

FROM EARTH TO THE UNIVERSE

LARUELLE AND RADICAL SCIENCE FICTION

by Terence Blake

This text includes a presentation of TETRALOGOS, the new (2019) book by François Laruelle, followed by an examination of his formula for a « general science fiction » and a proposal to make this formula more generic.

Abstract

(1) some general considerations regarding the amplitude and inventiveness of Laruelle's research program. (2) static presentation of the book, its structure, content, and themes. (3) dynamic presentation of the book, its movements and forces, its conceptual drama, and its relationship with some defining features of the genre of science fiction. In (4) we examine the three criteria for a general or non-standard science fiction that Laruelle proposes, amounting to a formula for the re-foundation of the genre of science fiction. (5) We test his hypotheses by examining some potentially falsifying examples of SF. (6) contains a proposition for an extended formula for a general or non-standard SF. In (7) we conclude with the concept of an **inventive farewell** to the philosophers who have been our educators.

The key word for this new book by Laruelle is « amplitude », which describes the aim of the book to englobe the whole of human experience, its sites and its stages, freed from the confines of philosophy, reaching from the Earth to the Universe, from the Cavern to the Stars, and from Birth to Messianity. To attain this goal he must make philosophy far more inventive than it has become. These two words also describe the underlying values of science fiction.

1) Prolegomenon: amplitude and invention

In this text I am going to discuss *Tetralogos An opera of philosophies* written by François Laruelle. It is an exciting and ambitious book, of great breadth and depth of thought, and also of great abstraction. The book does not only contain abstract concepts, but it also has a dramatic structure, with characters, landscapes, architectures, movements, and acts, but these elements are themselves abstract, conceptual. They are « de-schematized ». One has the persistent feeling when reading the book that it is very difficult to understand, because it lacks concrete and intuitive examples.

At the same time, we are aware of the great work done in the book to tear philosophy out of its usual shackles, to make it more ample and more generic, and to free its inventive powers. Non-standard philosophy shares this concern for amplitude and inventiveness with science fiction. In both cases, we do not invent everything from scratch. Science fiction operates as a « mega-text, » and reading it presupposes that we have read quite a few other science-fiction texts to understand the specific inventiveness of the text we are reading.

My hypothesis is that Laruelle's non-standard thinking transforms traditional philosophy into a conceptual mega-text, open to repeated and continuous re-inventions. We are not summoned to stop reading or to abandon philosophy, but to read a great deal of it and to use it freely, inventively.

Laruelle inscribes this inventiveness in our imitation of the Universe itself, and the genericity of humans composes our capacity to inventively receive the Universe.

In this conference, I can only speak about the broad outlines of his vast speculative project, but to make it more concrete and more accessible to intuition, I will propose a schema of understanding through the parallel, established by Laruelle himself, between his non-standard philosophy and science fiction. To begin this discussion I will start from a classic definition of science fiction proposed by Darko Suvin, according to which science fiction is « the literature of cognitive estrangement ».

The operation of cognitive estrangement proceeds by introducing into a narrative or a novel what he calls a « novum », that is an absolutely new object, entity, fact, or law of nature and whose inclusion compels us to imagine another way of conceiving our world.

So, I am going to « re-schematize » the system of concepts in TETRALOGOS by means of the literature of science fiction. The danger in doing so is that I run the risk of contradicting the hard core of Laruelle's metaphysical research program, which proceeds by « under-determination ».

Under-determination, in Laruelle's non-standard philosophy is an operation on a system or theory that suspends or subtracts from some of its defining concepts or to which they are closely associated, to allow for greater flexibility in application, transformation, or invention. of our concepts. This under-determination can be seen as one way among others to accomplish science-fictional estrangement.

In speaking of science fiction and giving examples, and thus re-schematising, I risk re-determining or over-determining what has just been under-determined by Laruelle.

Nevertheless, my hope is that by shedding light on TETRALOGOS by the science fictional as a conceptual character already at work in his text I will under-determine not the book itself, but the overly philosophical reading that one could make of it, and in so doing to open it to other readings.

First I would like to make a comment on the question of conceptual characters: we are used, since Deleuze and Guattari's WHAT IS PHILOSOPHY?, to consider philosophy not only as an invention of concepts, but also as a creation of conceptual characters, their architectures, and their dramas. François Laruelle gives an unusual extension to this definition. He considers that philosophy, non-philosophy, the generic, and the quantic are the main characters of his opera. They preside not only over our memory but also over our destiny. Every conceptual character has a future dimension.

