

# So Impossible to Imagine... Paths Between Literature and Science

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## Abstract

To imagine the impossible is apparently – and for good reason – an inescapable test ground for all forms of human creativity. Indeed, a genuinely creative disposition is one that grapples with that part of the real which escapes established patterns of understanding and representation, seeking to open unordinary potentials of imagination and expression. Pursuing a largely trans-/inter-disciplinary approach, *Between* IX.17, edited by Luciano Boi, Franco D'Intino, and Giovanni Vito Distefano, offers an overview of studies on the subject, spanning modern and contemporary literature and culture. This wide investigation of the imagination of the impossible sheds new light on the relationship between literature and science in setting, and on its role in defining and expanding the domain of certainty and of possibility.

## Keywords

Impossible; Imagination; Two Cultures; Science; Modernity.

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A prerogative of literary and artistic invention is to be able to move beyond the limit of reality, to reach by means of the imagination 'what is not'. If, in this hypothetical topology, one moves in that direction, further and further away from the border with the real, one will find at a certain undefinable point the boundless field of that which not only 'is not' but, to all appearances, 'cannot be'. It is the region of maximum alert in the history of Western aesthetics, at least since Aristotle placed the fundamental dividing line of his *Poetics* in coincidence with the (mobile) frontier of the probable<sup>1</sup>. There, among the many folds hiding under the surface of concepts like verisimilitude, existence, reality – and their opposites – it is possible to find the literary works and creative enterprises examined in this issue, dedicated to the imaginary of impossible. It has been edited by Franco D'Intino and Luciano Boi, together with myself.

The topic is so vast that it does not permit an easy thematic characterization. The attraction for what is beyond common persuasions and predictions about what does (or can) exist manifests itself in a wide variety of creative outcomes. To imagine man flying, animals talking, and stars deviating from their orbits and falling down; to find a way of representing the coexistence of two antithetical propositions, with the philosophical awareness of the decisive role played by contradiction in the actual reality of things; to hypothesize eccentric forms of intelligent life or of mechanical intelligence; to deny the logical principles of languages and media while actually using them, as in the poetical attempt of verbalization of the unspeakable or in the extreme experimentation of a theatrical piece without characters and without spectators: these are just few examples of some 'impossibilities' examined in the course of this issue. Even such a small excerpt of the possible nuances of the impossible solicits so many

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<sup>1</sup> «The poet should prefer probable impossibilities to improbable possibilities» (*Poet.* 1461B, translated by S. H. Butcher).

theoretical reflections that it will, in fact, hardly be possible to mention them all in the space of this introduction.

This issue includes a wide variety of research topics, spanning many epochs, traditions, theories of poetics, and media. It ranges from the Galilean dialogues to the TV series *Westworld*, from Charles Nodier's short stories to Carmelo Bene's experimental provocations, from Antonio Conti's cosmological visionary dimension to Werner Herzog's cinematic one. The consideration of Galileo Galilei makes for an apt opening for our reflections on the impossible in the modern age. Not just a key actor, but a symbol of the Scientific Revolution, Galilei represents a paradigm shift in the Western understanding of reality. During his time, the criteria for the determination of truth and knowledge changed forever, establishing an increasingly exclusive correspondence with those of modern science, i.e. with the systematic recourse to the experimental method and to reason. A watershed in Western modernity, the Scientific Revolution established a fundamental framework for our own creative and speculative efforts around the impossible.

After an epochal reversal of this sort, the imagination of the impossible found new forms and, perhaps unexpectedly, new impetus. The very terms of possible and impossible were, in the first place, radically redefined.

In the wake of discoveries and technological innovations, the expansion of the domain of science indefinitely broadened the scope of the possible. A distinctive feature of modern science is to present itself not as a complete and invariable system of knowledge; on the contrary, it proposes (and imposes) an epistemological paradigm which is structurally open. It programmatically includes in the field of the possible any addition and any innovation that does not openly contradict the experimental evidence already established and that, at least speculatively or in an indefinite future, could be experimentally verified. The first dimension of the modern imagery of the impossible originates in this tension towards a continuous expansion of the possible. The visionary nature of the great revolutions of contemporary physics; the popular fascination for the gurus of technological innovation; the science-fictional account of space travel and colonization; the imagination of unparalleled developments in human evolution: forms, speeches, images of this type share, in different proportions, a common conception of the impossible that does not involve a radical impossibility but, quite the opposite, has its particularity in the representation of a plausible, albeit imaginative, overcoming of the impossibility itself. Consider the example of a successful work of science fiction. To convincingly incorporate ideas

