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Looking into the Future – Stanisław Lem and Futurological Attempts

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Introduction

“We are going to speak of the future” – this is how Stanisław Lem begins *Summa technologiae* and how he defines the subject of one of his most important works. Futurological considerations are currently of interest to researchers in almost all scientific fields, which perhaps shows that the research task set out by Lem in *Summa* is becoming a universal directive of science. The variety of these considerations is on the rise, and constructions of the vision of the future are developing a perspective or methodology specific to a given field. There are more and more works dealing with the future in various fields of human functioning – from considerations on the possibilities of philosophical and scientific research,

to proposals in popular science and pop culture, where the sci-fi genre is experiencing a renaissance. A clear increase in the interest in futurology can be observed due to the modern need for planning and the relative human control of what will happen in the economy, politics or technology in a period far away from “today”. As a consequence, there is a change in approaches that reflect on the future – a short-term perspective is replaced by a long-term perspective, however, in this case serious methodological problems arise. Because of the number of factors that need to be considered, effective prediction becomes very difficult, if possible at all.

Stanisław Lem wrote a lot about the future in a variety of ways, in both prose and essay forms. Despite the some difficulties, he did not abandon his attempts to create a vision of future civilisation. To the contrary, he asked very important questions about futurology and experimented with ways of practicing it sensibly. This is particularly valuable in the context of today’s futurological reflections, which, despite methodological difficulties, still seem necessary. Although interest in predicting the future is growing, some forms of futurological philosophising may be unsatisfactory and, as a result, may not be taken seriously. Lem’s methods and his meticulous research make up a certain “set of tools” that allows for increasing awareness of futurological issues and understanding its possibilities. In an interesting way, his achievements also correspond with the methods chosen by 21st-century futurologists. In the works of authors such as Ray Kurzweil or Nick Bostrom we find methods that Lem also used, but his “metafuturesological” sensitivity allowed him to be much more aware of problems and limitations.

The problems of futurology

In the last century it was, amongst other things, the hopes related to the development of computers and a promising new science – cybernetics – that prompted scientists to create bold visions of the future and announce, for example, the advent of “thinking” machines [Turing 299]. The computational support of machines and the enthusiasm with which people of science (as well as politicians with appropriate financing) approached new technologies, resulted in the flourishing of various types of initiatives (such as the “*Poland 2000*” *Research and Forecasting Committee* established in 1969) aimed at attempting to predict the future. However, technology turns out to be a futurological “pharmakon”¹ – on the one hand it provides supporting tools, and on the other it introduces serious complications, which researchers of the future are aware of. The development of technology has contributed to the escalation of some important problems: the changes initiated by the eighteenth-century industrial revolution generate difficulties not only in the present, but more importantly, complicate effective predicting of the future even today. The accelerated pace of change is one such obstacle. Since the revolution, the previous model of building social skills has been upturned, that is, the knowledge acquired in the bosom of the family or provided by educators at school and the like [Summa 8]. Numerous changes caused by the technology of today’s rapid “evolution”, which affects, among others, the requirements of the labour sector (e.g. being competent in

1 In the work of Jacques Derrida, the *Pharmakon* from the title represents a cure for oblivion and, by relieving the effort of remembering, it is the source of the disease itself – “forgetting”[39].

the fields of information processing methods or being able to function in the space of various social media or mobile applications is currently expected), leads to a gradual loss of the ability to adapt certain activities to a new situation by means of analogy, or one's own or older family members' experience. In the previous century, Georg Picht, a futurologist and philosopher, observed: "Today [...] neither experience nor customs are able to bear life. [...] Experience no longer provides any basis for orientation in the world: those who rely on it, fall astray"[55-56]. The intergenerational experience is outdated, which not only affects the existential instability of the individual, but above all, significantly hinders both predicting and designing the future, based on analogy. The effects of such technological development are strong arguments which undermine the possibility of creating a vision of the future that is legitimate and thus useful for civilisation. In turn, this deprives futurology of its sense. The limitations and growing criticism of the ventures of the so-called Future Institutes led to the discrediting of this new field at the end of the last century; it came to be called a pseudoscience (this is how the term "futurology" was described in, amongst others, the *The Oxford Dictionary of Philosophy*). Karl R. Popper and his criticism of historicism, along with allegations about the possibility of predicting the future state of knowledge, may have also contributed to the unflattering opinion about predicting as a venture, especially in the social sciences.

Lem himself was also very critical of futurology, but he did not give up some forms of practicing it. Following his work chronologically, however, makes it possible to notice

that his optimism about the possibilities that technology opens up for civilisation and futurology weakened year by year (starting with the early and enthusiastic *Dialogs*, then *Summa Technologiae*, to the novels such as *His Master's Voice*, the critical *Science Fiction and Futurology*, and Lem's departure from future management, towards the concept of randomness in *The Chain of Chance*, or the later *Fiasco*). In *Wycinek autobiografii: moja przygoda z futurologią* [transl. A fragment of an autobiography: my adventure with futurology] Lem wrote on the use of the latest technological products for "evil" or "extremely stupid" acts [34]. Lem lost faith in the possibility of futurological ventures due to the transformation of academic science, which was increasingly involved in the private interests of large companies and wasted gigantic financial outlays on military projects (presented in, for example, the above mentioned *His Master's Voice*, in which state-military supervision becomes a major problem for scientists). Although Lem devoted many pages to developing ways of futurological reflection that would allow him to overcome methodological limitations that he was well aware of, his attitude towards futurology remained ambivalent in some sense. On the one hand, for example in *Summa technologiae*, the author undertakes a comprehensive reflection on the future and indicates that in the human-technology relationship there is the issue of evolution of mutual interaction – in addition to the problem of the pace of change discussed earlier – and the subsequent outdating of experience: for example, certain technologies can be used to improve life, but they can also be used to hurt others or to benefit the few [33-34]. On the other hand, Lem remains sceptical and

reluctant to create such a vision of the future, where the lability of human-technology relations is ignored and obscured by spectacular announcements of future marvels of technology. In His Master's Voice he writes:

“But, yes, futurologists have been multiplying like flies since the day Hermann Kahn made Cassandra’s profession “scientific,” yet somehow not one of them has come out with the clear statement that we have wholly abandoned ourselves to the mercy of technological progress. [...] The reader of futurological papers has before him graphs [...] informing him as to when hydrogen-helium reactors will appear [...]. Such future discoveries are foreseen with the aid of mass pollings of the appropriate specialists—a dangerous precedent, in that it creates the fiction of knowledge where formerly it was generally conceded that there was complete—but complete—ignorance.” [153].

Such “ignorant” forms of practicing futurology are not only a source of false data, but above all, they give the impression of certainty and can lead to the elimination of other considerations, ones that are methodologically better, as Lem wrote in *Reflections for 1974*, where he drew attention to the problem of futurological fashion (Dior effect) or excessive admiration of Western science (Titanic effect) [chapter III]. What prevented him from giving up predicting was his conviction of the high risk of uncontrolled technological development and the unscientific visions of pseudofuturologists. “Thanks to science and technology, people have [...] the power to destroy life on

earth. In a negative sense, they gained the power to dispose of their own history” [Picht 51]. The potential use of, for example, the atomic bomb, can lead to not only the fall of the human species, but also to the destruction of all life on earth. Nuclear weapons are a symbol of current technological advancement, thanks to which it is possible to trigger a global chain of reactions in a very short time. The consequences of decisions that are made possible thanks to the development of the high-tech world imply responsibility. Taking responsibility for further development, in turn, implies human involvement in designing, directing or planning development, and thus makes abandoning futurology impossible.

Methods in futurological considerations

Lem’s “dynamic” approach to futurology and the awareness of threats from uncontrolled technological development resulted in a series of attempts to create a valuable forecast. The previously quoted *Summa*, which was written with great skill, and where we find reflection on forecasting itself, was one such attempt. Lem first reflects on the prospects of the future and the real possibilities of conducting useful predictions from the “meta” level. “Lem’s discourse transforms from futurological or political reflection into some «metafuturology» or «metapolitical science»; [...] raises issues of conditions and sense of forecasting, [...] the issue of futurological writing itself as an attempt at a new social mythology” [Jarzębski 19]. Lem presents various methodological difficulties related to creating long-term visions: the problem of surprising turns in history and technological “revelations”, as well as

the problem of thinking the future as part of a reflection on the structure of a closed scheme, in which there is a decisive and concrete solution to the situation (e.g. win or loss), when in reality we never deal with this type scheme. Paying attention to the defectiveness of the “intuitive” method of extrapolating contemporary trends to the future, turns out to be very important. In order to understand what the problem is, one has to “read” how the world of today was imagined by people from the past – from our perspective their visions are a huge “calculation” error [Summa 10-12]. In addition to his “metafuturological” reflection, Lem tests specific futurological techniques – for example, to overcome the above-mentioned extrapolation problem. In order to avoid this kind of problem, one can try to find a permanent, basic and necessary element for the development of civilisation, one that is independent of accidental trends or breakdowns. In its radical form – this would be some kind of law. Lem’s reflections on the energy crisis and megabyte bomb in Summa take this type of form. They are characterised by a certain linearity. Lem’s reasoning is as follows: the free development of science that allows for providing (or discovering) the right amount of energy is a necessary condition for the constant provision of basic goods such as food, drinking water, access to hygiene, medicine and the like. For civilisation to function, science must develop freely and adequate knowledge of beneficial energy sources must be acquired in time. Otherwise, science risks losing stability, and it is energy stability (homeostasis) that is the basic condition for civilisation’s continuance. Everything else, e.g. food, peace between nations and politics are secondary problems.

In *Summa* we can read: “The shift from the type of energy sources that are being depleted to their new type [...] requires obtaining the appropriate information in advance. It is only when the amount of such information has gone beyond a certain “critical point” that the new technology produced on the basis of such information will reveal some new reserves of energy and new domains of activity” [90].

Ray Kurzweil conducts his reflections in a similar way. His work on the development of technology, the human mind and artificial intelligence, which does not lack bold announcements of future discoveries, is largely based on the so-called law of accelerating returns. His law is not linear, but exponential, however a similarity to Lem’s proposal lies in its perspective – the law, or fundamental factor marks the path of development. For Lem, every civilisation deals with the problem of energy resources at certain critical points. Energy is a basic need for the functioning of civilisation and, most importantly, sets its purpose. What is more, every civilisation also deals with the problem of selecting the information needed to obtain knowledge about these energy sources [*Summa* 89-93]. For Kurzweil each change is subject to a fundamental and predictable developmental trajectory [How to create a mind 327], and the historical and exponential vision of technological progress is deeply embedded in the structure of the world. This is evident in his proposed division of the epochs of evolution (1. Physics and Chemistry, 2. Biology and DNA, 3. Brains, 4. Technology, 5. The merger of technology and human intelligence, and 6. The universe wakes up), which is headed to a specific point [The

singularity is near 25-35]. Both futurological proposals are grounded on some principle of functioning or law and are based on the assumption that there is a “core” of civilisational development that is independent of specific socio-historical events, tensions or trends.

Another futurological method also appears in *Summa*. Lem reflects on the problem of energy homeostasis and considers different variants of the development of civilisation. He presents three scenarios: Losing – civilisation does not overcome the basic problem of free access to energy sources and it is either headed towards destruction or manages to survive only by accident; Draw – civilisation alienates itself from the problem by creating a space in which this problem does not exist; Win – civilisation overcomes the problem of energy and information selection by radically changing the way knowledge is acquired, and thus also the way homeostasis is maintained [*Summa* 93-97]. These variants are quite general and they only outline some intuitions about possible changes without any firm conclusions. This approach contrasts with the activities of the futurologists criticised by Lem (such as those quoted in *His Master’s Voice*):

“The reason for this is that it is not my intention to catalog and enumerate some «future inventions» but rather to show some general possibilities [...] this is not a science fiction book but rather a set of variously substantiated hypotheses” [*Summa* 185]. Under these three scenarios: Losing, draw and win, further potential paths and solutions are hypothetically considered. Each variant has many development

opportunities, and Lem, in the most exhaustive way, tries to show which of them have a chance to be realised and to what extent these possibilities are satisfying for civilisation itself. In this case, the considerations are multidirectional and “tree-like”.

Nick Bostrom, a philosopher and transhumanist, chose such a multidirectional variant in his considerations. In his book *Superintelligence: Paths, dangers, strategies*, he tries to consider possible paths for the development of superintelligence (SSI)². His idea seems particularly interesting because it contains a comprehensive description of historical research projects related to computerisation and the development of advanced computational programmes, as well as a review of contemporary trends in research on artificial intelligence. The emergence of superintelligence, however, is the main topic. Bostrom assesses possible ways of “reaching” a mind beyond human abilities and indicates which of them may be beneficial for civilisation. He defines the possible conditions of coexistence with such a superintelligence, and also presents the potential threats associated with specific SSI versions. His considerations are an example of futurology, in which neither subsequent inventions, nor specific technological solutions are unequivocally preordained, but only possible paths are forwarded and evaluated because of their potential benefits or threats to the civilisation of the future. Some factors (such as the lack of cooperation between different research centres or the uncontrolled

2 Superintelligence is “any intellect that greatly exceeds the cognitive performance of humans in virtually all domains of interest” [Bostrom 45].

learning process of SSI) can contribute to the development of a superintelligence unfavourable to humanity. Thanks to Lem's and Bostrom's considerations, which exhaust the spectrum of probable technological transformations, we are able to gain intuition as to the need to monitor some sectors of scientific work and the possibility of correcting projects and activities, for example those related to SSI.

Futurology *demystified*

Lem is doubtlessly an exceptional futurologist. In addition to using the methods presented here, he also reaches for the potential of a literary building of non-existent worlds. The descriptions in Lem's books become an important "support" for scientific considerations. Leszek Nowak, a philosopher, emphasises the importance of properly constructed literary visions and how these can positively develop and test theoretical intuitions: "Here, for social theories [...], projecting literature [...] plays, or rather should play, a «piloting» role. It is an intuitive equivalent of constructions built in the theoretical natural sciences. One learns more from Lem's visions than from many other works, in which the lack of imagination is littered with a host of footnotes" [Nowak 16]. For Lem, a hypothetical situation created within a future setting is a solution that allows for the testing of ideas and concepts, which in turn makes it possible to reach certain real choices that are beyond the literary world. "Science fiction to me has become a way out: which was too gloomy, too black, I also described ... but in a grotesque and jesting manner" ["Wycinek autobiografii"]. In his science-fiction books he creates situations that allow him to assess beliefs and

verify goals. Andrzej Stoff notes: “His novels [...], within the possibilities offered by fiction, try to cross the border between human and natural science consciousness. [...] The model of non-existent science and the process of cognition, which never took place, shows the highways and byways, illusions and chances of real human actions” [17-18].