We can already see in this futurity another meeting point with science fiction. This is why

I have just proposed to include science fiction, or rather the science-fictional in the list of conceptual characters that appear in the drama of the book.

In TETRALOGOS, Laruelle makes us see that these new concepts, landscapes, acts and characters, enriched by many others that parade along its pages, give us the means to understand and talk about human experience in all its amplitude.

Under the impulsion of Laruelle's non-standard philosophy, « forced » by the generic and the quantic, the book seeks to get us out of the landscapes of closed worlds, and to enter the Universe in all its extension. This new amplitude of thought would make it possible to establish philosophy according to other affinities than that of the scientist philosophy and its reductionist models. Philosophy would be free to become something else, ready to compose with other (scientific, artistic, poetic, religious, political) acts according to other « knottings ».

François Laruelle builds his book from two of these affinitive partners: science fiction and music. (1) He presents non-philosophy as a general science-fiction, or a philo-fiction, which he treats as a variable of which one of the values would be music-fiction. (2) Given the transcendental, generic and quantum nature of his thought experiment, Laruelle posits that the book can be seen, or heard, not only as a music-fiction but also as a musical work, inaudible and soundless, hence the subtitle « An opera of philosophies ».

The musical dimension is even more present in the structure of the book than in the themes explicitly addressed, contrary to what the summary at the beginning of the book might suggest. Laruelle claims to have always wanted to bring together music and philosophy: not to write a philosophy of music, but to « make music with concepts ». On this model, the generic would be the melody, and the quantic would be the harmony.

In the book, Laruelle oscillates between two positions: modest and ambitious.. One, modest, says that TETRALOGOS is only a « libretto » for an opera, « without sonic and auditory actuality ». The other, more ambitious, position is that his book is a « u-phony », which by itself constitutes a complete opera, including conceptual music. So the book supposes two readings (at least): it should be read both as a libretto and as u-phonic.

My reading approach will be personal: I will read the book « TETRALOGOS, an opera of philosophies », as it was written: inside a generic matrix, and as a paradigm, that is both a model and an example, of what a general science fiction could be. We will see to what extent the book fulfills its own criterion of genericity and to what degree it 're-founds' radical science-fiction, as it already exists in the great canon of science fiction.

In this prologue, I would also like to discuss a criticism of Laruelle's style and language that is often made concerning the « obscurity » of his language. An answer to this criticism can be found in Laruelle's texts and also in the nature of science fiction.

Laruelle asserts that in order to free oneself from the established forms and disciplinary norms of standard philosophy, it is necessary to invent one's own language. There is no basic language, from which one can explain all the other language levels and into which all

the other languages can be translated. One is forced to manage either with familiar terms invested with a new meaning partly obscure, or with new words and, in both cases, with innovative syntaxes.

To talk about this book, we too are forced to invent our own language. (That's what I'm trying to do in this intervention). It may be noted that the description of science fiction often emphasizes these two traits, the use of transformed language and the invention of neologisms. We do not write, and we do not read, science fiction according to the same codes as for standard literature, and we do not read a work by Laruelle according to the same codes as standard philosophy.

An example taken from the canon of science fiction would be *DUNE* with its dictionary of terms at the end of the book and its appendices on ecology, religion, the Bene Gesserit, and the Great Houses. We are constantly obliged to interrupt our reading of the story to consult this material, otherwise what we read does not make sense. The strangeness of science fiction also operates at the level of language. Interruption is another technique of estrangement.

In the same way, at the end of *TETRALOGOS*, there is a glossary of abbreviations, which is also the case for his book *NON-STANDARD PHILOSOPHY*, which contains a glossary of « generic quantic » that can also be used as a glossary for *TETRALOGOS*. We are plunged into a field of neologisms, new acronyms, and transformed language. These are all forces of linguistic interruption.

In fact, *TETRALOGOS* constitutes the clearest, most accomplished synthesis of Laruelle's non-standard philosophy, the synthesis not only of his theses, but also of the forces and means that underlie them:

« We throw into the battle all our theoretical forces, drawing a rapid topology ... complex of our means. These means are deployed on a space ... generic, ontologico-existential and quantum, space which contains a mathematical contribution ... but to which it does not become enslaved ». (*TETRALOGOS*, 29-30).

In this generic, ontologico-existential and quantic space, I will read Laruelle's tetralogic « opera of philosophies » according to the codes of the most radical science-fiction, as a non-standard space opera.

To carry out this reading, I will first present the structure of the book and its themes, and then summarize its dramatic movements and acts, before talking about science fiction as it exists and Laruelle's proposed formula for a non-standard science fiction.

