encourage the conception of 'poetic genius' and 'automatic writing' as being encoded devices.

Such a concept of computational writing is wonderfully demonstrated by Raymond Queneau's *Cent Mille Millions de poèmes* (1961) – a permutational and mathematico-literary proof of textual inexhaustibility. Ten sonnets with the same rhyme scheme are printed on ten pages with each line cut and separated so that the reader may arrange any number of poetic combinations; there are 10^{14} possible sonnets. Adhering to the abovementioned Oulipo dictum, the text acknowledges its endless production of poems: 'One tongue will do to keep the verse agog...Bard I adore your endless monologue'.¹⁸

Cent Mille is not a consumable manuscript in reality, yet comprehending the work in its 'entirety' produces a *real* movement in the mind. This demonstrates the supremacy of thought over sense in our construction of a perceived reality. In contrast to the Surrealist's belief in a stream-of-consciousness method of creativity, here we see the computational framework *as* the movement of the mind, and it *becomes* the text. The *effect* of materiality gives way to the *affect* of virtuality, in the same way that the materiality of the strawberry gives way to a mental understanding of its seed formation. *Cent Mille* relies on the ordering principles of the reader's mind in order to distribute its pattern, its constellation, its 'meaning', and it foregrounds the idea of the mind as a machine for the production of *a* truth or truths, but not *the* truth. This is a virtual reality, where each incident, or sonnet, is treated as a Jarryite, exceptional event.

Perhaps we may regard *our* universe as a series of extraordinary events, mediated through a mental machine that formulates an order of 'evidence'. We are readers, behaving as writers, deflecting the meaning of the universe through our varied and changing, but 'structured' perspectives, the 'truth' of which does not necessarily prove the 'real'. Whilst much more could be said about each of the texts and ideas referred to in this paper, I have intended here to touch on some of the literary elements that may contribute towards an understanding of the 'nature' of patterns in the world. Oulipo, Jarry and Mallarmé all imply that the 'rational' ordering of the universe occurs in human terms, within the irrational and inexplicable communicative framework constituting our intelligence. In answer to the above question – do patterns really exist? – I would suggest that the universe *is* language, at least for us, and that patterns are an expression of the human mind.

In conclusion, I must correct a potential error mentioned at the beginning of this paper – an error that I felt was necessary to preserve during the course of my research – that the strawberry develops from a chaotic 'runner'. These *stolons*, as well as their rhizomatic

¹⁸ There are no page numbers for this text due to its layout.

relatives, apparently adhere to Fibonacci spirals also – in fact most plants, and even aspects of animals do too.¹⁹ Regardless of the ‘truth’ of these findings, surely the fact of my searching to correct this scientific *faux pas* illustrates my own immersion in this world of rules. I might finally suggest, in the absurd manner of Jarry, that nature itself was fashioned by a ‘pataphysician, an Oulipo poet-mathematician who accentuated his rules to the hyperbolic extreme, awaiting the reader’s participation in the performance and dissemination of texts and meanings. Jarry would say that such laws of nature – the similarity of all strawberries, for example – are not so much laws as ‘correlations of exceptions, albeit more frequent ones, but in any case accidental data’ (Jarry 22).

¹⁹ Petals on flowers, for example, adhere to the Fibonacci rule - buttercups have 5 petals, the lily contains 3, marigolds have 13, and daisies can have 34, 55 or 89 petals. Other examples include bananas (flat surfaces), cauliflower florets and rams’ horns. Even the ratio of increase with the breeding of rabbits demonstrates Fibonacci at work.

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