Books such as *Fiasco*, *Solaris* or *Observation on the Spot* can be considered as thought experiments allowing for significant re-evaluations, while avoiding a calculation error. Lem’s search for various techniques, his enumeration of methodological problems and his attempts to overcome them are a valuable lesson for those who today undertake the difficult task of forecasting. Futurology as a field dealing with society must look for useful methods, but must also be aware of their limitations. Its task is to effectively support the development of civilisation, which is why researchers cannot afford accidentally accurate predictions or unauthorised attribution of precision and certainty to their works, which in reality they do not possess.

Translated by Aleksandra Sokalska-Bennett

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“Is it Possible To Be Many Things at Once?” On Stanisław Lem’s *The Mask*

Agata Rosochacka

In the works of Stanisław Lem *The Mask* is exceptional in several respects. In particular, it is the narrative situation of the story that is special: no other work by Lem has a woman narrator, and in addition, this woman is a machine.

Much has been written about the infrequent presence of women in “Lem’s universes”¹. Feminist researchers even claim that a woman does not appear at all in Lem’s works. Rather, one can only talk about her apparent presence, and that when she appears, “«she» turns out to be that

1 On this topic, see [Glasenapp; Jekutsch; Parker].

which is not" [Parker 95]. Some researchers claim that female characters in Lem's fictitious realities do not function on the same principles as men. Even in those works in which female characters seem to perform the most important function, they are not explicitly subjective. According to scholars of Lem's works, this is especially the case in *Solaris* and *The Mask*. Indeed, as Jo Alyson Parker points out, Harey – a character in *Solaris* – is at most a reflection of a woman in a man's imagination and memory, and the main character in *The Mask* is only allegedly a woman because: "*the artificial woman ends up subsumed under a rubric of artificial intelligence in general*" [97]².

Wojciech Michera, on the other hand, interprets Lem's non self-contained female characters in the context of Lacanian psychoanalysis. According to Michera, the horrifying form of *the Mask*³ does not arouse fear because it substitutes a male subjectivity: "What is frightening is in fact what makes such a reversal impossible. This «incompleteness» of femininity is a real «difference», [not] the opposite of masculinity, but something which «dispels the true opposition between masculinity and femininity»" [321].

2 The author comes to this conclusion because of the mistake resulting from the translation of the story into English. Cf. Jarzębski: "Eg. «robot» (and this is what the character of the story is called) is in English, like almost all non-personal entities, of the neuter gender, while in Lem's original it is: «machine», that is, the narrator never loses the obtained «femininity» completely". Footnote no. 5 of Jerzy Jarzębski to the quoted article by Parker.

3 For the sake of clarity of those considerations (like most of the scholars investigating Lem's story), I call the narrator "the Mask", even though she is never named this way in the story. The Mask in the title does not necessarily have to refer to the narrator, it may well be said that the "mask" is, for example, the accepted convention or reality of the setting. However, because the reader does not learn the narrator's name (or rather, they encounter many of her names without knowing the right one), when interpreting the work, I use the name "the Mask". It is therefore an interpretatively marked simplification for the functionality and communicative nature of the argument.

Referring to Lacan, Michera states that the Mask is “«real otherness», the internal «difference» of an entity that can be subdued only – but only for a moment, for one step – using «theatrical representation» or «theatrical machinery», «the mechanism of a prosthetic body»“ [323]⁴.

As I have already mentioned, the narrator of *The Mask* is also uncharacteristic for Lem in another way other than her gender. The story of the Mask is told from the narrative perspective of a machine. Although it could be claimed that artificial beings are characters who often appear in Lem’s works, especially the main characters of *The Cyberiad and Fables for Robots*, in the case of *The Mask*, the situation is different in many respects. First of all, robots or machines appearing in these cycles are third-person characters, and not first-person narrators⁵. In addition, these collections of works have the aesthetics of grotesque comedy in contrast to *The Mask*, the tone of which, as Jerzy Jarzębski writes, “is solemnly serious”[38]. Although *The Mask* is not as unequivocally comic as *Fables for Robots*, however, the clearly grotesque constructions of the hybrid body of the character, full of anachronisms of the represented world or various conventional and stylistic procedures, situate this work closer to *The Cyberiad* than one would initially expect from the “sol-

4 The psychoanalytic trail is one of the many interpretative trails of Michera. He devotes an extensive book length essay to the reading of *The Mask*, which is extremely rich in interpretive contexts. It seems, however, that when thinking about the gender of the narrator of *The Mask*, it is the context of Lacanian psychoanalysis that Michera singles out.

5 Apart from the *Mask*, the most serious case in Lem’s work when we deal with a machine narrative is *Golem XIV*, where the narrative of the machine is woven into a set of texts that the researchers of Lem’s work call apocryphal. The genre of *Golem XIV* is not obvious and the work oscillates between discursiveness and narrative, see [Płaza 70-98, 436-478].

emply serious tone" mentioned by Jarzębski. What is ironic is the literalisation of the image of a female praying mantis (*femme fatale*), which is one of the main modernist metaphors.

According to Roger Caillois, the presence of a mantis in the myths of all cultures and times is due to the disturbing analogy between a woman and a praying mantis. "The mantis devours the male during copulation – a man imagines that a female will devour him, luring him into her arms. There – an act, here – imagination [...]" [145]. Although Caillois emphasises the impending parallelism, he also discerns the distance; the difference between a deadly female insect and a woman. Exceeding this distance – equating a woman and a mantis – gives a grotesque effect, and at the same time is an ironic fulfilment of the deepest male fears and fantasies.

Modernist imagination equates a mantis to a precise and merciless machine and the myth of Pandora is invoked – "a machine made by a god-blacksmith to ruin people [...]. In literature, too, there is a concept of a woman-machine as a fatal woman; an artificial, mechanical woman who has nothing to do with living beings and is always deadly" [145].

The modernist fear of a woman-machine can be derived from the need to protect the masculine, strong subject from the destructive power of liberated femininity and against the "unnatural" mechanisation of the world. This fear results from being aware of substitutability

by women on one side and / or machine on the other. A woman-machine becomes a double enemy from this perspective, and thus one that is monstrously asymmetrical – she is in double opposition and doubly sinister.

Some other aspects of *The Mask's* narrative situation are also interesting. The setting has features of the past world (this is evidenced by such elements as: the king, ball⁶, dresses, castle, conventions, etc.), however, this is not a concrete or even possible past. As Lem writes, the narrative of *The Mask* is set “in unusual conditions for science fiction, namely completely fantastic. That is, it is unlikely that in a kingdom with a feudal system and cultural level similar to medieval times, it would be possible to create a machine that is absolutely similar to a human” [“Preface” 12]. It is therefore an example of alternative history.

In *The Mask* Lem uses the conventions of picaresque and gothic novels, as well as horror stories, which is expressed in the narrator's style. These conventions, to some extent, also provoke the majority of the plot devices⁷. Lem uses the motive of fatal love, terrible change, a mysterious atmosphere of narrative, an antinomic pair of characters (the Mask–Arrhodes), curse, pursuit, dark crime, kidnapping and the like. Characteristic of *The Mask* style, there is also a clear fascination with the scientific discoveries

6 The ball is perceived by the narrator as a masquerade – the people around her are presented as dancing mannequins and their faces as masks, see [*The Mask* 14].

7 Modernist and later fascination with writing and narration as a kind of automat/ automatism is also an interesting interpretive context.

of the epoch, which also influenced the creation of Mary Shelley's *Frankenstein; or, the modern Prometheus*⁸.

The sheer number of interpretations of *The Mask* shows that the story is readily analysed and the appealing ambiguity of *The Mask* makes it possible to look at it from many perspectives⁹. Its polysemy leads to fragmentary interpretations of the work or, vice versa, it provokes extremely broad and heterogeneous claims¹⁰. Interpretations of *The Mask* are often mutually exclusive, but if they agree on something, then perhaps it is that one of the main features of this story is its ambiguity and inconclusiveness. Jarzębski states: "I cannot quite grasp the meaning of *The Mask*; it is probably the most mysterious piece by Lem" [38]. Lem writes that *The Mask* surprised even him ["Preface" 11].

Although this work by Lem has already been interpreted so many times, it seems worth attempting to analyse it in the prosthetic context¹¹ for several reasons. Indeed, the stylistics of *The Mask*, which blurs the boundaries

8 The character of Arrhodes in *the Mask* is interpreted by many researchers in the context of the myth of Prometheus. An analogy to the novel by Mary Shelley also appears, in which the nameless and heterogeneous monster persecutes its creator, Dr. Frankenstein, similarly to the Mask, who chases Arrhodes. On the other hand, the king can be considered to represent Prometheus, as it was the king who ordered the creation of the Mask.

9 For example: For Maciej Piłza *The Mask* "is a record of the process of cognition and self-discovery. [...] it is both a hypothesis about the ontology and epistemology of an artificial being, but also a metaphor for self-knowledge, which is freed" [438]. For Jo Alyson Parker, interpreted through the prism of gender, *The Mask* is a symbol of human duality: The robot's self-division [...] is emblematic of humanity's, and its gender programming is a synecdoche for the programmed nature of all human response" [96].

10 As in the case of Michera's book, quoted above.

11 For a prosthetic interpretative perspective, see my other articles ["Protetyczna propozycja"; "Proteza"; "Potworne ciała".

between the living flesh and the dead, impassive matter encourages us to do so. The whole setting of the work, and not only the character of the Mask, is characterised by this lack of division. The memory of the narrator entering the ball serves as an example of the ubiquitous blurring of the boundaries between the living and the dead:

“I recollected waking at the door of the palace hall, already in this present reality, I could even recall the faint creak with which those carved portals opened even a slight grinding, and the mask of the servant’s face, the servant who in his zeal to serve resembled a puppet filled with civilities – a living corpse of wax” [The Mask 16-17].

Similarly, the obscure margin between the living and the dead is also evident in the tryst of the Mask with Arrhode in the park, where the accompanying stone sculptures recall the myth of Pygmalion and Galatea: “The garden was overcast. The royal park with its singing fountains, hedges clipped down all to one same level, the geometry of the trees, shrubs and steps, marble statues, scrolls, cupids.” [25].

In addition, the hybrid corporality which often appears in Lem’s works is generally a pretext to consider the issue of omnipotence (in utopian or dystopian backgrounds¹²). In

12 See., among others, the following works by Stanislaw Lem: *Do You Exist, Mr. Jones?*, *Layer Cake/Roly Poly*, *The Futurological Congress*, *Wyprawa profesora Tarantogi*, *The Star Diaries* (esp. *The Thirteenth Voyage*, *The Twentieth Voyage*, *The Twenty-first Voyage* and *The Twenty-third Voyage*), *The Inquest and Altruizine*.

the case of *The Mask*, however, the prosthetic body provokes completely different (and perhaps more interesting) investigations. The prosthetic context allows us to capture the complex identity structure of the narrator and re-read the ambiguous ending of *The Mask*. The interpretive category of the prosthetic body is therefore most useful for those issues that appear most problematic when reading Lem's story.

Among the many doubts that appear during any attempt to analyse *The Mask*, I am primarily interested in the basic question, one that is often asked both by the narrator herself and by the interpreters of this work: who is the Mask? Her identity is problematic in every respect. Trying to define it, I still encounter difficulties with each of the constituent elements of identity: the body, memory, name, and cultural context¹³.

Bodies

In a short summary, it is worth looking at the stages of creation of the Mask's identity.

The initial scene of *the Mask* describing the birth of the narrator is stylised in biblical language and clearly refers to the Book of Genesis. It is clear, however, that in Lem's story we are dealing with secondary creation – the created being formed by machines is not an organic or "natural" creation. Mechanical birth is accompanied by feelings of pleasure and fear. The character initially has

¹³ All these elements can be described by the Latin term *habitus*, whose ambiguity correlates with "the mask" in the title.

no gender and speaks in a neuter register. This changes with the next stage of the story: “And then, with a sound not heard but sensed, a tenuous string snapped within me and I, a she now, felt the rush of gender so violent, that her head spun and I shut my eyes. And as I stood thus, with eyes closed, words came to me from every side, for along with gender she had received language.” [*The Mask* 6].

A step towards gender and language is also a step into the body. The metal figure of an unknown (even to herself) creature is clothed in the body of an almost inhumanly beautiful girl. We already have an unusual situation at the beginning, for the human body is secondary to the body of the machine, just as the prosthesis is attached to it and gives it gender and language.

During the ball, the narrator meets two men who determine her fate: the king in whom she senses her creator and ruler, and Arrhodes, a sage in whom she recognises her goal. Entering the body of a woman, the narrator realises that she was called to kill Arrhodes. Under the new form, the Mask easily seduces the man and begins a dangerous game with him. However, the identity of a beautiful seducer does not erase memories of her birth as a mechanical being.

The next stage in the creation of the Mask is the gesture of opening the woman’s body and releasing a metal mantis from it. In an ambiguous scene that resembles child-

birth, the character cuts her abdomen with a knife, from which a mechanical insect emerges:

"In the mirror it looked as if I intended to knife myself, a scene dramatically perfect, sustained in style to the last detail by the enormous fourposter and canopy, the two rows of tall candles, the glint in my hand and my paleness, because my body was deathly frightened, the knees buckled under me, only the hand with the blade had the necessary steadiness. [...] What horror, terror, to look at oneself thus! I dared not touch the silvery surface, immaculate, virgin, the abdomen oblong like a small coffin and shining, reflecting the reduced images of the candle flames, I moved and then I saw its tucked-in limbs, fetal-fashion, thin as pincers, they went into my body and suddenly I understood that it was not it, a foreign thing, different and other, it was again myself. "
[The Mask 29].

Jo Alyson Parker interprets this scene "as a literalisation of the Lacanian «mirror stage»" [100]. Płaza emphasises: "The pupating of the Mask is often interpreted as identity tearing into the conscious and unconscious" [447]. According to Jarzębski it is divided into "what is biological, animated, emotional - and what is absolute, mechanical, determined" [40]. Most interpreters, however, seem to agree that the gesture of cutting the body is a step towards freedom and towards an autonomous identity, as it is a gesture of rejecting false skin.