We have seen that certain of the key terms and concepts used to characterise the literary genre of science fiction can also be used to describe Laruelle's non-philosophical project in *TETRALOGOS*: amplitude, inventiveness, mega-text, cognitive estrangement, futurity, neologism and transformed language. In this section we continue the investigation into the

parallels between Laruelle's philosophy and science fiction.

2) Static Presentation: structure, characters, and themes

The subtitle of TETRALOGOS is *an opera of philosophies*. We can already see an allusion to Laruelle's concept of philo-fiction as a generalization of science fiction, since one of the great subcategories of science fiction is Space Opera. As we have seen TETRALOGOS is conceived as the libretto of a conceptual opera, composed of an Overture, four « books » and a Coda. All is 622 pages.

1) The Overture (84 pages) introduces the main themes and object of the work:

« to describe, through a montage of philosophical theories and of central references to music, the harmonic and contrapuntal amplitude of the epic of human life as a function of its sites, which go from the Cavern to the Stars, and the diversity of its stages and its intrigues, which go from Birth to Messianity » (11).

2) Book I (76 pages) constitutes the Prologue, it presents the conceptual characters, the landscapes, the acts and the structure of the work. In the de-schematized dramatization of François Laruelle's TETRALOGOS, there are four main conceptual characters: « forced » philosophy or « Reminiscence », generic thinking, the quantum model, the « forced subject » or generic messiah. We can abbreviate this as NGQM: the noetic, the generic, the quantic, the messianic. The landscapes are the Earth, the World (or rather the worlds), and the Universe. The acts correspond to the disciplines that can condition philosophy (art, love, poem, politics, science, religion).

3) Book II (132 pages) is the Organon, it articulates Laruelle's theory of « Reminiscence », a « fusion of philosophical memory and contemporary science ». Reminiscence allows us to see that the state of the standard world is the forgetting of the sutures that enclose it in a fixed and exclusive framework. I propose to call this standard state « amnescience, » or sutural forgetfulness.

4) Book III (the longest, 231 pages) is titled THE HUMAN EPIC OF THE NON-PHI FROM THE CAVERN TO THE STARS. It deals with the full amplitude of the human experience, ranging from « the cave to the starry sky », from the hell of the world of amnescience to the paradise of reminiscence. It presents the de-anthropologizing ascent from the Earth to the stars.

5) Book IV (59 pages) is the Ritorno: this is the most difficult movement, it presents the anthropic descent, the « musical return from heaven to earth ».

6) The Coda (15 pages) is entitled « For a treatise of speculative music (thus without effective music but not without ideally philosophical musicality) » (593).

Comment: this is an ambitious project, Dantesque, the scope of which covers the sites, the stages and the intrigues of human life as a cosmological epic. The book is a secular and conceptual DIVINE COMEDY, beginning in the cave of amnescience (the Inferno),

ascending the stages of Reminiscence (Purgatorio), to the Stars (Paradiso). It ends with a descent to the Earth (Ritorno). We are very lucky to have such a book. Nevertheless, we can make certain observations, resulting from various interrogations.

1) Given (I) the operatic image of thought developed by Laruelle, (II) his new topology of de-anthropologized knowledge, (III) his philo-science-fictional methodology, and (IV) his concern for a compositional practice, we can consider that TETRALOGOS is a work of Space Opera or Conceptual Universe Opera. It bears the same mark of cosmicity.

The question that arises here is whether Laruellean Space Opera belongs more to the genre of « hard » science-fiction, which makes an informed and integrated use of modern physics or if its use of science tends more towards the « soft » end of the science fiction spectrum. However, Laruelle has ensured the inclusion of the principles of the quantum paradigm in the hard core of his thought in TETRALOGOS

2) The dramaturgy of conceptual characters and the dramatic structure of actions and intrigues reveal here a greater proximity to the thought of Gilles Deleuze than Laruelle's earlier writings could have led us to think. However, we can consider that TETRALOGOS relativises and overcomes some of the problematic features and some of the limitations of Deleuze and Guattari's WHAT IS PHILOSOPHY?, while being indebted to that book and to Deleuze's work in general. In particular, Laruelle's use of de-schematized conceptual characters shows the still overly empirical aspect of Deleuze's conceptual characters.

3) Reminiscence is at the heart of this new book. It refers to the « forced » generic mixture of philosophy as a transcendental de-foundationalised act with quantum physics as the foundation of the transcendental dimension. Here we can see the apparent contradiction between a desire to defeat foundationalism and the call to a scientific foundation.