such as advanced artificial intelligences or the colonization of intergalactic space, the work must distance itself from the ordinary horizon of knowledge and knowingly narrate impossible events; however, at the same time, it must also ensure that they turn out to be plausible, or even predictable, according to the current system of knowledge. In his *Metamorphoses of Science Fiction. On the Poetics and History of a Literary Genre* (1979) Darko Suvin proposed the term 'novum' – taking it from Ernst Bloch – to designate this form of imagination, centered on a 'scientifically validated' impossible. Artistic-literary invention and scientific knowledge co-operate in these feats of the imagination with distinct but converging contributions. On the one hand, the artistic-literary imagination 'follows' modern science in its breathtaking capacity for innovation and persuasion. It functions as a powerful sounding board, drawing from science objects, forms, and discursive styles in order to raise its degree of plausibility. On the other hand, in many circumstances imagination proves able to anticipate science, going beyond the current horizon of knowledge to explore, in the domain of fiction, realities still latent in the current state of scientific understanding. It invents 'impossibilia' never conceived before, evoking their future conversion into 'possibilia'.

A second acceptance of the impossible, much more radical and therefore distinct from the one mentioned so far, is linked to another pivotal aspect of modern science, complementary to its constructive and additive function. In line with the program of modern empiricism, the cognitive paradigm of modern science is the result of a systematic verification of knowledge but also of the refutation of beliefs, whose effect has been to make the concept of the possible coincide, somehow reductively, with that of the rational and experimentally proven. This has led to the fall of ancient myths, legends, superstitions, as well as of any hypothesis of understanding the world, with all its parts, on a non-scientific basis. In consequence, the impossible has taken on a modern semantic clarification as a synonym for the irrational and of the contradictory, for what is excluded by the scientific laws that describe the world. But it has remained a thriving field for literary and artistic invention. This happened for more than one reason. Firstly, the images, the characters, the motifs which took part in the pre-scientific system of knowledge, although refuted, did not disappear from the imaginary, but could be resemanticised according to the new regime of truth. Secondly, science, at least when sufficiently aware, does not claim on its part to be exhaustive; it practices instead a careful definition of its own field of validity, leaving some room to maneuver for a-scientific investigation, philosophical reflection, and literary imagination. Finally, the interest in the impossible did not perish because this acceptance of

the impossible 'in its proper sense', precisely delimited within the frame of modern epistemological rationalism, turns out to be an irreducible aspect of existence. The imaginary of the impossible remains, therefore, something that literary research and invention, including more 'realistic' genres, cannot avoid.

Thus, for example, as Franco D'Intino masterfully demonstrates in his paper, the ancient rhetorical tradition of astronomical 'adynata', far from being interrupted, finds new meanings and an unprecedented centrality in modern literary imagination. D'Intino focuses his analysis on Baudelaire and Proust. In the first, the occurrence of the canonical 'adynata' of the black sun and of the fall of the moon expresses the condition of lacerating suffering, inherent to existence, which is the founding value of Baudelairian poetics. The poetic evocation of those 'impossibilities' counterbalances the wound generated by the existential ones; conversely, only the painful experience of the impossible allows the poet to access his poetry: only if wounded can the poet be 'happily' inspired. The same tradition continues in Proust in less direct forms, dispersed in a series of images and astral references that dots the vast universe of the *Recherche*. Nonetheless, they are a door to the «dark and incandescent core» (15) of the Proustian masterpiece: the impossibility of returning to the condition preceding the fatal event of loss is the secret engine of the most precious manifestations in Marcel's life, like love and writing.

The impossible demonstrates a no less significant tangency to the backbone of Giacomo Leopardi's philosophical system – the impossibility of pleasure and of poetry in the contemporary age, nature as a system of contradictions. His *Zibaldone* fully manifests the paradox of a 'resistance' to the predominance of scientific reason fought by means of reason itself, adopting the same epistemological principles. It is perhaps from this underlying tension that originates that «phenomenology of the impossible which is anything but monolithic, oscillating, fluid and stratified» (3) which is the object of the careful and detailed examination conducted by Valerio Camarotto. On the one hand, a fully modern reason, which identifies the impossible on the basis of the principle of non-contradiction, operates widely throughout Leopardi's philosophy. On the other hand, this principle is explicitly refuted in light of the proven and indubitable contradictions existing in nature, as stated in a justly famous passage of the *Zibaldone*, and different strategies for considering the impossible are activated. They include the historicization of impossibility, as in the topical comparison between ancient and modern; the beneficial relativization of the

'impossibilities' delimiting existence, as in the consideration of the effects of poetry and eloquence; the disenchanting anticipation of the future promises of scientific advancement, as in some ironic premonitions contained in the *Operette morali*. In the overall view outlined by Camarotto of such multifaceted and coherent thought, the inexhaustible work conducted by Leopardi emerges in a new light, with all the impetus of his poetic imagination and the persuasive force of his philosophy, to loosen and neutralize the devitalizing grip of modern rationality.