One can, however, have doubts about this. Lacan sees the confrontation with the image seen in the mirror as allowing for the emergence of fragmentary members of the body of the first unified “I” from chaos. In Lem’s story, however, the “mirror scene” is not a moment of unification, but separation. What is more, this separation does not give rise to a uniform sense of the narrator’s identity, but rather she passes the next stage, one that does not necessarily lead to unification. Questions about who she is, her doubts, and her ambivalent feelings do not diminish. The cutting of the body would therefore require another interpretation. First, however, let us consider the subsequent development of the story.

The metallic mantis, endowed with extraordinary strength and tracking abilities, begins to chase after Arrhodes. Aware of her destiny, she also tries to resist it and find out to what extent she is a programmed machine whose aim is to kill, and to what extent she is a free-willed entity. The ambiguous ending of the story does not give a definite answer to this question. The narrator finds Arrhodes when he is dying and does not find out whether she would have found the strength to oppose the programme that is inscribed into her and save her former lover. In the final scene, in an atmosphere of relief and calm, the mechanical narrator holds the dying Arrhodes in her arms.

The narrator goes through several stages, and experiences subsequent changes and incorporations. Which of the

incarnations of the Mask is the "right" one? Scholars generally think that it is the metallic form of the mantis, and that the woman's body is only an outer shell. However, if the body were merely an outer disguise, something that can be easily separated, and an object clearly separate from the Mask, it would not affect her perception or identity. However, the mechanical narrator can feel the body in which she enters, which she articulates while describing it from the inside:

"I was experiencing, in its totality, my nakedness, the breasts, belly, thighs, neck, shoulders, the unseen feet, concealed by costly clothing, I touched the topaz in gold that pulsed like a glowworm between my breasts, I could feel also the expression on my face [...]" [The Mask 7-8].

At the same time, the Mask can present her body as seen from the outside remarkably well, although in the scene cited here, she had not yet had the opportunity to look in the mirror.

The mask experiences the woman's body in an ambiguous way: both situating herself inside it – as herself, and from the outside – as an object. This duality also applies to the bodily emotions that she sometimes accepts as her own and without referring to them as the subject of vivisection, and sometimes she sees them as imposed, foreign and instilled together with the programme, as is the case with the blush:

“I felt that I was blushing. The blush did not belong to me, it spread on my cheeks, claimed my face, pinkened my ear lobes, which I could feel perfectly, yet I was not embarrassed, nor excited, nor did I marvel at this unfamiliar man, only one of many after all, lost among the courtiers—I’ll say more: I had nothing whatever to do with that blush [...] the blush seemed part of the court etiquette, of that which was required, like the fan, the crinoline, the topazes and coiffures” [The Mask 12].

The relationship between the body of a woman and the metal body of a praying mantis is not as unambiguous as it might seem. It is difficult to use clear concepts of a whole and addition here. In order to describe a woman-machine, a language blurring border between the interior and exterior is needed. The narrator’s body is characterised by a certain lack when it is only the body of a mechanical insect. This lack is related, among others, to gender: as a metal being, and before entering a woman’s body, she has no gender, but after ridding herself of human corporeality, her gender remains, albeit without a physical manifestation. This is connected to love and the erotic longing for a beautiful woman’s body. Michera also mentions this lack and refers to the context of Lacanian psychoanalysis. When the identification does not have a sufficiently reliable foundation on which the subjective structure could rest, it starts “the alienating process of subject separation. This particular object [which becomes the identification reference] Lacan describes as *petit ‘a’*. The effects of this change are catastrophic, because ‘a’ introduces «lack», «absence»

or rather «the presence of lack», «a bit of non-being» – «death» into an identifying relationship. This is the point at which the subject sees his incompleteness and the flaw caused by *a*, which is what he/she lacks, and what he/she expects to fill the source gap with. This «stitching» can, however, be done only temporarily by masking the «crack» and putting a «prosthesis» in its place, because *a* (as a lack, towards which the entity builds its identity) is not something that can be understood; it is only possible to confront it – it only exists as a relationship” [Michera 329].

Thus, the lack filled by a prosthesis does not offer the whole, but rather creates excess; this is the case with the Mask when a woman’s body accompanies her. This body does not bind her identity, but introduces an additional sense of a heterogeneous structure. It introduces a discourse of doubt and undermining, while at the same time it is impossible to meet the need to separate the self from the additions.

Jacques Derrida’s “parergon” corresponds to this simultaneous occurrence of lack and excess, the inability to separate the inside from the outside, and the independent, from what is an auxiliary construction. In *Truth in Painting*, Derrida devotes a lot of space to discussing the concept of parergon taken from Kant’s *Critique of the Power of Judgment*. Parergon appears in the text of the king’s philosopher when he writes about a frame of a painting and the clothes of stone figures, but he also uses parergon to refer to examples that accompany theoretical writing and are helpful for thoughts that are not independent.

In Derrida's interpretation, parergons are not within what they accompany, but this accompaniment is not without an effect on their interior. Parergon touches, presses, searches, and puts pressure on the boundaries. Parergon is needed when a body (or a thought) needs help and is not able to affirm itself completely, but needs some support. For Derrida, parergon resonates with two other concepts: supplement and prosthesis. All three of those concepts are characterised by a vague establishment of the border between the internal and external. In Derrida's text, parergon is the ratio of "the concept to the non-concept", it is placed on the frame of the body as a "prosthesis" [*Prawda* 92]. Parergon appears against a disability "which demands to be supplemented by a prosthesis" [92] or in the form of a wheelchair thanks to which "one pushes forward something which cannot stand up, does not erect itself by itself in its process"[93].

Parergon, supplement and prosthesis are synonymous for Derrida, however, in the context of the body, it is the concept of prosthesis that is characterised by a particular adequacy. For the machine, the body of a woman is a prosthesis based on the parergon principle. It is not a prosthesis of a particular part of the body or a specific sense or experience, but a prosthesis that is a frame for the whole body, for the whole of her existence and identity. When describing the body of the Mask, the concepts of prosthesis and parergon will be used interchangeably (as well as the concept of supplement, which is most general of them) constantly thinking about their adoption/juxtaposition.

In the context of corporeality, then, the Mask is not just a prop which can be abandoned, easily exchanged for another, or cleanly separated. The body of a beautiful girl is a prosthetic mask whose belly hides a metallic mantis. It is also the role of the mistress, which the character plays for Arrhodes in the early stages of the story. The prosthesis is a convention (both social and literary), which the characters of the story are subject to. But the prosthetic mask is not just the character's identity related to the role of a lover, a beautiful girl, a seducer, a participant of balls and trysts. The narrator cannot unambiguously state that her real, hidden self is identical with the figure of a mechanical praying mantis and that it consists of a programme that is written into her, a task to perform, a chase and a murder. The metallic insect emerging from of the woman's body is also a mask. This is evidenced by the etymological meaning of the word used by Lem to describe the praying mantis – larva (Polish "larwa") used to mean, among other things, a mask¹⁴.

The character has many identities, memories, desires, and reflexes associated with them. She perceives all of them as masks, however, and tries to distance herself from all of them, seeking herself under the shells of these characters. Both the figure of the girl and the praying mantis are imposed on her, and the narrator, while trying to oppose them, is still uncertain whether her behaviour is part of the programme that is inscribed in her. She is not the only one who this issue concerns. The ontological uncertainty associated with the mask concerns us all. Am I myself

¹⁴ "Larva, mask, monster, phantasm, Latin *larva*" [Brückner 290].

and do I have free will? Or do I maybe succumb to social, cultural, bodily, and linguistic conventions and coercion? Maybe someone/something imprinted my beliefs on me, designed my decisions or my fate a long time ago¹⁵?

It is this subjective identity insecurity associated with the ontological consequences of the mask's body that makes the monk she meets on her chase call her his sister, while covering his eyes¹⁶. She is equal to him in ignorance: "however much we may differ, your ignorance, which you have confessed to me and which I believe, makes us equals in the face of Providence" [*The Mask* 40]. The provincialism professed by the monk means faith in providence, that is, God's constant care and not leaving people to fend for themselves. However, faith in provenance can also be perceived ambivalently. It means the belief in participating in a plan, which will not be understood, and so it does not allow for full freedom of action.

Memories

It is difficult to talk about the body of the Mask in isolation from her memories. In the history of memory there are many body metaphors, including a metaphor of memory as a stomach, memorising by eating the scriptures, embodying the Bible, and also a physically painful memory that is burning in the body¹⁷.

15 As Parker writes: "Is our own free will as spurious as that of the machines that do our bidding? In effect, intelligent mechanisms bring to the fore our difficulty in defining the nature of the subject; indeed, they problematize the very notion of the subject as such." [94].

16 The origin of the word "mantis" also testifies to the "kinship" of the narrator with the monk - Latin *mantis religiosa*, literally: praying.

17 Cf. [Butzer 195; Assmann 113].

A special case of memory is the memory experienced through an extension of the body, a mediated and prosthetic memory. This type of memory, like a prosthesis, is actually located in the body; it consists of sensual memories produced by the experience of the mediated representation.

After entering the female corporeality, the Mask retains the memory of birth as a mechanical being, at the same time, however, she is flooded with memories associated with the character which she incarnates. So we can talk about the narrative memory of the narrator and her mediation is the woman's body:

“But as Angelita I had been raised in the sweltering heat of the South and, looking back in that direction, I saw white walls with their chalky backs to the sun, withered palms, wild dogs with scraggly fur by those palms, releasing frothy urine on the scaled roots, and baskets full of dates, dried up and with a sticky sweetness, and physicians in green robes, and steps, stone steps descending to the bay of the town, all the walls turned away from the heat, bunches of grapes strewn in piles, yellowing into raisins, resembling heaps of dung, and again my face in the water, not in the looking glass, and the water pouring from a silver jug—silver but dark with age. I even remembered how I used to carry that jug and how the water, moving heavily inside it, would pull at my hand” [The Mask 18].

What particularly important in this passage is that the memory retained by the narrator is connected with the body. She remembers not just childhood images, but also sensory experiences: scents or the weight of a pitcher. Childhood memories as the countless overlap with the memory of birth as a machine. Subsequent memory does not supersede the previous one and is not an unambiguously artificial material.

As Alison Landsberg writes, prosthetic memory, like an artificial organ, often marks trauma. The body of a woman and the sensual memory associated with it become such a trauma for the Mask, because of which she cannot unequivocally find a stable identity. Landsberg also calls this type of memories “prosthetic” to emphasise their usefulness and the fact that they can become helpful tools in articulating ethical relationships with others [20-21]. The Mask’s own identity exploration and her ethical dilemmas (related to her assignment to murder Arrhodes, inscribed in her programme) are possible only thanks to the experience of the body and the creation of prosthetic memory.

For Celia Lury, body prosthetics and memory prosthetics are also closely related. Both the perceptual prostheses (and therefore the memory prostheses), as well as the mechanical prostheses (and thus the body prostheses), create the possibility of “self-expansion” and extension. Writing about the criteria of creating an individual identity, Lury states:

„These [criteria] include embodiment, that is, individuals are constituted as such through the recognition of their possession of a unique body [...]. However, having a (recognisable) body has historically not been sufficient to define an individual. Continuity of consciousness and memory are also necessary for a person to claim separate status as individual.” [7].

The mask does not meet the requirements of a unique body or a continuous, uniform memory. In Lury's terminology, there is no chance of individual identity, but she is rather an experimental identity, one that arises in a prosthetic body and memory. Memory associated with the female body of the Mask is also not homogeneous. The narrator has many different stories and each of them is equally possible and felt as her own:

“And who was I? [...] each [...] dragged after him his personal past like the long, raised dust that trails a desert wagon, turn for turn, whereas I had come from such a great distance, it was as if I had not one past, but a multitude of pasts, [...] was it possible to be many things at once? To derive from a plurality of abandoned pasts? My logic, extracted from the locoweed of memory, told me this was not possible, that I must have some single past, and if I was the daughter of Count Tlenix, the Duenna Zoroennay, the young Virginia, orphaned in the overseas kingdom of the Langodots by the Valandian clan, if I could not separate the fiction from the truth, then was I not dreaming after all? “ [The Mask 9].

The inability to make a decision about her past is connected with the inability to confess her identity. When the narrator in the body of a beautiful woman seduces Arrhodes, she measures herself with her free will, examines whether she can tell him who she is and what she was created for. This honesty is not possible, and her language refuses to obey her. She can only tell Arrhodes things that do not go beyond the convention of romance. But there is also a second reason why the Mask cannot confess her identity:

“I did not tell him that night who I was, not wishing to lie to him and not knowing the truth myself. Truth cannot contradict itself, and I was a duenna, a countess and an orphan, all these genealogies revolved within me, each one could take on substance if I acknowledged it, I understood now that the truth would be determined by my choice and whim, that whichever I declared, the images unmentioned would be blown away, but I remained irresolute among these possibilities, for in them seemed to lurk some subterfuge of memory—could I have been just another unhinged amnesiac, who had escaped from the care of her duly worried relatives?” [13-14].

The narrator prefers to remain undecided towards this multiplicity of herself, despite the fact that the multiplicity makes her fight with her own memory. Choosing a specific story from the ones that she carries within herself would mean accepting the programme that was written

into her and fleeing the battlefield. The Mask prefers to struggle with herself than to agree on one narrative, one name and one memory, and therefore on an individual identity. On the one hand, the Mask wants to reach her true, single entity, on the other, however, she senses that deciding on any one identity would be disastrous for her.

The last scene does not allow us to ascertain whether the Mask would kill Arrhodes or not – and thus determine the most important (as it might seem) element of her identity. It does not allow for a determining of the possibility of making free decisions. This ending inclines most scholars to define *The Mask* as an undecidable work. However, describing the identity of the Mask with the help of the concepts of a prosthetic body and prosthetic memory, makes the ending less vague. Ignorance becomes a saviour, delights and allows for an empathic accompanying in Arrhodes's agony (stylised as pietà). After his death, when it was impossible to unambiguously resolve the identity of the Mask and separate it from the "programme", ignorance brings calm. At the end of the story, the Mask seems to understand that only a prosthetic identity is possible for her and only thanks to this identity can she protect herself against a single convention. The search for identities related to their multiplicity – the inability to separate the self from additions, prostheses – ends when the narrator understands that the Mask is not a homogenous structure in which the foundational "I" is possible, as it is always subjected to a parergonal game, a chain of supplements, and prosthetic stitching.