4) To achieve the goal of « amplitude », describing the passage from the Cavern to the Sky and encompassing the stages of the epic of human life, Laruelle's project must be totally generic, rather than partisan or parochial. We have seen that his scientism constitutes a lack of genericity, and the same goes for his concept of *messianity*. If it is only a question of terminology, Laruelle should then be ready to combine it with other terms to express the telos of the descending subject, for example with Buddhahood.

5) Laruelle is a materialist in his emphasis on the dialectic of descent, just as important as the dialectic of ascension. Descent means that we acquire in the real a new practice of philosophy and of life, a new inventiveness, and not just a new manifesto of beautiful intentions.

6) This new practice of non-philosophical composition aims to produce a dramaturgy of philosophy conceived as an inaudible and insonorous music. We must then ask ourselves if the « descent » really succeeds in producing a new marriage between the virtual and the real, including at the music level.

As we have seen above, the modest posture claims the book as a *libretto* for a conceptual opera. The ambitious stance asserts that the book is itself a « philosophising music ». Seen

in quantum terms, modesty is decoherent, i.e. we have in front of us a macroscopic book, which according to the musical spirit can only be at best the libretto. The ambition would be to make us hear/understand the book according to the quantum spirit, coherently, as a superposition of concepts and music.

It is thus a dramaturgy that is musical in spirit but philosophical in « letter », whose « libretto » is provided by this text and its philosophico-scientific « dialogues ». But, let us repeat, it is a drama without sonorous or auditory actuality (*TETRALOGOS, II*).

François Laruelle aims to create a musical drama through a conceptual libretto based on philosophical-scientific dialogues. It may be noted that it aims to replace the monological sutures by dialogical exchanges. In particular, it stages a series of dialogues between the generic and the quantic.

In the last sections we have seen that certain key terms and concepts used to describe the literary genre of science fiction can also be used to describe Laruelle's non-philosophical project in *TETRALOGOS*: amplitude, inventiveness, mega-text, cognitive estrangement, futurity, neologism and transformed language, futurity, and cosmicity. In this next section we take the parallels further.

3) Dynamic Presentation: Movements and Drama

According to François Laruelle, « standard » philosophy postulates its own sufficiency to encompass the real, but it maintains the appearance of this so-called autonomous apprehension by its real dependence on other modes of apprehension. Sufficiency is defined by an imaginary autonomy and a real dependence. Thus, contrary to its self-image as a « pure » discipline, standard philosophy exists in a composite state, a mixture (Badiou says a « suture ») of philosophy with another mode of apprehension, typically (for Laruelle) with the poem. Laruelle also considers other existing mixtures, such as that of philosophy and science, found in positivist and scientific systems.

So, the complete formula for standard philosophy is philosophy sutured with science and this composite re-sutured with the poem.

The movement traced by the book unfolds in four stages. I associate them with four defining features of science fiction: the suspension of disbelief, cognitive estrangement, the cosmic, and the sense of wonder.

1) Prologue: Conceptual characters and structure of the action. The movement here is the passage from amnesia (or sutural forgetfulness) to de-saturation, and the emergence of the characters of the drama and of the existing structure of their actions. In terms of science fiction, this corresponds to the willing suspension of disbelief.

We live in the state of amnesia, in worlds governed by sufficient philosophy and by its unconsciously organized mixtures. François Laruelle proposes first to disarticulate and

disorganize existing worldly mixtures (the suture of philosophy and the poem, and that of philosophy with science) by a procedure of forcing, i.e. by means of science. This would produce a more rigorous philosophy and at the same time provide an answer to the critics who accuse Laruelle of scientism.

Science would be used strategically in the current state of mixtures (philosophy / poem and philosophy / science) to suspend the sufficient attitude and to free philosophy from its unilateral limitation and its conceptual fusion with poetics on one side and with the scientific reductionism of the other. The mixtures must be interrupted, and Laruelle's thesis is that « the strongest interruption is the scientific » (183).

2) Organon: the theory of Reminiscence. The movement is the reorganization of the conceptual and dramatic architectures, releasing the characters and their acts for new adventures. In science fiction terms, this stage corresponds to cognitive estrangement. Estrangement is forcing. Here begins *forced* philosophy and its consciously reorganized mixtures.

In this second stage, philosophy is neither eliminated nor abandoned, it remains an essential reference in a new reorganized architecture, where it finally has access to the real, but only through the sciences (generic logic and quantum physics).