Claudia Murru's contribution on the work of Charles Nodier also concerns the first part of the nineteenth century, a crucial period that turned towards a full affirmation of the cognitive paradigm of modernity. Her study focuses on the problem of belief, which is what establishes the dividing line between the possible and the impossible when one moves to the level of literary communication – instead of that of the general philosophical system, which the Besançon writer claims to be completely disinterested in. Murru investigates the complex strategies which Nodier adopts to build a personal resistance to the apparently unescapable «regime of incredulity» (9) imposed by modernity on its readers. At three different levels, diverse elements converge on this objective, concentrically arranged around the core of fantastic invention and mutually blending into one another: the author's reflection on the marvelous occupies the more external level; this is layered over the ironic multiplication of the introductory paratextual apparatuses; finally, now close to the fantastic and improbable nucleus of his writings, there is the alienating choice of a totally unreliable narrator. In Nodier's proposal, literature is thus configured as the space assigned to an iterated crossing of the borders of belief. He enacts a practice of continuous renegotiation of the relationship between possible and impossible, through which he tries to limit the risks of authoritarianism hidden in the 'civilization' accomplished by a scientific reason that claims to fix those terms once and for all.

Vincenzo Allegrini's work on Antonio Conti likewise focuses on the intertwining of imagination and science. The protagonist of an era still unscathed by the division between "the two cultures", Conti fascinates for how the 'impossibilia' in his poems exemplify the complex and articulated interconnections existing between these two areas of knowledge. Allegrini shows that, depending on the author's specific polemical targets, the poetic evocation of the impossible can manifest a caustic reaction against the claims of science – those same claims which Nodier implicitly criticised, while making a show of not dealing with them – or, alternatively, it can demonstrate a fascination

for those only apparent impossibilities which science and technological progresses are surprisingly able to explain and to turn into real revolutionary possibilities. In the works where the first attitude prevails, the theoretical predictions of the most famous modern thinkers and scientists, from Descartes to Newton to Leibniz, are led to absurd conclusions by resorting to all the resources of the marvelous. In the other, the rhetorical paraphernalia of the 'adynata' is brought into play in an imaginative celebration of the cognitive power of modern science, capable of penetrating the most unexplored recesses and of explaining the most astonishing wonders of nature. In this way, Conti appears as a forerunner of that modern sensibility for the 'novum' which, as mentioned before, Suvin has identified as the hallmark of science fiction.

A substantial group of essays investigates the science fiction sector of the imaginary of the impossible. In science fiction, the staging of technological innovations frees the narration from too-severe mimetic constraints and facilitates the possibility of a 'counter-discourse' critical of historical-factual reality and aimed at proposing a renewed cultural ecology. This is the premise of the essay that Rita Monticelli dedicates to John Glazer's 2013 film adaptation of the novel *Under the Skin* by Michel Faber. Through the methodological lens of eco-criticism, Monticelli demonstrates the expressive and controversial potential of this form of imagination of the impossible, suspended between the futuristic and the dystopian, in relation to a wide spectrum of issues relevant to post-human studies: subjective and gender identities, otherness, the body, and capitalist exploitation that reduces man to a material of consumption. These are some of the critical ideas that emerge in her investigation of the alien, whose character declines in the directions of the uncanny, the erotic and the horror.

A subject that received particular attention in the category of futuristic impossibilities is that of artificial intelligence, investigated by two different, yet complementary contributions. Isabella Tomassucci focuses on the methods of conception and representation of artificial intelligence in the field of artistic invention and in the complementary one of scientific-technological innovation. In the articulated framework of interconnections between the two areas, a substantial affinity emerges between the artistic-literary imagination and the scientific-technological design of artificial intelligence. Tomassucci demonstrates this thesis through an effective application of the semiotic square to an extensive review of the first prototypes of artificial intelligence, identifying analogous semantic 'patterns' at the basis of the creative processes in both cultural domains.