Stories

The process of the Mask's search for her identity would not be possible without a certain gesture. Since the Mask cannot look deep into her own head and the inwardly directed analysis turns out to be in vain, the narrator, parallel to the gesture of vivisection, makes a gesture from herself the world – telling a story. The narrative work of the Mask is closely related to the narrator's prosthetic memory discussed earlier. Mediated memory can in fact lead to the adoption of narrative models, linguistic conventions, and even entire narrative sequences. Dmitry Buck claims that the Mask needs auxiliary constructions to express herself, she "makes past events «literature»" [119] in the "process of moving from events to stories told about them"[118]. According to Michera "exceeding this threshold initiates the process of «doubling» the subject; a process that – as it turns out – is endless and must lead to madness" [88]. The use of narrative or plot devices has an impact on the formulation of our memories. Sometimes, entire fragments of "foreign" stories are used and internalized as one's own. This associative activity of memory can be done in a conscious way, for example when the narrator clearly refers to cultural memory to convey personal experience, while comparing one's own situation to a situation remembered from a novel or film. However, this also happens when the narrator is not aware of the mediation of the elements of her story, and when talking about the past experienced by her, she uses a prosthetic experience.

Harald Welzer claims that the incorporation of inauthentic experiences into the story of one's own history is a natural procedure for the functioning of memory in an attempt to express it. Memory, as he writes, reaches "the existing elements of reality without difficulty, which from the point of view of the present seems to «fit» their own past" [57].

The use of "artificial" material when formulating one's own past into a story is particularly helpful in the context of traumatic experiences. I interpret the lack that accompanies the Mask as resulting from trauma. This lack is also a weakness, a disability of ignorance about herself: about how she was created and the scope of her freedom, which point to her identity. In the face of this ignorance, the Mask takes a specific course of action. Her story is not only a first-person narrative, it is also accompanied by a recipient we learn about only twice [see. *The Mask* 30 and 43].

As Płaza writes, the Mask's narrative should be "broadly understood as a process of self-discovery and gaining self-understanding – is directed to a higher meaning that cannot be revealed within this narrative" [450]. In the case of the Mask, we can talk about a certain autobiographical gesture of the narrator: "The narrative of a woman-machine becomes not only her self-textualisation, «*self-biography*», but an autobiography told entirely for the use of viewers-listeners" [Michera 88]. By suggesting the existence in a specific setting of a listener

or listeners, the character speaks towards a specific recipient. Thus, the world of the story and the world of listeners is separated. This separation is characteristic of an autobiographical story. The gesture of confession is a parergonal movement, because it reaches towards the world, trying to point to its limits, and at the same time, by using narrative and language, it situates autobiography externally rather than internally.

The functioning of memory in the autobiographical narrative is of a prosthetic nature. A supplemental prosthesis appears when something that should be full is not. It fills the gap, but through its varied nature it gives more. Such is the case with memory. The memory of one's own history and the willingness to honestly express oneself are repeatedly thematised by the narrator of *The Confessions* by Rousseau (in the context of which Derrida writes about the supplement ["It's dangerous"]). Memory is, however, prone to mistakes and gaps [Rousseau 221]. This kind of literary activity tries not only to recall the story, but also to create a story about oneself. It tries to be a story about past identities, which in the case of *The Mask* becomes extremely clear and literal.

Both prosthesis and autobiography are invoked to fill a lack and to support what is mutilated. The prosthesis responds to the need for a body that is not full. An autobiographical story, on the other hand, is an attempt to complete the memory marked with gaps and an attempt to express the self and the fusion of the self that hopes to

achieve fullness thanks to one's story. The autobiographical desire for expression results from mutilations that demand compensation: narrative, fictional, figurative and intertextual. The doomed attempt to speak about oneself results from the need to express the past self. Janet Verner Gunn compares this attempt (following Merleau-Ponty) to a phantom limb:

"The amputee continues to experience the «presence» of the limb which has been removed, neither as a result of self-delusion nor as a result of a conscious decision to ignore a painful experience. The phantom limb results instead from the self's prior commitment «to a certain physical and inter-human world» and its continuing «to tend towards [that] world despite handicaps and amputations»... In light of this fundamental gesture of resistance to mutilation that autobiography displays – to the mutilation of temps perdu [lost time] every bit as much as to the mutilation of jambe perdu [lost leg] [...]" [168].

The Mask's autobiographical act would therefore be a prosthetic act in this context – an act that replaces the amputated full identity (including the woman's body), a credible memory about oneself, a cultural activity that is a prosthesis of an authentic identity: the identity of the narrator. David Wills literalised the metaphor of prosthetic autobiography in his book entitled *Prosthesis* published in 1995. It is a discursive statement about the textual and physical nature of prosthesis and

a cultural autobiography about Wills through the prism of his memory of books, poems, paintings, and films. It is also an attempt to reach a personal memory that is related to the figure of his father who stood on two legs: one that was his own and the other which was a prosthetic one: „the oft-repeated «I» should always be read as a prosthetic «I», one forced into a combination of natural and unnatural relations, with a father’s leg, wooden or otherwise, or with text; no «I» that is not related to an event of prosthesis, to an event writing” [19].

According to Marek Zaleski the prosthetic supplementation of the story in an act of literarisation is “the stamp of the «deadness of the text», the deadness contrasted with a green tree of life. We live in the prison of language and the very fact that something is mediated by it determines that the author receives a mask instead of a face” [81].

The mask in Lem’s title can also refer to the gesture of prosthetic autobiography, which we can interpret by referring to the figure of a prosopopeia. It is a rhetorical figure used to recall the statements of people who cannot take the floor themselves (objects, animals, absentees and the dead).

The Greek origin of the word also indicates its connection with the mask: *prosopon* means a face (or a mask) and *poiein* means action or dramatisation.

Paul de Man investigated a close relationship between prosopoeia and autobiography in his article entitled *Autobiography as De-facement*. According to de Man the structure of the autobiography „implies differentiation as well as similarity, since both depend on a substitutive exchange that constitutes the subject” [921]. Associating mutilations with writing – either read or created – is characteristic of his work. In *Excursion* William Wordsworth writes about the life of Thomas Holm: „story of a deaf man who compensates for his infirmity by substituting the reading of books for the sounds of nature” [de Man 923]. De Man claims that „these figures of deprivation, maimed men, drowned corpses, blind beggars, children about to die [...] are figures of Wordsworth’s own poetic self” [924].

The autobiographical story of the narrator of Lem’s work is therefore the Mask herself, who tries to prosthetically complete the crippled entirety of identity. It is a prosopoeic figure associated with the mask, facial deformity, and an autobiographical story of what is dead or non-living. The narrator of *The Mask* is therefore a literal example of a literary prosopoeic autobiography in the sense of de Man.

Lem’s *The Mask*, which emerges from the above interpretation is a story of a pursuit of identity. The pursuit is carried out in two parallel gestures: separation (of the “proper” and prosthetic body, her “own” and prosthetic

memories, individual identity, and her complementary prostheses, external names, essence based on free will and free from influences); and construction through the story, giving herself a specific shape and identify herself in her autonarration. Both pursuits fail – the narrator does not gain a full, comprehensive form. However, the final scene of *the Mask* testifies to the discovery of a delightful, but also calming prosthetic identity and the consent of the narrator at the end of the story to place herself in its frame.

Translated by Aleksandra Sokalska-Bennett

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Extropy or Anti-utopia? – “Posthuman” Society in Stanisław Lem's *The Futurological Congress* in the Context of Extropians' Visions

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An analysis of earlier historical periods shows that technological advancement was often accompanied by a change in lifestyle and applicable norms (for example, the phenomena collectively referred to as the “industrial revolution”). Modern discoveries suggest that in the near

future people will have to face further challenges related to adapting the functioning of society to the emerging new technologies. One worthwhile example of this is the CRISPR/Cas method (also known as “molecular scissors”), which gives the opportunity to interfere with genetic code sequences [Głowacki]. Today, many experiments are carried out using CRISPR/Cas to modify the genotype of animal organisms [“Are we allowed”]. Government authorities are well aware of the importance of controlling the introduction of new solutions for widespread use. Attempts to create international law that would contribute to controlling this process to some extent, are noteworthy: for example, The Universal Declaration on the Human Genome and Human Rights, and the Convention on Human Rights and Biomedicine [Skrzypczak 293]. The above-mentioned developments can also be considered in the context of the transhumanist trend, which focuses on analysing the evolutionary possibilities of the human species in connection with the emergence of new technological solutions. The interest of state factors, manifested in, among others, the creation of regulations, shows that transhumanist projects have ceased to be seen solely in terms of a certain intellectual curiosity, and are beginning to be considered as serious programme proposals.

The Extropians

Some philosophers dealing with bio-improvement issues, including Jürgen Habermas, argue that manipulation of the genetic code and technological improvements may

result in the disappearance of traits of “humanity” [21, 26, 29]. The first transhumanist programmes not only perceived such radical changes positively, but also promoted their unfettered implementation. It was decided that people should use all the available tools that might allow them to create a perfect being in the future. Proponents of this trend believed that humanity will always strive to cross certain barriers in order to further improve their species [Hołub 83]. The words contained in Simon Young’s book are a kind of slogan for transhumanism: “As humanism freed us from the chains of superstition, let transhumanism free us from our biological chains” [32].

Julian Huxley laid the philosophical foundations for the doctrine of transhumanism. Some emphasised the similarities visible in the eugenic concepts of the early twentieth century and the transhumanist currents of this period. However, away from the common bio-utopian vision of society, there was a significant difference in how it might be introduced. Eugenicians focused on socio-political reforms that would enable the controlled development of humanity, whilst transhumanists adopted a libertarian approach, and emphasised the possibility of free development of an individual [“The Politics” 761].

Nowadays, there is a large, visible diversity in transhumanist groups’ programmes. One such group is an organisation founded by Max More in the 1980s, which brings together people who define themselves as Extropians [“The Politics” 763]. In a nutshell, it can be said

that Extropians believe in “a state of permanent physical, mental and intellectual development”, which stands in opposition to “the finite development of the species characterised as utopia” [Szymański 169]. The question of whether transhumanist extropy qualifies as a category of utopia has been considered already in an article by Kamil Szymański, So, rather than duplicating his definitions, I would urge readers to study his article for a broader discussion on the topic.

Transhumanists emphasise that social relations will deteriorate as a result of achievements in the field of biotechnology [“The Politics” 763]. Max More claims that the posthuman society will have to face new challenges [Szymański 169], however, the postulates contained in the 2010 Extropian manifesto (which is based on the postulates from 1998 developed, among others, by More) show an unwavering faith in the possibilities of human development carried out with the help of modern technology (including artificial intelligence) [“The Extropist”]. Extropians do not take into account the opinions and impact of society in their considerations, which is to some extent offset by the activities of scientists from another transhumanist organisation, Humanity+. This group emphasises the considerable role of social factors in influencing the creation of a new vision of the future. For this reason, they are taking steps to bring them into mainstream philosophical and theoretical considerations regarding the effects of technological improvements for general use. The core tenets of Humanity+'s programme

were presented in the so-called Transhumanist Declaration [“Transhumanist”].

Psychemised society in *The Futurological Congress*

The purpose of the article is to confront Lem’s vision of the future with extropist postulates, based on the analysis of *The Futurological Congress*, a novel from the writer’s anti-utopian period. It is worth noting at the outset that Lem’s predictions differ significantly from the optimism shown by transhumanists. For the Polish writer, not only does a technological breakthrough not necessarily lead to the development of the human species, but it can even be the beginning of its destruction. Social reality presented in *The Futurological Congress* is based on the illusion of prosperity brought about by new means, known as psych chemicals.

Psych chemicals are widely applied: they affect human emotions (evoking fear, sadness, love, etc.), memory (“entering” specific memories) and knowledge (due to the limited capacity of the human brain, regular “resetting” of information is necessary). There are even concoctions available for experiencing complex hallucinations in which a person believes that what they see is really happening. Psych chemicals certainly cannot be understood solely as drugs intended to restore a person to a “natural” state. Rather, they represent a certain lifestyle. Theoretically, no one forces anyone to use them (or at least this seems the case at the beginning of the story), nevertheless, giving them up results in social ostracism. The use

of psych chemicals to induce specific feelings is perceived as the norm by the community of posthumans. A “spontaneous” feeling in public is perceived negatively: “He who does so is very bad. One should always use the drug appropriate to the occasion” [Lem 64]. The preceptoriest¹ convince Tichy that the productstaken to induce certain emotions do not constitute aggressive interference in the selfhood of individuals: “It will assist, sustain, guide, improve, resolve. Nor is it it, but rather part of one’s own self, much as eyeglasses become in time, which correct defects in vision. [...] And I have no intention of ever using psychem myself. Such objections, says the preceptor, are typical and natural. A caveman would also resist a streetcar” [64]. The last sentence particularly aptly illustrates how a psychemised society perceives people awakened from a long sleep. Tichy repeatedly encounters signs of resentment from his friends. He later finds out that even people who are kind to him often do this for show. They compensate their kindness towards the “caveman” in a way typical of those times –by giving him a particular concoction that makes him experience mystical revelations towards objects regardless of whether they are animate or inanimate. He ends up worshipping tableware until the host gives him a drug that eliminates the effects of psychem [79].

The use of psych chemicals is an important determinant of the new human civilisation, but the changes that have occurred in the philosophical and ideological field are

¹ Computer that teaches people who have been woken up.

equally important. This is evidenced, for example, by the fact that people have abandoned historical sciences for the sake of becoming “futurologians”, whose focus is on creating scenarios for the future of humans. This is certainly one of the more revolutionary changes. For the psyches of a modernised society, the past becomes invalid. All attention is focused on discovering new ways of shaping the world, including improving the quality of life of the human species. An important issue here is the emergence of a “post-human” that goes far beyond the capabilities of modern representatives of our species (according to Extropians, it is the basic condition for the emergence of a new society) [Szymański 163]. In Lem’s vision, the human body can be freely shaped thanks to the development of bioengineering, but these methods are used only for aesthetic purposes (they are modelled depending on current fashion). Nonetheless, one can speak of the emergence of a post-human society (in line with the definition of Extropians), as their abandonment of a practical use of bioengineering was somewhat a result of achievements in other fields of knowledge.

Nowadays, ways of implementing transhumanist programmes are considered not only in the context of technological and medical discoveries, but also in the context of popularising certain ideas (e.g. beliefs about the infinite possibilities of human development) [Hughes 632]. It is clear that in Lem’s vision of the world, the idea about the infinite possibilities of human development is reflected in the views of the local community. One of the main char-

acter's friends, Professor Trottelreiner, deals with linguistic futurology, which "investigates the future through the transformational possibilities of the language" [Lem 97]. Language is an important determinant of changes in human culture. Trottelreiner believes that it is not the emergence of new technological solutions that conditions the creation of new language forms, but that language itself influences the shaping of future development paths. To some extent linguistic futurology resembles the predictions of transhumanists and the work of science-fiction writers. First, a word appears and then it can take a material form over time.