« [*Philosophy*] will have to accept the sometimes embarrassing mentoring of these sciences (generic logic and quantum physics) which will deprive it of its pretension to a fundamental access to the real, and will leave it with only the possibility of a mediated access to this real as Universe, but in view of the governance of the empirico-formal human experience at the heart the World » (21).

Laruelle proposes to call this replacement discipline, reorganized consciously according to other principles, « Reminiscence », in which philosophy persists in a purified state as a transcendental « memory » of the past and the future, mingled with the « generic » and the « quantic ».

Philosophy would survive as theatricalised memory, somewhat like the Art of Memory described by Frances Yates, with its conceptual characters, landscapes, acts, and actions, but to which we should add a futural dimension.

3) Amplitude: the whole range of human experience and its cosmic epic. The movement is gaining in amplitude, it's the journey from Earth to the Stars. Laruelle says from Birth to Messianity, but I suggest we correct this to say from Birth to the Birth of Messianity. In science fiction terms, this is the stage of the cosmic journey or the encounter with aliens or with their artefacts, and a new apprenticeship of the universe. Here the ascensional dialectic extends into the non-phi human epic.

In this third phase, the reorganization prepares us for a new stage of the ascent in the dialectic of the ascension we are following. We thus move from a sufficient philosophy through a non-standard philosophy, to a forced philosophy, to the non-phi epic of the human

experience in all its extent: from the cave to the stars (its sites) and from birth to messianity (its stages).

I say this is the stage of the birth of Messianity, because the Messiahs that we are have two faces. One face, transcendent, is turned towards the Starry Sky and the other face is turned towards the Earth. How to go down to earth while remaining a Messiah? This is the problem of the end of the 2001 film *The Space Odyssey*. The hero frees himself from his mundane clone or his digital double, i.e. the rationalist or artificial intelligence HAL, experiences quantum teleportation and a lived experience by way of the Reminiscence of the cosmos and of all stages of life. He is reborn as a stellar fetus and returns to Earth as a Messiah/Anthropos, but the film stops there, just before the most difficult moment to schematise: the Ritorno.

4) Ritorno: the science-fictional and musical return from the Starry Sky to the Earth. The movement is a conscious descent, not a fall of the Icarus type (for example David Bowie's character in *THE MAN WHO FELL TO EARTH*), but rather a moment of subjectivation. In science fiction terms, it's the sense of wonder.

Strictly speaking the sense of wonder is the subjectivation of the epic of humanity in all its cosmic amplitude. Laruelle also speaks of indignation, which is the subjectivation of the struggle against the evil world in favour of the just world. We are in the descending dialectic or the anthropic descent.

In this fourth and last phase, the anthropic descent is subtended by the same quadripartite as in the de-anthropologising rise of Reminiscence: dramatization, memory, generic and quantic.

This is the musical part proper, the movement to leave the coherence of transcendence, and voluntarily or at least consciously, to enter decoherence. After having freed standard philosophy of its suture with the poem (or with science), after having reorganized it with the help of the forcing of the generic and the quantum, after having become « aliens », we go up to the ultimate amplitude of the human experience, its sites and its stages. And it is from this amplitude of wild experience, the lived-without-life, that we can recombine otherwise, transcendently, philosophy and music, and descend « philo-musically »:

« The last book describes Messianity as the ultimate and highest stage of human existence, the stage that returns to its origins and closes the cycle. It is ultimately given in a philosophical-musical pathos which is the explicit object of the last Book, thus retroactively closing this tetralogy » (26).

Commentary: The movement of the Larunelleian space opera goes from amnesia, i.e. from the philosophically contaminated experience of naive empiricism (and scientism) to transcendental or radical empiricism (the pluralist universe), and finally to a radical polytheism (democratic Messianity).

The investigation of the parallels between Laruelle's metaphysical research programme as developed in *TETRALOGOS* and science fiction as genre has led us to add a few more

entries to our list of certain key terms and concepts used by both: amplitude, inventivity, mega-text, cognitive estrangement, futurity, neologism, transformed language, hard SF, cosmicity, space opera, Universe, aliens, cosmic voyage, willing suspension of disbelief, and sense of wonder. In this next section new parallels will emerge.

4) New foundations of science fiction

Science fiction (SF) is a minor genre of literature entrusted to an arbitrary imaginary as well as to the talent of its authors, but it is possible to refound it, this time on more solid bases as a non-philosophical genre, on strictly generic bases, ones that are consolidated by another use of the quantic, as model rather than as furnishing of the Universe (*TETRALOGOS*, 112).