For a comprehensive reconstruction of the historical background and of the interdisciplinary debate on artificial intelligence, one may then refer to Emanuela Bruni Piga and Cristiano Presutti. The focus of their investigation turns to the literary motif of the interrogation which recurs in numerous fictional and non-fictional works dealing with the AI. The choice of this object of study turns out to be an excellent demonstration of how the methodological tools of literary analysis can be of great use in the investigation of a topic, such as artificial intelligence, so central to the contemporary scientific imagery. In the works examined, the interrogation-dialogue between humans and intelligent machines, modeled on the archetypes of psychoanalytic session and of police interrogation, proves to be a valid way of accessing the interlocutor's inner conscience and a key moment in the elaboration of numerous aspects related to non-human intelligence. Among them: the possibility of dishonest deviations in the behavior of intelligent machines, hypothesized in the stories by Isaac Asimov, or the unscheduled emergence of autonomous forms of consciousness, as in the TV series *Westworld*. Nor is the importance of the dialogue limited to the scope of literary invention; it is sufficient to consider the famous Turing test, in which the observer must be able to recognize the machinic nature of an interlocutor on the basis of dialogic interaction. An analogous function is that of the diagnostic interrogations of empathic abilities used to detect the androids in Philip K. Dick's *Do Androids Dream of Electric Sheep?*, as well as in the famous film adaptation by Ridley Scott, which complete the selection examined by the two scholars.

Closely intertwined with the thread of the impossible as 'novum' is the concept of "utopian drive" that, starting from the reflection of Ernst Bloch, Fredrick Jameson has recently proposed in his *Archaeologies of the Future. The Desire Called Utopia and Other Science Fictions* (2005). The formula intends to indicate, distinguishing it from the literary archetype identified with Thomas More, everything that in a work, as well as in culture and in life, is oriented towards a future of satisfaction of human desires and of full realization of our life prospects. The hermeneutic proposal based on the utopian drive opens up various avenues of investigation, from anthropology to psychology, from sociology to cultural studies, and has been assumed by a further group of essays.

Francesco Nieddu investigates the work of one of the masters of twentieth-century science fiction. His critical reading of Olaf Stapledon's *Last and First Men* shows how the utopian drive plays a role in structuring the narrative invention at various degrees. All three hermeneutic levels proposed by Jameson are activated in the novel: the



body, as the biological laws of evolution are the levers that determine the different phases of the narrative; time, since its frontiers are distorted in the course of the story by the innovative telepathic abilities of the advanced human species; and the community, the dimension to which Stapledon entrusts his largest utopian investment, fully reconfigured by the innovative (pseudo)scientific processes of telepathy and symbiosis. Nieddu underlines the metaphorical value assumed in the novel by concepts derived from science, generally correlated to ideas of ethical and political order. At the same time, he shows how this work of science fiction manages to offer itself as a 'serious' contribution to the general scientific and epistemic debate. In a sort of retroflection, the fiction questions some of its own starting scientific assumptions, taking sides in still-open scientific debates – like the dispute between evolutionary theories centered on competition and theories that «reintegrate community values as essential strategies for survival» (21).

Claudia Cao develops a careful comparison of two novels by Ian McEwan, *The Child in Time* and *Saturday*, in which the utopian impulse appears to have a distinctive textual place – of confinement perhaps, as though it were a symptom of a repression in the unconscious – in the narrative motif of the “daydream”. The study shows how in both novels the survival of a utopian perspective in contemporary society is imperiled by the prevalence of an attitude of radical skepticism in the field of knowledge, and of atomized lifestyles with regard to interpersonal relationships. When utopianism does not disappear from the horizon of contemporaneity, this happens only thanks to an unexpected fusion between scientific and poetic rationales. In the first novel, the idea drawn from contemporary physics of a «completely interconnected synchronic totality» (19) is the revelation on which the protagonist bases his newfound confidence in a future in which the values of community and of responsibility will not be extinguished. In the second, the detached rationality typical of a modern man of science first leads the protagonist to disavow any utopian perspective, but he will eventually find an effective element of balance in the authentic, unexpected, and profound experience of art and poetry.