In *The Futurological Congress* there is also reference to the currently popular direction of considerations related to the Anthropocene. Some researchers argue that the appearance of the Anthropocene was the result of the development of so-called human geological agency. This Oreskes's concept can be understood as the impact of the sum of actions of the entire human population on shaping "the most basic physical processes of the earth". In order to define the human species as "geological agents", collective action, combined with technological development was necessary [Chakrabarty 179]. *The Futurological Congress* touches upon the topic of the repopulation of the earth with animal species. This would not be surprising if it were not for the fact that instead of referring only to specimens that existed in the past, a "creative" approach to the subject is proposed by, among others, creating life forms that we could safely term "fantastic".

For example, Lem writes about a luminigriff, a cross between a mastodon, a glowworm and a seven-headed dragon [Lem 86].

People who live in a psychemised society have the ability to completely shape the surrounding space and environment, as evidenced by the monthly “preferendums”, in which they determine the most optimal weather. Sometimes there are some perturbations that spoil the intended effect (e.g. inappropriate cloud shape) [66]. Attaching importance to such trifles proves that, while modern interest in the state of the environment is due to both egoistic reasons (i.e. the desire to survive by the human species), and moral responsibility towards the rest of the world [Ciążela 111], in a psychemised society it is rather a matter of aesthetics (people involved in the design of new animals are referred to as “zooartists”).

Three levels of the psychemised society – from utopia to anti-utopia

The action of Lem’s novel begins at the inauguration of titularfuturological congress. During the inauguration, a chemical leak causes severe hallucinations. The main character, IjonTichy, who is an astronaut, is exposed to it. Doctors are unable to help him as he thinks that everything that surrounds him is merely a product of his mind. Therefore, they decide to put him in hibernation, in the hope of finding a new drug in the future. Tichy is awakened after 50 years of sleep, in a world in which humanity has begun to use psychemics on a large scale. At the

end of the novel, it transpires that all of the main character's experiences were actually hallucinations caused by the chemical released during the futurological congress. Although a psychemised society was only a product of the mind of the main character, it would nonetheless be interesting to analyse the subsequent phases of it being "stripped" of its apparent perfection.

Initially, the psychemised society seems close to the ideal of transhumanist extropy. Technological development has significantly improved the quality of life, but there is still room for further improvement. On the other hand, post-humans live in the lap of luxury – they are served by intelligent machines and use psych chemicals that allow them to experience every fantasy and acquire knowledge without any effort.

However, Tichy's conversation with his neighbour Symington shows him the less pleasant face of the psychemised society. The main character's interlocutor works in Procrustics Inc., a company that produces and administers psych chemicals that allow people to experience "evil": "You see, we have resolved a great dilemma. Now everyone can do unto others what he's always wanted to—without causing them the least harm. For we have harnessed Evil, as medicine harnesses the microbe to inoculate and immunize" [Lem 88]. Talking to his neighbour makes Tichy depressed because it makes him realise that utopia can be a goal, but it will never become reality. Luxurious life comes at the price of control of its every

aspect. Even “evil” becomes an ordinary product tailored to the customer’s needs. Tichy notices that the psychemised society has been deprived of spontaneity and that individualism is limited to the necessary minimum (as evidenced by, for example, the name of the institution satisfying orders for “evil” which refers to the legend of the procrustean bed).

The knowledge about Procrustics Inc.’s activities becomes an incentive for Tichy to attempt to seek “truth”. Our protagonist gains insight into “reality” for the first time thanks to meeting Professor Trottelreiner. Through him, he learns that the freedom to take psych chemicals is really an illusion. “Mascons”, special substances that create illusions to make humanity believe that they live in prosperity, float in the air. It turns out that the professor was elected as a “soothseer”, i.e. a person who can see through these hallucinations thanks to a special chemical cocktail. His role is to both control the social situation and discuss probable scenarios for the future development of humanity with other “soothseers”. After taking Trottelreiner’s concoction, Tichy is in state of shock. A picture that is far different from the one he was already used to appears in front of his eyes. The elegant restaurant where he is eating dinner with Trottelreiner transforms into an ordinary shed with wooden benches and cars are really “drivers” moving in cardboard boxes. What is more, effectively every person suffers from some genetic disease. Over time, however, it turns out that even “soothseers” are exposed to psych chemicals. They are simply presented

with another false vision of reality, closer to the truth, so that they can be convinced that they know the actual state of affairs. Trotteler has a concoction thanks to which he is able to remove the influence of any mascon, but he does not have the courage to take it. But Tichy's determination makes him decide to take this "drug". He discovers that virtually all the knowledge of the psychemised society turns out to be a lie. Not only is the environment changing (global glaciation continues on Earth), but also the grotesque nature of the whole improvisation comes to light. Robots are really rag-clad people. Any manifestation of "abundance", that is, the shed seen after taking the first drug cocktail, is also an illusion. People die of hunger, cold and fatigue on the streets and in buildings.

It turns out that the puppeteer controlling the whole process of hypocrisy of reality is none other than Tichy's neighbour – Symington. He is looking for Tichy's approval, as one of the few people who have realised what the surrounding reality looks like. He portrays himself as a doctor who administers anaesthetics to patients for whom there is no hope, in order to make their last moments painless. The words spoken by Symington to the main character are significant: "Soothsayers aren't monsters! [...] We are prisoners of the situation, backed into a corner, forced to play out the hand that history has dealt us. We bring peace and contentment in the only way remaining. We hold in precarious balance that which without us would plunge into the throes of universal agony. We are the last Atlas of this

world. And if it must perish, let it at least not suffer. If the truth cannot be altered, let us at least conceal it. This is the last humanitarian act, the last moral obligation” [Lem 127]. Tichy describes his neighbour as an “eschatological anesthetist” [128], who does not believe in the means he uses. Despite his doubts, Symington systematically, and with determination, implements his plan. This distinguishes him from the rest of the posthumans, who live in a world that presents virtually no challenges to them. It is not certain, however, whether the indifference of the society is not primarily due to the interference of Symington, who realises the extropist vision of the world by means of psych chemicals.

The anti-utopia presented by Lem not only focuses on the tragic material situation of humanity, but also shows a world in which it was deprived of the possibility of making free choice. This is in clear contradiction to the ideals of Extropians, who place great emphasis on the free choice of individuals in the application of technological improvements. Lem, however, raises the question of whether in some situations it would be better to limit this privilege. If the destruction of humanity were certain, would keeping a larger part of the community in ignorance constitute a kind of blessing? Tichy does not think so, but the dialogue between him and Symington raises some doubts. The arguments of the “eschatological anesthetist” could be understandable to the reader in some situations. The main objection is certainly that the use of psych chemicals in order to escape from reality has been im-

posed from above. On the other hand, an awareness of the end would not help these billions of people, but only increase their suffering. The question then arises: is it better to be aware of inevitable death and to experience the last moments in suffering caused by terrible conditions, or to die immersed in the vision of prosperity that gives happiness? Symington claims that making everyone aware would only cause chaos: “We keep this civilization narcotized, for otherwise it could not endure itself. That is why its sleep must not be disturbed” [127].

Posthumans living in a psychemised society are far from the vision presented by Extropians. Democratic governance (in which even fashion is controlled by the majority) [76] are only a smokescreen to hide the fact that people are deprived of the opportunity to make independent decisions. Psychemhasled to a reality in which people not only feel every emotion they want, but can also access any knowledge (which is immediately available in the form of a pill), and also indulge in sublime hallucinations. For this reason, striving for anything and the effort put into fulfilling any dreams become unnecessary. This certainly increases the indifference and stagnation seen in the psychemised society. If you can have everything thanks to psychemics, why seek change in the real world? (By “real” we mean here the vision of the world available to ordinary people under the influence of mascons.) Just one pill is sufficient in order to dispel all doubts about such a lifestyle and enjoy unrestricted happiness again.

Of course, there are some social problems (so this is not a realised utopia). However, most ordinary people lead an undisturbed life (interestingly, their life revolves around similar issues as today, that is, work and various forms of spending free time). This situation is caused, among others, by ubiquitous robots, that do a large part of the work for people. Ironically, computers are programmed so that they always do what is easiest for them, “just as water will inevitably flow downhill and not up” [79]. It seems that posthuman society behaves in a similar way – it tries to live without unnecessary effort. Tichy comments on the situation with irony: “Children learn their reading and writing from orthographic sodas; all commodities, including works of art, are readily available and cheap; in restaurants the customer is surrounded and serviced by a multitude of automated waiters, each so very specialized in function that there is a separate machine for the rolls, another for the butter, another for the juice, the salad, the stewed fruit—a computer—and so on. Well, he has a point there. The conveniences, the comforts of life, are truly beyond belief” [79].

The remark of Crawley, who is a lawyer and gives Tichy advice, seems to be a good summary of the posthuman community created in *The Futurological Congress*: “A dream will always triumph over reality, once it is given the chance. These, sir, are the casualties of a psychemized society” [83]. For many representatives of transhumanism, it is not the way of reaching the state in

which humanity passes into the “posthuman” stage that matters, but the very fact of this possibility. Of course, it is currently difficult to conclude which of the proposals is more likely to come into existence.

It seems, however, that although an analysis of more pessimistic scenarios may allow for avoiding some errors, uncritical adoption of a utopian (or extropist) vision of the future gives a lot of hope, but it does not prepare society for problems related to the emergence of new technological solutions. Karl Popper spoke about the mistake of assuming that people living today, based on past and present events, are given the opportunity to create universal laws that can be applied in any period of human history [Szymański 166]. Using terminology from *The Futurological Congress*, we can say that both Lem and the transhumanists are “futurologians”. Lem argued that “even with an absolutely fictitious premise, conclusions can have real cognitive value” [Handke 408]. However, in the case of the author, it should be remembered that his work was marked by much more pessimism at the end of his career – this phase is also called “catastrophism” [Czapliński 62-66]. It was characterised by great scepticism, including when it came to the possibilities of predicting the future structure of society on the basis of modern technological solutions.

Lem presents a comprehensive vision of a new society (he takes into account evolution in terms of language, axiology and ethics). He does so in such a skillful way

that the reader is able to imagine the possibility of the scenario offered by *The Futurological Congress*. Combining the vision of utopian and dystopian reality (within one society) distinguishes it from more typical literary works, in which only one of the visions is usually presented. Thanks to this, Lem's futurological reflections gain depth and provide the opportunity to show new concepts of mutual relations connecting the population that inhabits the reality he created [Jarzębski 88].

Translated by Aleksandra Sokalska-Bennett

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Why Human?

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In the eighth, oneiric star voyage, Ijon Tichy is placed in a very awkward position. As an earthly delegate on the forum of cosmic civilisations, not only must he swallow a very unfavourable version of human history, but he also hears that earthly life arose from slops and impurities accidentally and carelessly left on a dead planet at that time. In preparation for the meeting, he presents in detail the human achievements, convictions and beliefs to his guardian (and at the same time a representative of the Rhohch civilisation who recommended Earthlings) and states that it is common for Earthlings to recognise human beings as a measure of all things. He hears the surprised response: “Why human?”.

The poetics of sleep allows for a distortion, a grotesque shortcut and mind-bending hypotheses. At the same time, in a nightmare – it also allows one to avoid dangerous questions arising in dreams and breathe a sigh of relief: “It is just a dream”. However, many of Stanisław Lem’s texts lack this margin of safety and the questions asked by him, as well as the problems that surface, appear in front of the reader with all their strength. And here readers can find defence against taking them seriously – the fantastic costume

alone enables this: it is easy to think that fantasy is nothing more than just fun. Although it may echo anxiety and current hopes, it is not a breeding ground for more serious reflection. After all, Lem's work raises many questions that are difficult to ignore. The author himself in *Science Fiction and Futurology*, his critical view of fantasy literature, emphasised its usually untapped possibilities to expose problems which people might encounter in the future, and the possibilities of facing them in the medium of literature.

These questions can be approached in many ways and a lot has already been written about Lem's work. However, this does not mean that previous interpretations have exhausted the subject; new times, new phenomena, new intellectual perspectives allow for a rereading of old, and seemingly well-known, texts¹. This is clearly visible in Lem's case. His novels and stories were often interpreted as a humanistic view of humans, their limitations and, as a consequence, their greatness after all. *Tales of Pirx the Pilot*, for example, can be approached this way. Thanks to his weaknesses and imperfections, our clumsy hero passes tests in which the perfection of machines fails. An anecdotal story of a dispute between the writer and director Andrei Tarkovsky, who adapted the novel *Solaris* for film, shows that reducing everything to one human perspective is limiting (and against the intentions of the writer himself – although this is not a decisive argument) and it is possible to see the matter differently [Lem and Bereś 114]. The filmmaker's

1 It is worth mentioning Agnieszka Gajewska's book *Zagłada i gwiazdy* [trans. The Holocaust and the Stars], which explores the traces of the Holocaust and the historical experience of the Second World War in Lem's prose.

vision, which was extremely humanistic, placed a focus on the human characters of the book and celebrated their internal dilemmas related to the events they experienced, was met with violent opposition from the author of the literary original, who withdrew his cooperation as a result. This dispute is significant in that it expresses the extent of writing intentions. While I do not intend to discuss the interpretation of Pirx's short stories mentioned above, I am convinced that Lem's many other texts demand different approaches and interpretations referring to other assumptions. Many of his works were read as a critique of limited humanism and a satire on civilisation. Many can finally be read as an attempt to confirm that in the Rhohchs' surprise, there is nothing really strange. Such rich literary output induces various readings.