In the terms explained in the discussion of dramatization, science fiction as a literary genre is an act. Indeed, it is a subcategory of art as an act. Science fiction in its *standard* state, is doubly subordinated to a philosophical understanding of conceptual acts. On the other hand, for a *non-philosophical* understanding, science fiction is an autonomous non-philosophical act, not an artistic or literary act. Indeed, science fiction is an act of forced philosophy, belonging to the new amplitude of philosophy. To be able to access this new status, it must be « re-founded ».

(For me, this « re-foundation » must be understood as retrospective).

From this perspective, standard science fiction is in a position similar to that of standard philosophy. According to Laruelle's analysis, standard philosophy is a naive composite of philosophy and science. Science fiction can then be analysed as a naive mixture of fiction and science. This composite of science and fiction as it exists in literary science fiction must be dissolved and separated into its two elements in order to

« conceive them as indiscernible properties of a generic subject = X capable of bearing them. This is general science fiction because generic (SFG) » (113).

This is a bold hypothesis, which has its merits as a heuristic device, but it should not be considered exclusive and binding. This hypothesis cannot be a dogma, nor the last word.

Laruelle's gnostic re-foundation of science fiction is part of a strategy for re-founding philosophy and its mundane mixtures. It is useful to examine his recommendations for science fiction on their own merits, before investigating how they transform philosophy.

1) « the introduction of contemporary science in the form of the quantic as model into the heart [of science fiction] »

2) « its object or outcome is the destiny of humanity in transit between the Earth, the World, and the Universe »

3) « the « World » as Bad-world or history is only an unplanned and unfortunate halting point on this voyage which leads it to the Just-world ».

One could summarise Laruelle's complete formula for science fiction: hard science, space

opera, human destiny from dystopia to utopia.

No doubt this general formula permits special cases as constituting particular solutions to this formula where one or more variables have a value close to or equal to zero, and so generating incomplete realisations and fragmentary sequences.

However, this formula is itself far from complete or adequate to the vast mega-text of science fiction, even if it captures the basic framework of some great texts of science fiction: DUNE, THE BOOK OF THE NEW SUN, ANATHEM come to mind.

Nonetheless, there are other great texts that use only relativistic physics, or classical physics; or that do not deal with the cosmic destiny of humanity; or that do not situate their action in dystopia or utopia or the transition between.

The quantum aspect of Dune can be seen in Paul's vision of time (shared by many other characters) composed of a vast network of branching possibilities, to the point of making this quantum time an integral part of the very framework of the novel.

Paul Muad'dib is constantly trying to break the deterministic prophetic vision by making unexpected choices, taking unforeseen bifurcations, but he eventually gives in. A second point appears in later novels, with the genetic selection program implemented by his son Leto to produce human beings whose actions are unpredictable for both the prophetic vision and the calculation of artificial intelligences (quantum computers) hiding on the periphery of the Empire, waiting for the moment to return to reconquer humanity.

ANATHEM goes even further in the direction indicated by Laruelle for non-standard science fiction, in that the planet on which the action unfolds is not the Earth, but its Platonic idea (« Arbre »).) located at a higher generic rank itself contained in a multiple hierarchy of worlds.

These examples seem to confirm Laruelle's hypotheses by conforming to his general formula of non-standard science fiction. Nevertheless, there are other great texts that use only relativistic physics or classical physics; that do not deal with the cosmic destiny of humanity; or which do not situate their action in dystopia or utopia or in the transition between the two. For example the novels of Alastair Reynolds rely on relativistic physics, and the quantum effects are present mainly as « furnishings ».

We will now turn to some apparent exceptions to its formula, to see if they are falsifying instances, demanding the abandonment of its theory, or if they are indicative of the need to modify only a few details of the formula.

As our investigation proceeds we find many parallels between Laruelle's metaphysical research programme as developed in TETRALOGOS and science fiction as a genre. Our list of certain key terms and concepts used by both include: amplitude, inventivity, mega-text, cognitive estrangement, futurity, neologism, transformed language, hard SF, space opera, cosmicity, Universe, aliens, cosmic voyage, the willing suspension of disbelief, the

sense of wonder, quantum time, dystopia and utopia, human destiny, multiple worlds. In this next section we refine and extend our list.

5) Potentially falsifying examples

According to the analysis of TETRALOGOS I have proposed in the previous sections the activity that Laruelle proposes to replace the standard philosophy (a replacement called by him non-philosophy, non-standard philosophy or forced philosophy) is also a general science fiction. It is interesting to compare this with what Laruelle says about the already existing positive science fiction. One can thus test the validity of his hypotheses, confirm or refute them, even propose some modifications.