The paper that Andrea Cannas dedicates to the intertextual echoes converging on “Bersabea”, one of the *Invisible Cities* of Italo Calvino, is also devoted to a reflection on utopia. In the two doubles of the city, the one of diamonds and the one of dung, some elements date back to Thomas More's *Utopia*, while others, following an older thread, trace back to the Medusean myth and connect Calvino's conceit to the *Dialogue Concerning the Two Chief World Systems* and the letters of Galileo Galilei. Cannas highlights the correspondence between the

expansion of scientific knowledge and the drive to devise new ethical codes. In Calvino's twin cities, this progression can be seen in the ethical program of inversion of the polarity between vital value and market value, symbolically enclosed in the juxtaposition of dung and diamond, and in the astronomical reflections that ultimately lead to the overcoming of anthropocentrism.

The last two essays shift the focus to the mediological dimension. They investigate artistic experimentations centered on the impossibility of expression, where, between post-semanticity and a-semanticity, the limits of the semiotic-linguistic structure of the work itself are forced in multiple directions. As in D'Intino's essay on Baudelaire and Proust, this branch of the impossible is considered not within merely thematological or rhetorical perspectives, but as the key element of an entire poetics. The concept of the impossible reveals an analogous centrality in the great unfinished work that is the object of Marco Capriotti's study. In this case, the medium is the theater, the period 1988-1990, the author Carmelo Bene, here shown in the unprecedented double role of author and artistic director of the Venice Biennale. The essay shows how Bene, hyper-aware of the theoretical and formal assumptions of theatrical art, programmatically recreates a condition of drastic impossibility in order to set a dramatic device capable of representing «epiphatically what seemed impossible to seek and even more to find» (16). With this aim in mind, in his project *The Impossible Research, or Theater Without a Show* (Proust again, though whether it is a conscious citation is up for debate), Bene imagines the most extreme consequences of an experiment based on the progressive subtraction of the constitutive elements of the theater. The total elimination of the public undermines the fundamental structure of the medium and performs a radical suppression of the principle of representation.

On the side of film studies, Mirko Lino investigates the tension towards an 'ecstatic' representation of the impossible – in the etymological sense of 'going out of oneself' exceeding the usual means of perception – which animates the works of Werner Herzog. His study is based on a broad recognition of Herzog's predilection for irregular events and unlikely enterprises, and on a careful reading of his style, marked by a cinematic visibility tending to the «overload of image meanings» (5). In this essay – with a choice similar to that of Capriotti – Lino gives an account of Herzog's experience as artistic director of the 1991 edition of the Viennale (Vienna International Film Festival). The renowned filmmaker's curatorial choices constitute the starting point for two insights of great interest on the theme of the imagination of the impossible. The first concerns the importance of science in supporting

Herzog's poetics, and adds a new example of connection between the "two cultures". In the foreground are the algebraic theories that allow a mediated representation of 'impossible' spaces, compared with the analogous research conducted by the director. The second point concerns Herzog's proposal of taking the poetic image of the tightrope walker as a distinctive symbolic figure of his cinema. Tightrope acrobatic feats, represented in Vienna by the famous Philippe Petit, correspond well to the impossible challenges that characterize the German filmmaker's inexhaustible experimental research.

At the conclusion of this review, it is not possible, nor perhaps appropriate, to attempt a complete summary and delimitation of the works and reflections included here. The reader will find instead a speech by Luciano Boi, "In praise of the plot: between imagination, complexity and creativity", in the special section "From a mathematical perspective: a closing look". Boi, a mathematician attentive to the transdisciplinary interconnections that cross the episteme, leads us through references of great variety and value – from Italo Calvino to Giacomo Rizzolatti, from Ernesto Sabato to Maurice Merleau-Ponty, from Francisco Varela to Giacomo Leopardi and Martin Heidegger – along the thread of a cultured and passionate investigation into the anthropological, symbolic, and hermeneutic values of intertwining and of knots. In light of the importance that the intertwining of science and imagination has acquired in the investigation of the imagination of the impossible, it seemed to us the best seal for the number that we are happy to deliver to readers.

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Giovanni Vito Distefano earned a PhD in Italian Studies at the University of Cagliari, with a thesis on Leopardi's philosophy of poetry. His research activity focuses on the philosophical assumptions of Leopardi's conception of poetry and on its connections within the general framework of Western poetry and aesthetics. He has published essays on the *Operette morali* and on *I canti*, and the volume *Paths of Imagination and Knowledge in Giacomo Leopardi's Moral Operettas* (with Andrea Cannas, Nerosubianco, 2016). He is also interested in studies on adaptations, with particular reference to comic book adaptations of literary works. In this context he has published the volume *The great Disney parodies, or Classics in the clouds* (with Pier Paolo Argiolas, Andrea Cannas, Marina Guglielmi, Pesce Edizioni, 2013).

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