I would like to use posthumanism as an interpretative framework for the reading below. Like any general term, it is comprehensive, imprecise and controversial – not everyone whose work can be interpreted in these categories would agree with this reading. In order to move away from these initial problems, I will first try to clarify the category of posthumanism. Its most general definition would be to treat posthumanism as a criticism developed from the threshold of humanistic modernity and an anthropocentric vision of reality. This is translated into both the theory of cognition and ethical reflection [Hoły-Łuczaj 45]. As a result of a whole series of transformations, reformulations and revisions of detailed views in the face of emerging challenges and problems, generalisations were questioned – many scholars proclaim the need to rethink the project

of humanism and move towards a new view of the world which does not situate humans in a dominant position. According to those involved in this debate, humanism is no longer valid. The expansiveness of human aspirations has led to a crisis that has to be faced in many areas. One of them is to re-evaluate the very basis of human existence on Earth and open ourselves to the prospect of participating in a world inhabited by other creatures, whose interests should also be taken into account. For now, it seems that we are dealing with the initial phase of the formation of this new perspective, which results in vague slogans and a lack of specific solutions². Without dealing with the internal problems of posthumanism, I would like to use its most general understanding to express its usefulness in interpreting the work (at least in part) of Stanisław Lem. Posthumanism can be understood either as the inclusion of other entities inhabiting the Earth into a space of care and interest, or an attempt to go beyond human beings towards possible other non-biological, artificial beings (also being partially human), which is already defined as transhumanism. Lem's output would find its place in this second branch of posthumanism. It seems to me that in many of his works Lem tries to transcend, in a justified rather than simplistic manner, the human perspective of comprehension, beyond Reason (one that is associated with human beings in humanism). In other words, Lem tries to show a human being in the broader context of possible Reasons, while undermining the belief in a community of intelligent beings who

2 There is a certain ambiguity here of whether posthumanism already extends its interest beyond humans, or just develops a different method of understanding reality and the problems posed by attempts to learn about it [Wolfe 146-147]. I skip these issues.

can communicate on the basis of universal reason. From the proposed definition, one can derive numerous proposals; ones that are more specific and refer to various cultural practices and which are actually being developed. They take on different, more specific issues and lead in different directions. In the context of Stanisław Lem's work I want to raise the issue of rationality and show that reflection on this concept is an important thread running through his fantasies: showing what human rationality is and attempting to show that it is one of the many possibilities of realising a thought; that each thought is limited by the material frames that define it. In this particular case, this is post-humanism clearly expanded, going far beyond the earthly globe and covering not only earthly, animal inhabitants of the universe, but also all possible and imaginable ones. This is how I would like to approach Lem's worlds – by moving away from human thought and from Earth itself³.

I

Golem XIV develops the idea of computer intelligence and the way in which it is created in the writer's imagination, it is no more close to being realised today than at the time of its creation. In the poetics of reviews, introductions and fragments of non-existent books – liked and used not only by Lem, but also by Borges – there is a history of cre-

3 An attempt to read at least some of Lem's works that situates his work in the context of epistemological problems might perhaps be supported by the author himself. In the aforementioned *Science Fiction and Futurology*, Lem refrains from, as he put it, the projection of fantasy (and probably more broadly, literature in general) and heads instead towards the questions that it may pose and the problems it must solve. In the last paragraph of the fragment, which deconstructs the structure of sci-fi work, he proposes paradigms for this kind of literature and unintentionally announces his *Observation on the Spot*, which he will write several years later.

ating non-biological intelligence and its lecture about itself and about human beings. A fantastic costume allows the writer's imagination to touch on problems of philosophical weight that go far beyond the general view of the intellectual capacity of the genre.

The Golem XIV from the title, which is a computer, is not only a machine with immeasurable computing power, but also has intelligence and is a thinking machine. Already at this point, at the beginning, a problem becomes clear and in the course of further considerations it will become even clearer – what does it mean to think? What does it mean to have reason? What does it mean to be a rational being? This problem is not straightforward, rather it results from the narrative's structure and becomes visible through it. Golem, as a product of the technological powers of humans, is not an extension of human thinking, but establishes its own. Thus, it forces us to revise the belief in the exclusivity of humans in the field of reason, and also makes us think again about the very nature of rationality.

Lem confronts the readers with this issue in two ways. On the one hand, he encourages the reader to recognise the possibility of a development of work on artificial intelligence, which leads to its creation, but in a shape that is far from expected. There are no specific clues here for most popular visions of this type: considering the threats arising from the liberation of machines from the rigor of subordination to the instrumental interests of their creators or anthropomorphisation of machines and its consequences. Here, any possible amazingness can only

result from the fact that the thinking machine presents a pattern of thinking markedly different from the one considered human (and often reduced to universal) and, in addition, it diminishes – in what it says and what it represents – the importance of human thinking. Human smallness can be the dominant reading experience. On the other hand, treating this text as another human-centred narrative would be insufficient and diminish its importance. Although it is impossible to move away from humans in literature (implicitly, even if they are not characters, they are always indelibly present), perspective can be adopted differently. In *Golem XIV* the issue is not about reprimanding mankind and taming conceit (so this would not be a version of a wisdom tale like Ecclesiastes), but to present a completely different position: it attempts to problematise the issues of reason, intelligence and rationality in a material context. It is not so much about developing the theory of material determinants of mental processes, but drawing consequences from the mere connection of reason with a material medium – to what extent this affects thinking, and more importantly, if different material media are carriers of different reasons.

Lem's Golem as a computer does not have a sensual access to the world, only, as one could say, an intellectual one. In its independent thinking about the world, it is therefore basically not involved in sensual metaphors and intellectual consequences of sensuality. This does not establish its superiority, but only its otherness and its irreducibility to the human mind. Intellectual potential measured by the amount of information that can be processed and the

speed at which it can be done, illustrates another difference. Intellectual power is not just a matter of speed and the amount of data taken into account at the same time, but something much more serious – the basic cognitive perspective that follows and the possibility of understanding reason having different potentials. Lem's vision allows for an infinite gradation of reason, and the price of this gradation is mutual closure – for subsequent levels, relative communication ability, although limited, remains possible (people and animals, Golem and people), and it disappears at greater distances.

II

In *Observation on the Spot* the already mentioned Ijon Tichy – Lem's most experienced space explorer and discoverer of extraterrestrial civilisations – visits Entia and its two countries in order to atone for a distorted description (for which he was not solely culpable) in the fourteenth voyage in the *Star Diaries*, and report on the actual situation in Kurdlandia and Luzania. This happens as a result of a coincidence that is irrelevant at the moment. What is important is that by scrupulously examining the reasons for his mistake, while reading numerous studies of the Entians' history, philosophy and science, he encounters the hypothesis they have about Earth and the relationship between terrestrial ethics and the biology of the human species⁴. Entian scholars risked the statement that human anatomy, combining organs functionally delegat-

4 It is not important at this point whether Lem's generalisation is justified on the basis of anthropological and historical knowledge, because what matters is the contrast in the face of which, presumably, possible exceptions would not matter much.

ed to reproductive and excretory functions, is responsible for the construction of ethics subject to ambivalence of purity and blemish, holiness and defilement, pleasure and sin, while the Entians themselves do not have this phenomenon due to the difference in anatomy and the lack of proximity of organs performing appropriate functions.

There is no direct continuation and development of this small paragraph in the further text, but it is interesting and significant, because it can affect the interpretation of further parts of the novel, and as a separate issue it raises important questions. They concern the same issues in a slightly different way than in the case of *Golem XIV*. If earlier the mind lost its biological medium and became senseless intelligence, it is now a mystery whether the difference in biological makeup translates into a difference in thinking. Rationality, shown in the previous text in the form of pure logical operations, is closely related to the biology of intelligent beings and limited by biological difference. We are used to thinking about our thinking solely in intellectual or emotional terms. In *Golem XIV* doubt is sown, however, whether in fact, what we have become accustomed to recognise as the property of humans, which is the possibility of their access to the world as it is, constitutes a certain reason that is species-specific and limited by the species' properties, and therefore – which is a further issue – to what extent it is mutually translatable and understandable.

Ijon Tichy's adventures on Entia confirm this clearly. After landing on the planet, the character systematical-

ly explores it and meets its inhabitants, who explain to him their special systems and ways of dealing with the world. The vision of a synthetic ethical sphere, which is perhaps most different from the one known to earthly civilisation, is particularly extensive. Although with every step the Earthling seems to be closer to understanding the Entians, he finally recognises his failure. Even technology that gives the impression of familiarity and comprehensibility, though different and more advanced, requires a different set of initial assumptions and a different thinking about physical reality in order to be understood. In the eloquent finale of the novel, the character tries to break out of sleep, which he would like this trip to be. Unable to understand, he tries to save himself with the conviction that he is dreaming and when he wakes up, the impression of embarrassing confusion will dissipate and put him back into an understandable framework of reality. To no avail. The inconvenience cannot be removed – we are doomed to our own interpretations and readings marked with human limitations, which will be imperfect attempts to break through to the other side.

In other novels, even the earlier *Eden*, and the final, *Fiasco*, it is shown even more clearly – lack of understanding, lack of the possibility of breaking free from one's own framework and changing the way of communication, condemns humans to a communication failure and opens them to the awareness that although there is other thinking, it is concealed. There is nothing left of pride, and consciousness is filled with a sense of failure and anxiety.

III

The situation shown in *Solaris*, which is one of Lem's most outstanding achievements, takes the problem of reason and rationality to another level. On a planet called Solaris, people come into contact with an organism (organic structure?) of planetary dimensions, and which exhibits activity not only at the reflex level, but seems to be a form of intelligence. The very action of the novel proves this equally emphatically: members of the earthly mission are confronted with incomprehensible and terrifying testimonies of the abilities of the Solaris ocean. It makes material the memories of deep layers of consciousness that are particularly painful and intense, in the form of people who are the protagonists of events. Despite attempts to eradicate these phantasms (who retain all the characteristics of hard materiality and show uncanny resemblance to their prototypes), they encounter the persistence of bringing them back to "life". The puzzle is multidimensional. What is the meaning of making that which is absent present? Why do those that are (re)moved in all possible ways relentlessly reappear? Why do they seem to remember nothing? Is this supposed to be a form of communication or is it just an instinctive realisation of a certain disposition?

There is no method of solving any of the questions or any of the puzzles. One cannot expect to be able to achieve it. The impossibility lies in the scale. The Solaris ocean is unimaginably larger than an individual, so its experience is difficult to even relate to the human experience. Similarly with thought processes, a planetary intelligence which

embraces processes of this size cannot be compared to human intelligence. Returning to the situation in *Golem XIV*, a computer capable of processing an infinite amount of data in an extremely short period of time becomes incomprehensible to human comprehension. Here, on the other hand, the situation of planetary consciousness (even only assumed) is incomparable when it comes to the scale of information, which is subject to verification, reflection, and transformation into decisions and actions, and a human subject wanting to understand something of this. Bizarre phenomena from this perspective must remain underdeveloped, because it is impossible to cross the limit of agency, which is a consequence of knowledge and the ability to control it. Even computer-aided means can make something possible with their efficiency – due to the fact that they are constructed as an extension and enhancement of the abilities of the human mind, they are unable to discover anything. No “human” theory of action matches what members of the mission witness and what phenomena they observe. The frustration, confusion and fear accompanying the astronauts are the result of their inability to intellectually control the situation. What seems to them to be emotional torture (being reminded of people, and as a result, things that they would like to forget) has no rational explanation. There is no clarification at all. At the moment when the possibility of grasping the sense of the presumed and assumed purposefulness of the actions of the Solaris ocean appears, it simultaneously disappears. What remains is the belief that there is a boundary separating human from the planetary being and this does not provide any answers.

The dilemma, whether it is intelligence, purposefulness, agency, reflexes, unconsciousness or instinct, has no chance of being solved.

Even if it is reason, it is closed to us. So different that it escapes understanding.

You can avoid the problems that fill Lem's worlds or not notice them at all. You can only admire the writing's inventiveness, not go beyond the attractions offered, and find it sufficient. Or you can read Lem's prose as an adventure of humans relentlessly and courageously heading into the unknown, which is another confirmation of their uniqueness.

You can also go beyond the human perspective, confront the questions posed and treat them as a challenge, even if they are unanswerable, and try to understand something more from the mystery of the world or understand it differently. By agreeing to the unsolvable nature of this secret, one can still inquire into it. Except that at this point it should also be acknowledged that our path is one of many possible ones. It does not lead anywhere beyond ourselves, and additionally that trying and caring belong to all the inhabitants of the world and the universe. Reason obliges us not to sink into exclusivity. Therefore, reason also means recognising its borders. They will never be discovered and they will remain merely conceived of and assumed, thus obliging them to be considered impassable.

This is a necessary and, at the same time, an extremely difficult challenge, and it is probably represented in Ijon Tichy's last words in the finale of *Observation on the Spot*: "So I gathered strength for a spiritual fight with the cord that my dream is holding so tightly to, in order to tear it apart and throw it off like a dark cocoon, but although I did my best, nothing came of it. I didn't wake up. There was no other reality" [311].

Translated by Aleksandra Sokalska-Bennett

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Solarism Now!

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Difference is not diversity. Diversity is given, but difference is that by which the given is given, that by which the given is given as diverse. Difference is not phenomenon but the noumenon closest to the phenomenon.

Gilles Deleuze, *Difference and Repetition* [222]

Full STEAM ahead: Lem in the Age of Capitalist Connectivism

Throughout his years of writing, Stanisław Lem's array of artistic-conceptual inventions confronted the post-Thaw programme of the Scientific Technological Revolution, (STR) which marked a drastic change in attitude toward advances in science and technology¹. The change was apparent in the 1960 translation and publication – as *Cybernetyka i społeczeństwo* [Cybernetics and Society] – of the seminal 1950 publication by the pioneer of cy-

1 As David Crowley reminds us, STR was announced in 1956 by the Soviet premier Nikolai Bulganin. The First Secretary of the Polish United Workers' Party, Władysław Gomułka, followed suit in 1959, adopting a similar attitude at the party's Third Congress [30].

bernetics Norbert Wiener titled *The Human Use of Human Beings*, banned under Stalinism². As I understand it, STR was developed as a programme of ideological capture of the future by the state³. The programme sought to banish contingency and change through an infinite telescoping forwards of the state-controlled present, whose parameters had already been demarcated, once and for all⁴. Lem's project of reclaiming the vast, incomprehensible, inhuman infinity of the cosmos from its representational and ideological capture by the state apparatus has become especially relevant today under capitalism – in the age of the STEAM research optics. The “STEAM” acronym stands for Science, Technology, Engineering, Art and Mathematics, at the same time alluding to the Age of Steam, hence the nineteenth-century industrial revolution. The STEAM programme is grounded on the principles of constant innovation, relationality, mobility and connectivity. Lem's experiments in turn resonate with the artistic practices of the Eastern European neo-avant-gardists such as Marek Konieczny, Natalia LL, Stano Filko and Július Koller. The artists forego pragmatic connectivi-

2 According to Wojciech Orliński, Lem read Wiener's book earlier, in the original [*Lem* 137].

3 A parallel argument is advanced by the art critic Jan Verwoert, who stresses the monopoly of the socialist state over imagining the future and at the same time charts techniques of resistance developed by the artists such as Stano Filko and Július Koller, whose chief preoccupation was with the excessive force of the cosmos [123-5].