Laruelle asserts that traditional science fiction « has not yet made its non-standard revolution to get out of its merely imaginary forms » (139).

To carry out this revolution, SF must be re-founded on the basis of the three criteria discussed previously, which can be reformulated in terms of literary construction.

1) The construction of the world will have to be informed by the most contemporary hard science, quantum physics, as a model of thought. The Quantic must be integrated as an infrastructure, not just as « furniture ».

2) the narrative line will be the destiny of humanity going from the Earth, across the World, to the Universe.

3) The narrative tension will be the struggle to move from the « bad world » to the « just world ».

This list of three criteria is incomplete. We can add two other criteria that Laruelle develops elsewhere in the book:

4) the method will be the cognitive estrangement, which is schematized by the imaginary number and its quarter turn.

5) the subjectivation will be accomplished by a generic subject = X able to bear the other criteria. We have seen the importance of the de-anthropologised subject, or alien, and of subjectivation by wonder and indignation.

In short, we have: quantum construction, cosmic voyage, agon dystopia/utopia, cognitive estrangement and generic subjectivation.

In the previous section I gave some examples of major works of the SF which satisfy the criteria advanced by Laruelle: DUNE, THE BOOK OF THE NEW SUN, ANATHEM. We can add the works of Greg Egan, but to do so we must complicate the overly limited formula proposed by Laruelle.

Greg Egan is a major author of hard SF. His works are often based on a quantum model, but this is not always the case. Occasionnaly (for example in the ORTHOGONAL trilogy) he uses a modified version of relativistic physics as a framework, rather than quantum physics. Alastair Reynolds's works are similar to those of Egan in this respect. In the case of

these two authors, some of their novels are based on generic relativistic physics, and quantum effects are present in the form of « furnishing ».

Another more classical example is that of Isaac Asimov's FOUNDATION cycle, which are recognized masterpieces of SF, and which show that Laruelle's # 1 criterion should be further expanded to include thermodynamics and statistical mechanics (see the role of psycho-history in this cycle).

The investigation of François Laruelle's metaphysical research programme as developed in TETRALOGOS has led us to find many parallels with science fiction as a genre. Our list of terms and concepts used by both has expanded to include:

amplitude, inventiveness, mega-text, cognitive estrangement, futurity, world-building, neologism, transformed language, hard science fiction, space opera, cosmicity, Universe, cosmic voyage, willing suspension of disbelief, sense of wonder, quantum time, aliens, dystopia and utopia, human destiny, multiple worlds.

In this section we refine and extend our list.

6) Open, flexible and heuristic criteria

I will give five arguments for the loosening up of Laruelle's formula

1) The examples we have just discussed argue for an extension of Laruelle's formula for non-standard SF, by adding one of his other criteria, the generic, to criterion #1, which requires the use of the hard sciences to be included in the infrastructure of the science fictional Universe. One way to include the generic at this physical level is to schematize it as general relativity or statistical mechanics and to incorporate it on an equal footing with quantum physics as it appears in the first version of criterion #1.

This first argument in favour of an extended formula for GSF (general science fiction) emerges from the empirical examination of the canon of science fiction, a wider canon that one might believe from the analyses of TETRALOGOS.

2) More generally, if the laws of physics that govern a SF universe may differ from those that apply in our own universe, then we should prioritize the generic over the quantum in criterion #1. We must distinguish the quantic as model of thought from the quantum as a law of physics in our world.

Strictly speaking, the important point is not the presence or absence of quantum as a positive science, but the introduction of the quantic as a model of generic thinking. This consideration explains why Laruelle should explicitly include the generic in his list of criteria for SF.

3) These additional examples (Greg Egan, Alastair Reynolds, Isaac Asimov) show that Laruelle should be more flexible in terms of his criteria. This is not a problem for his project. In fact, the ability to deploy a more open, flexible and extensive set of criteria is

already available in his system. In the ascending movement of his cosmic epic, François Laruelle expands the new alliance between science and philosophy to bring it to the state of Reminiscence, a knowledge that includes both the generic and the quantum. It is this Reminiscence that has allowed us to propose a more developed formula for Laruellean SF.

4) A fifth problem comes from the particular *version* of the « quantic » requirement that Laruelle recommends. Whenever he speaks about the creators of quantum mechanics, he favours the interpretation given by one of the most classical quantum physicists, Max Planck (see also Laruelle's article « Marx with Planck »), to the detriment of other possible interpretations. And he explicitly excludes Niels Bohr.