4 Lem must have intuited this when he remarked in 1961, as quoted by Orliński, that the cosmic experience of Soviet astronaut Yuri Gagarin, the first human to travel into the outer space and orbit the Earth, did not cause any radical change. “There is only one thing that intrigues me in [Gagarin's] accounts of his flight – a description of the Earth seen from the height of 300km. What is striking is how much it conforms to our [pre-existing] notions. A blue globe in the black sky. Only this halo in the colours of the rainbow, passing from purple to red, is something new. But there is nothing new, nothing «cosmic» in the psyche of the first cosmonaut. [...] The giant leap he took did not cause him to detach himself from the game played here, down below [*Lem* 220; author's translation].

ty in favour of an affirmative non-relation with the infinity, unpredictability, radical inequality and contingency of the cosmos. As Andrew Culp, the author of *Dark Deleuze*, remarks, the contemporary connectivist logic surfacing in some strands of philosophy and cultural theory, and most notably in readings of Deleuze's process philosophy, fails to resist "Google's geopolitical strategy of global influence, which proceeds through a techno-affirmationist desire to annex everything" [116]⁵. Indeed, in the age of deep social, economic, political and environmental fault lines – including, looming vast and unthinkable, the horizon of human extinction – we are witnessing not so much a parcelling out of time and space, but a continuous modulation of access⁶ that goes hand in hand with a corporatization of the future (Elon Musk, financial instruments based on climate change predictions); the end of academia as founded upon the notion of independent enquiry, now held hostage by corporate stakeholders; and a corporatization of fear, life, death and life after death⁷. Against this capitalist connectivity and its attendant philosophies of relationality, a group of philosophers known as Speculative Realists (SR), at once influenced by and confronting Deleuze and Heidegger, have developed propositions that strive to affirm the necessity of contingency uncorrelated with human thought. In particular, Quentin Meillassoux has sought to attend to "the *great outdoors*, the *absolute*

5 Culp defines connectivism as "the world-building integration into an expanding web of things" [116].

6 As Deleuze demonstrated in his 1990 seminal commentary on Foucault ["Postscript" 3-7].

7 The corporatization of the afterlife is imagined, for example, in the TV series *The Good Place*, through its algorithmic computation of a deceased person's allocation to one of the two chambers of its binary Manichean afterlife—"the Good Place" or "The Bad Place".

outside of pre-critical thinkers: that outside which was not relative to us, and which was given as indifferent to its own givenness to be what it is, existing in itself regardless of whether we are thinking of it or not; that outside which thought could explore with the legitimate feeling of being on foreign territory – of being entirely elsewhere” [7].

This renewed interest in the noumenal realm⁸, the (thing-) in-itself, rather than its humanist pulverization into social, textual, linguistic and discursive phenomena, resonates with what Deleuze identifies in Nietzsche as the tragic affirmation of the play of “chance and the necessity of chance” [*Nietzsche* 222]⁹. What can Lem’s artistic-philosophical practice offer in this respect, thematizing as it does the issue of contact with the alien, excessive and inhuman force, and the status of human thought under the strain of radical contingency?

Nonhumanism without Thought: Lem and the contemporary theory of culture and media

Despite Wojciech Orliński’s characterization of Lem’s philosophical orientation in terms of a “misanthropic humanism”

8 Levi Bryant, Nick Srnicek and Graham Harman have identified this as “the speculative turn”, which has opened philosophy towards “speculating once more about the nature of reality independently of thought and of humanity more generally” [3].

9 Interestingly, Meillassoux accuses Nietzsche and Deleuze of a “strong correlationism” which cannot think being outside of thought and, what is more, absolutely correlates it with *the Will to Power and Life*, respectively [37]. As Jeffrey Bell argues, Meillassoux’s charges stem from his Badiouan misreading of the concept of Life in Deleuze as a virtual realm separate from the actual. Countering the Badiou–Meillassoux line of argumentation, Bell points out that the concept of the virtual in Deleuze can be understood in a Simondonian way as a metastable state, hence as something which “is not a determinate state but is rather the dynamic condition for the possibility of differentiating between determinately distinct states” [53]. My article follows Bell’s reading, arguing for a resonance between Lem’s work and Simondon’s philosophy of individuation, as well as with Meillassoux’s speculative materialism.

which cannot but keep diagnosing the despicable human [*Co to są sepulki?* 94-96], Lem's works have garnered interest of theorists of contemporary culture and media such as N. Katherine Hayles and Joanna Zylińska. Drawing on Lem's 1964 treatise *Summa Technologiae*, in 2014 Hayles coined the term "cognitive nonconscious" which designates a cognition without thought (for Hayles, thought is tied to consciousness) [201]. What is at stake here is an adaptive technogenetic capacity inhering in some material processes.

Encapsulated in the figure of a sieve, a termite mound or a beehive, the cognitive nonconscious is a kind of neural apparatus capable of performing complex tasks without the recourse to consciousness. The cognitive nonconscious is characterized by its capacity to select and display some behaviours according to the criteria of evolutionary fitness, adaptability, complexity, emergence and being "constraint-driven" [199-202]¹⁰. Hayles's formulation cuts across what is traditionally conceived as "natural", "cultural", or "technological" and thus affirms a single, singular continuum of both human and nonhuman entities. On the other hand, what the media theorist and translator of *Summa Technologiae* Joanna Zylińska has recently extracted from Lem's work is the idea of a parallelism between biological and technological evolution. Zylińska develops this insight further by suggesting a parallelism between biological extinction and technological obsolescence

¹⁰ What is equally important, the cognitive nonconscious displays a certain "intention toward something", i.e. an orientation toward the attainment of a specific common goal. This trait distinguishes the cognitive nonconscious from simple material processes lacking in adaptive capacity, as exemplified by the downward slide of a glacier [Hayles 201].

[130]. Zylinska deploys such a line of argumentation to ground her nonhuman understanding of photography as “a light-induced process of fossilization occurring across different media” [10], hence in the real. This real, material fossilization records the Huttonian geologic “deep time” which goes beyond the human scale. Photography thus reveals the wider inhuman planetary “photographic condition” [69] whereby rocks and other things might be said to photograph themselves.

Solarism: A proposal for the Future of Art and Philosophy

Lem’s works therefore prove useful in diagnosing the complexities of the contemporary world, offering fodder for speculation on life after the human. As I see it, it is Lem’s 1961 novel *Solaris* that unfurls a particularly compelling vision of an encounter of excessive, nonhuman force, or *event*. Lem’s speculative art-work successfully fails to translate a radical exteriority into a set of formal components and their qualities; to define it through an allocation of determinate functions, or to reduce it to the level of (inter)subjectivity and signification. Lem’s vision resonates both with Deleuzo-guattarian philosophy and SR. Hence, I would like to propose, as extracted from *Solaris*, the category of *solarism* as an operative concept relevant for the diagnosis and discussion of certain specific developments in contemporary art and philosophy. Solarism is a speculative proposal for the future of art and philosophy beyond the Anthropocene. In this respect, I will be building on insights from Deleuze and Simondon. My proposed analysis of *Solaris* draws out two fundamental aspects of solarism:

ahumanism¹¹ and inhumanism which, at the same time, frame the two respective sections that follow. In turn, this specific understanding of a logic at play in *Solaris* sets the direction for the analysis of the phenomena of contemporary cinema, using David Lynch's *Twin Peaks: The Return* and Alex Garland's *Annihilation* as examples. The two brief case studies set out to discern the symptoms of solarist aesthetics in the world of contemporary artistic production, without aiming at full-fledged interpretations.

Speculation 1: Solarism | Ahumanism. Towards a Repetition that Makes a Difference

Let us start with a brief outline of the book. It was in *Solaris* that Lem introduced the motif of the eponymous metamorphic ocean of plasma. As Lem reminisced back in 2002, "I wanted to create a vision of a human encounter with something that certainly exists, in a mighty manner perhaps, but cannot be reduced to human concepts, ideas or images" ["The Solaris"]. The novel charts the journey of the psychologist Kelvin, who travels to a research sta-

11 The term "ahumanism" came to be during my conversation with the philosopher of art Prof. Anne Sauvagnargues, which took place during the Deleuze Studies conference at Mumbai's Tata Institute of Social Sciences in 2017. Prof. Sauvagnargues pointed towards her parallel concept of the "anomalous human," referring me to her publication *Deleuze. L'empirisme transcendantal*. According to the scholar, "it is not a case of abstractly destroying [the category of] the human, but of moving past it, showing that it only has a transitory historical existence, capable of 'dying', i.e. of changing, and therefore also of metamorphosing itself. [...] [What is at stake here is] an anomalous variation which transforms and goes beyond [the category of] the human but does not surpass it in a hierarchical sense" [205, author's translation]. It was only recently that I discovered that the scholar Patricia MacCormack coined the term "ahuman" back in 2014. According to MacCormack, inspired by the thought of Michel Serres, the concept reconfigures the status of the human in the context of Animal Studies and is related to the postulate of the absolute abolition of the all human use of animals. As the scholar sees it, "the nonhuman animal and the ahuman are thus close in proximity but absolutely extricated from each other simultaneously" [20].

tion hovering over the ocean only to find one of its crew members (Gibarian) committed suicide while the two others (Snaut and Sartorius) remain in a state approximating borderline psychosis. The ocean ceaselessly spawns “guests”, otherwise termed “G-formations” (pl. *twory F*) where “G” stands for the word “ghost” (pl. *fantom*). These are material images of the crew’s past psychological traumas, materialised in the shape of important others from their past. Accordingly, Kelvin encounters an avatar of his long-dead partner Harey, who commits suicide upon gaining awareness of its/her simulacric status. In the final scene, Kelvin reaches the surface of the ocean, submitting himself to whatever the future and its “time of cruel wonders” [*Solaris* 268], might hold. *Solaris* also importantly presents solariana, i.e. accounts of previous exploratory journeys to the eponymous oceanic planet, as well as a compendium of knowledge about it.

Solaris is a novel of repetitions. Consecutive crews arrive on the planet in order to probe the ocean and experiment on it. The ocean itself repeats the human shapes (with surgical precision), along with the human psychic interior and its traumatic sore spots, as well as (less accurately, and in a “bizarre” way [24]¹²) the material technical devices which have always accompanied and propagated the human civilization, thus expressing its inherently technical condition.

12 The narrator describes a set of tools duplicated by the ocean as follows: “I saw compartments filled with bizarre exhibits: a host of implements similar to those in the cabinets, but in approximate or distorted versions in dark metal. None of them were of any use: they were misshapen, blunted, half-melted, as if they’d been in a fire” [*Solaris* 24].

Lem's *Solaris* formulates a fundamental problem: can there be any communication between the two heterogenous, disparate series – the human and the oceanic – without falling back on the categories of identity, opposition, similarity and meaning and their mutual transactions? Paraphrasing Deleuze's 1968 *Difference and Repetition*, one might elaborate the question further: can the two series enter into an internal resonance which might bring about change? Can there momentarily flash a repetition which makes a (qualitative) difference? Can this ever happen: an encounter with "that by which the given is given" [222], with "a «something» which simultaneously cannot be sensed (from the point of view of the empirical exercise) and can only be sensed (from the point of view of the transcendental exercise)" [236]? In the novel, the problem of contact and its relation to repetition is expressly thematized in Kelvin's descent onto the surface of the planet and an encounter which takes place on the shore of an old mimoid. Mimoids are oceanic formations corresponding to the specific mode of its functioning as a mimetic repeater of encountered shapes. It is worth noting here that the mimoid works as an ontogenetic perforator, cutting across – messily, haphazardly, indiscriminately – and *modulating*¹³ the opposition of "real" and "imagined", "human"

13 I understand the concept of modulation in Simondon as going beyond the traditional understanding of the relation between form and matter according to the abstract hylemorphic schema whereby active form is imposed from without onto passive, amorphous matter, for example a mold gives shape to clay, giving rise to a brick. Simondon opposes the hylemorphic model of individuation to modulation understood as the mutual assumption of form through "continuous temporal molding" [Simondon 41]. Individuation in this sense is not therefore a single, fully visible act during which an already constituted form, bestowed with agency, imposes itself on a homogenous, constituted once and for all, objectified matter, but a series of processes. Clay and mold generate a heterogenous system in the state of disparation whereby between the properties of the material and the action of formation there occurs a state of tension or internal resonance that Simondon calls 'information'. A brick is the result of resolving this problematic disparity. See [Simondon 27-50, 222-238, 267-291].

and “nonhuman”, “organic” and “non-organic”, “essential” and “circumstantial”, “content” and “expression”, “matter” and “form”. The ocean’s power of repetition, encapsulated in the mimoid, spawns Harey alongside her dress, but the dress is lacking a zip. Such a dress cannot be taken off without cutting it open. The ocean’s lack of interest in the zip ruptures the latter’s hylemorphic operation. After all, the zipper can be understood in Simondonian terms as a technical object which regulates and delimits, and in this sense moulds, the matter of the woman’s body in a way that cannot be separated from its associated milieu. One element of this milieu is the muscular force of the human hand required for the zip’s use. Furthermore, the zip constitutes an element of the Mumfordian social machine where it regulates the question of sex in a patriarchal way. As Deleuze remarks, “machines are social before being technical” [Foucault 39]. In this sense, one can say the dress is non-functional without the zip. The zip, or rather: *the zip effect*, however, performs at the same time a singular informal function. By generating a problem, this incongruous Baroque detail thus diagnoses the particularities of oceanic production. It does so in a way incomprehensible to humans and yet in such a way that cannot be separated from the world of human technics.

Jerzy Jarzębski sees the ocean as a mirroring surface that, ultimately merely projects the image of human quandaries back to humans [240-241]. Understood in that way, the ocean would therefore constitute a case of both material and mental mirror reflections which could only reveal the human to the human. Such framing of the problem effectively reduces the ocean to a phenomenon; to the

thing as it (only) appears to us; to an apparition in our consciousness. We are thus forever barred from the infinite by our own finitude, which only ever spawns a repetition *for us*. Expanding Jarzębski's line of thought, one might say that what the current crew of the research station does in order to communicate with the ocean and understand its *modus operandi* – probing the ocean with signals which are recordings of its reactions to stimuli, bombarding the ocean with different kinds of radiation, performing an “aerial” survey of the planet through an exploratory flight over the ocean, as well as forensic examination of the planet surface – is a mere repetition of analogous failed attempts of the past human crews. What the ocean does in response to contact with humans on its surface in turn constitutes a repetition of its own past gestures, such as its lack of interest after a period of sustained interaction or a spawning of “guests’.