However, quantum mechanics is not an unambiguous thing, it comes from a wide range of dialogues and contradictory interpretations. Even today, its nature, interpretation and status are complex on the dialogical level. Is there a single « quantum » thought common to all these researchers? I do not think so. The « quantic » exists as a variable with a set of possible interpretations as argument.

5) Lastly, there is a danger of cognitive petrification in the formulation given of criterion #1. Laruelle endorses at the level of one of his general criteria (the quantic) the inclusion of a particular scientific theory (quantum mechanics) that could one day be replaced by a theory with a different structure, which amounts to making it both judge and party. We must not install as the foundation of science a theory that must be submitted to the same critical process as any other theory.

There exist many works of science fiction written by major authors which take a world-building framework based on a physics derived from another interpretation of quantum mechanics. A recent example would be RED MOON by Kim Stanley Robinson, which uses the pilot wave of David Bohm.

This rapid analysis of the criteria of Laruelle's formula for a general science-fiction suggests that the first criterion (inclusion of quantum physics in the infrastructure of world-building) is too limited and restrictive, being much more specific (or less generic) than the other criteria. It should be broadened to include relativistic physics, other versions of quantum physics, and present or future alternatives. More generally the three criteria should be considered as optional rules, heuristics, and not as dogmas.

Criterion #1 (inclusion of the quantum) should not be treated as a necessity but as a heuristic recommendation for the inclusion of hard science not only as part of the surface furnishing, but as part of the infrastructure of the Universe of the novel (its world-building and its model of thought).

An interesting example of the interest of expanding criterion #1 is Yoon Ha Lee's THE MACHINERIES OF EMPIRE trilogy. Its world-building is based on a technology that can produce non-standard or « exotic » effects, on the condition that everyone conforms to the same « calendar », calculated according to higher mathematics and given force by a series of painful feast days or « remembrances » recalling traumatic events and making use of

torture and human sacrifice.

The first book in the series, NINEFOX GAMBIT, is the best, then the other two explore the innovatory physics less so as to concentrate on the characters. Lee explains that he could have done more with the maths, but that he found he had to choose between developing the speculative dimension and making the story accessible. To our loss, he oriented his writing towards accessibility.

Some people questioned its belonging to the genre of SF, seeing it as fantasy decked out as SF. I have argued that it is in fact SF, but that the hard science on which it is based is mathematics rather than the more usual physics.

7) Conclusion

François Laruelle, like all of us, has been influenced by the thinkers he has read and met, by the discussions he has had, by their power of inspiration, and by the disappointment that remains once the infatuation has ceased. Philosophy is a love story, and the affects it makes us live through can be some of the most intense and important in our lives. Saying goodbye to our educators is not a simple matter and it can not be accomplished once and for all. Laruelle, as we see in this book, is still saying goodbye to some of his elders, like Gilles Deleuze and Michel Henry, and to settle his accounts with some others, like Alain Badiou.

This problem resonates with me today, since I am experiencing a similar process of saying goodbye (or not) to Deleuze (my greatest influence) for a projected change in trajectory, and perhaps already begun.

My analyses of François Laruelle's book TETRALOGOS are conducted from this point of view. As I have explained several times on my blog, the last book of the collaboration of Deleuze and Guattari, WHAT IS PHILOSOPHY?, is a brilliant work, but fundamentally flawed.

When I read The IMMANENCE OF TRUTH of Badiou last year, some of my misgivings crystallized. Deleuze and Guattari's WHAT IS PHILOSOPHY? constantly speak of « the absolute », « the outside » and the « infinite », but their thought of the infinite remains too poetic and intuitive, and therefore cannot resist fully relativism.

Reading of Laruelle's TETRALOGOS further consolidated this problem for me. My general impression of the process of saying farewell to Deleuze and to others, lived and recorded in this book by Laruelle, is that by showing his own movement of thought, he provides us with a series of concepts and perspectives useful for revisioning Deleuze, or any other philosopher, and for highlighting the limits of their thought.

It is this attempt by Laruelle to isolate, identify, and analyse certain problems and limitations in the thought of his predecessors, to go beyond that, which I hope I have demonstrated in my reading of TETRALOGOS.

In following this process, everyone can be one of the protagonists in his own cosmic

epic. We would be like the dolphins at the end of another space opera, *THE RIDER'S GUIDE OF THE GALAXY*, leaving Earth, and its inhabitants, to its demolition, with this final message to humans: good bye, and thanks for all the fish!

We could take flight leaving Deleuze, or Badiou, (or any other philosopher educator of our understanding, even Laruelle) behind us saying: « Farewell and thank you for all the concepts ».

I hope you will do the same with this text.