How can we break free from this circular time with its incessant repetition of the Same? As I see it, it is a matter of solarism. This solarist proposal demands a change of our perspective through a speculative attempt at thinking beyond the universe of human agency. Following *Difference and Repetition* we can distinguish three types of repetition in *Solaris*, which correspond to the Deleuzian three syntheses of time: unconscious, involuntary and sub-representative. The syntheses operate beneath representations which wish to turn them into the object of meaning and reflection of the subject. The “bare” material repetition of habit constitutes the empirical first passive synthesis of the “living present” [*Difference* 70-81].

Deleuze understands this repetition as a vital, “organic” contemplation on the level of “a primary sensitivity that we *are*” [73]. These “primary habits that we are; the thousands of passive syntheses of which we are organically composed” [74] select or draw (fr. *contracter*) from the milieu their necessary vital elements. This contractile “habit draws something new from repetition - namely, difference” [73]¹⁴. It is on this level that one can understand Zylinska’s auto-contemplative “nonhuman photography” which draws light from the world, thus diagnosing the planetary and cosmic ecological condition and at the same time filling itself with the image of the Huttonian inhuman “deep time”¹⁵. In turn, the “clothed” repetition of memory constitutes the second passive synthesis – the transcendental synthesis of the pure past, encapsulated in the inner spiritual/psychic life. As Deleuze points out, while “Habit is the originary synthesis of time, which constitutes the life of the passing present; Memory is the fundamental synthesis of time which constitutes the being of the past (that which causes the present to pass). [...] The former is a repetition of successive independent elements or instants; the latter is a repetition of the Whole on diverse coexisting levels” [80, 84].

14 As Deleuze remarks, “we are made of contracted water, earth, light and air - not merely prior to the recognition or representation of these, but prior to their being sensed. Every organism, in its receptive and perceptual elements, but also in its viscera, is a sum of contractions, of retentions and expectations. At the level of this primary vital sensibility, the lived present constitutes a past and a future in time. Need is the manner in which this future appears, as the organic form of expectation. The retained past appears in the form of cellular heredity” [*Difference* 73].

15 The concept of the “deep time” in turn can be speculatively framed in terms of the third, static synthesis, whose explanation follows below.

The second synthesis operates within the Bergsonian cone of time as processes of resonance between its virtually coexisting layers¹⁶, “as if the philosopher and the pig, the criminal and the saint, played out the same past at different levels of a gigantic cone” [83]. To put it simply, the second synthesis launches the principle of psychic interiority, which is at the same time a metempsychosis. Each present story repeats another, at another level, just as the same psychic life – the same role – repeats itself on the ever-different levels, assigned to different actors. The second synthesis ushers in the circular mythical, immemorial time.

The third synthesis of time¹⁷ in turn constitutes the future as a repetition in the Nietzschean eternal return, whereby time becomes a static “formal and empty order” [89], “a pure and empty form” [91], diagrammed as a straight line. This form of time affirms radical change because it is no longer subordinated to a measurement of movement. Repetition in the eternal return thus forgoes both the linear, empirical and metric, as well as the spiritual cardinal points of reference. This is the Hamletian “time (...) out of joint” [88]. Such time is launched by an excessive, inhuman event, “an act which is adequate to time as a whole” [89], whose symbolic image might be for example “to make the sun explode, to throw oneself into the volcano, to kill God” [89]. The caesura of such an immense, unprecedented-

16 As Deleuze explains, ‘The present can be the most contracted degree of the past which coexists with it only if the past first coexists with itself in an infinity of diverse degrees of relaxation and contraction at an infinity of levels’ [*Difference* 83].

17 See [*Difference* 88-94].

ed, unique event does not so much dynamically happen in time, as launches time as its two unequal parts, its singular “before” and “after”. The radical rupture of the event distributes the non-empirical, dimensions it generates – the past and the future – in a series of time. In other words, the third synthesis produces a burst of series. Proliferating serialisations bite into the linear, chronometric time correlated with the human subject, and also rupture the mythic cycles of metempsychosis. The first time in the series generated by the event designates a moment when the agent (the hero, the I, the self) orients her/himself towards the event as their limit-point but the imagined event still exceeds their capacity. The second time in the series is defined by the caesura which ushers in the present of metamorphosis, whereby the agent becomes equal to and capable of the event. In the third time in the series, which constitutes the future as a repetition in the eternal return, the agent’s act and the event enter into an internal resonance. The subject/agent becomes equal to the unequal, which brings about its death – perceived from the human point of view as the death of an already constituted, specific subject. This human death can be also understood as a fracture in the coherent I, in the proper, own self. At the same time, however, what is a stake here is an opening toward the unlife of a fundamental, formless difference¹⁸.

18 As Deleuze describes in a remarkable passage, the untimely event “smash[es] [the self] to pieces, as though the bearer of the new world were carried away and dispersed by the shock of the multiplicity to which it gives birth: what the self has become equal to is the unequal in itself” [*Difference* 89-90]. Furthermore, the third synthesis is “esoteric” in the sense that it is “a belief of the future, a belief in the future” [90]. Interestingly, Deleuze understands the eternal return of difference also in terms of art, since it generates “the autonomy of the product, the independence of the work,” a new world erasing its historical condition and the agent [90].

Deleuze understands such unlife in Simondonian terms as an individuating difference, i.e. a becoming that flashes through “pre-individual singularities” and “impersonal individuations”, and also in a Riemannian-Bergsonian way as a world of “intensive multiplicities”. As Deleuze has it, repetition in the eternal return can be diagrammed as a “decentred circle which displaces itself at the end of the straight line” [*Difference* 299]. The eternal return sets off a system of imperceptible, unpredictable resonances, which glimmer in the first and the second passive syntheses. Another avatar of this impersonal realm is the intensive embryonic morphogenetic processes occurring within an egg. Such processes can be also understood in terms of a functioning which goes beyond activities of the already constituted, specialised human organs and senses. This is the level of the Blanchotian “aleatory point” – “blind, acephalic, aphasic” [198-9]. What is at stake here is not a linear evolutionary development towards a progressively higher and higher specialisation which goes from simple to complex forms. Instead, it is a question of becoming understood in *A Thousand Plateaus* not as a regression, but “a contemporary, creative involution” [Deleuze and Guattari 164]¹⁹.

The Deleuzian conceptual apparatus allows us to discern in *Solaris* a complex system of repetitions pertaining to the passive syntheses, which come to be actively re-presented in the human consciousness of its scientists-narrators as an object of recognition and reflection.

19 Interestingly, the ocean in *Solaris* is speculatively presented as a leap across the canonical stages of the evolutionary phylogenetic development [*Solaris* 31].

Accordingly, the oceanic labour producing the perceived array of diverse, distinct formations already constitutes an active repetition that subsumes under the human consciousness something which might otherwise affirm an incomprehensible “primary sensitivity” [*Difference* 73] which generates in recording apparatuses changing “rhythms of discharges” [*Solaris* 34, my translation]. We can speculate that such captured discharges are for-es-signs emitted by the oceanic contractile power of shifting attention, of selective penetration of the human interior or of fleeing the subjectifying effect of surfaces of inscription such as the mirror or the face, whose faciality machine launches significance, produces a human subject and at once produces the body as a specific, fixed and hierarchical organisation²⁰. Hence, for Snaut, one of the crew members, the ocean remains blind to the subjectifying effect of the face. He speculates that “we don’t exist for it the way we do for each other. The surface of the face, of the body, which we see, means we encounter one another as individuals. For it, this is only a transparent screen. After all, it penetrated the inside of our brains” [302-303].

Solaris launches yet another mode of repetitions, pertaining to the second passive temporal synthesis diagrammed by Deleuze as the cone of Memory whereby the present is only the most contracted degree of the past.

20 There is a wealth of literature, both Marxist and psychoanalytical, on the subject of the face. Suffice to mention here the concept of “faciality” (*visagéité*) developed by Deleuze and Guattari in *A Thousand Plateaus*, the Lacanian “mirror stage” (*stade du miroir*) or Althusser’s “ideological state apparatuses” (*appareils idéologiques d’État*).

Kelvin unconsciously repeats the trauma of unwittingly enabling the suicide of his terrestrial partner Harey – both in the psychological and the material sense, i.e. by leaving shots of a lethal substance in their apartment. Kelvin repeats this terrestrial situation twice on the Solaris station. Once, directly and consciously – by killing the first Harey G-formation; and another time: indirectly and unconsciously – through his finite human perspective which rejects something that goes beyond the existing binary categories; something that is deemed to have a secondary, derivative existence; something impossible to comprehend; something perceived as an unhomey, uncanny duplicate. Kelvin's anthropocentric stance, together with a recording of research notes recorded by the late scientist Gibarian *played back* by the second Harey G-formation, instils in it/her a human sense of guilt. Harey' thus gains consciousness of constituting a mere research instrument of the ocean. This consciousness leads her, or so we are led to believe, to a suicide attempt and subsequently, at her own request, her annihilation at the hands of Snaut and Sartorius. Consciously enabling the death of Harey, Snaut and Sartorius unconsciously repeat Kelvin's earlier unconscious, hence operating at another level, action. Snaut and Sartorius therefore ultimately play the same role as Kelvin – they act as a catalyst of Harey's death. The encounters with G-formations experienced by the members of the station's present crew replay analogous stories of the previous crews. One might say that all the crews replay at different levels one and the same story of unsuccessful contact. Kelvin's present story replays – and

hence *inscribes itself* into – an earlier story of the rescue flight of the reserve pilot André Berton, just as the surname “Berton” itself is an anagram of the surname of the surrealist André Breton. During the solarist expedition of Shannahan’s ship, Berton embarks on a search of the two missing members of the crew – Carucci and Fechner. During the flight, a G-formation in the shape of a gigantic baby appears to Berton, analogous to one that has previously materialised itself to Fechner. In this way Berton in a sense repeats Fechner’s trajectory. Kelvin–Gibarian–Berton–Fechner: all of them dance on the different levels of the cone of time, as if at the shifting play head of a giant tape recorder or in the skipping groove of a vinyl record. But let us go back to Kelvin’s personal story, which plays itself out at the level of the second passive synthesis of time as a repetition and recollection of the past. Such repetition yields the desire to relive the lost time or to make up for the time already passed. This simultaneous feeling of a personal loss and a sense of possibility of regaining the lost time traps Kelvin in the labyrinth of the different layers, the different materialisations of Harey within the Bergsonian cone of time. This situation can only breed the bitter resentment of the human subject, who anthropomorphises the “bad” ocean as a negatively constituted object of recognition. Such all-too-human resentment stands in the way of radical change.

As I see it, one can open the above deadlock for solarist speculation. After all, in *Solaris* radical change has already been happening, what is needed is only affirmation

of the necessity of contingency, the Nietzschean *amor fati*. Harey-formation is not a mimetic recollection of the terrestrial Harey, because this “completely different Harey” [93] has the power of an inhuman, blind obstinacy, for which an individual death constitutes but a sign of a different experience. Furthermore, it/she has the knowledge of the events that the “real” Harey could not have possibly known of because they only happened after her death. In this way, the secret unknowledge of Harey-formation abolishes the order of linear time along with its imperative of being. Ontologically one, together with its/her dress, Harey-formation is the Proustian reminiscence of “Combray [...] which was never present” [*Difference* 85] – a purely onto-aesthetic being; a new, incomprehensible “optical effect” [88]. This observation at the same time sets the direction for further solarist speculation. The ocean does not repeat with a mimetic accuracy that which had “really” happened, once and for all, but ceaselessly becomes through imperceptible metamorphoses. Spawning G-formations, the ocean has been already performing a topological conversion of the psychic interiority into the folds of cosmic matter. The Solaris crew members speculate that a plane where this conversion happens is the level of an unstable subatomic neutrino structure stabilised by a forcefield. This inhering neutrino sub-layer is shared both by the ocean and its G-formations. As Kelvin observes, the ocean “introduc[ed] into (...) [the] subatomic structure inconceivable changes which probably had something to do with the purposes that drove it” [*Solaris* 268]. Even well before his arrival at the planet, Kelvin must have already intuitively sensed the problem of change as

a topological conversion occurring between the psychic and the cosmic processes²¹. Symptomatically, his doctoral dissertation explored parallels between recordings of human cortical patterns corresponding to emotions and certain oscillations in the curves registering discharges of oceanic currents specific to, amongst others, certain parts of mimoids [273]. In this way, already during his stay on Earth Kelvin orients his interest and fascination towards the Solaris ocean – the Solaris event. In the book's opening scene, Kelvin's capsule is launched into space, landing at the research station located on the surface of the ocean. The scene is repeated in the final part of the novel whereby Kelvin descends to the surface of the ocean. What has happened in between, between the two times in the series? Somewhere along the way, imperceptibly, Kelvin becomes worthy and capable of the oceanic event. This metamorphosis makes Kelvin, in the final and ultimate scene, equal to the unequal. He becomes an anomalous human equal to a no-body who in his/its non-being becomes close to the inhuman. Kelvin describes his ineffable, excessive experience as follows: "I had never before been so aware of its vast presence, its powerful, inexorable silence breathing evenly through its waves. Staring in wonderment, I was descending to regions of inertia that might have seemed inaccessible, and in the gathering intensity of engrossment I was becoming one with this

21 Framed in this way, the fundamental problematics of the novel goes beyond the disjunctive alternative: either the ocean or the Kelvin-Harey relation, as Wojciech Orliński would have it. For Orliński, Lem ultimately subscribes to the second option. Orliński sees the ocean as an empty place (or a plot device) which does not matter on its own but only insofar as it propels the novel's story forward [*Lem* 205-208].

fluid unseeing colossus, as if—without the slightest effort, without words, without a single thought—I was forgiving it for everything” [319]. What is at stake here is a descent towards formlessness, and abandonment of memory of the past as the ground of time coupled with a fracture of the stable I which in its shattering opens towards the world of impersonal differences of intensity. As Deleuze frames it, “the ground has been superseded by a groundlessness, a universal ungrounding which turns upon itself and causes only the yet-to-come to return” [*Difference* 91]. Akin to Hamlet, Captain Ahab from *Moby Dick*²², or Nietzsche’s Zarathustra, Kelvin leaps into the unknown, the impersonal and pre-individual – something that cannot be signified or understood. He leaps into an inhuman future, certain only of its contingency, into “chance concealed in the future” [*Solaris* 321], sustained only by a belief in the “the time of cruel wonders” [321]. He plunges, disintegrating into a blind future that, as we might speculate, makes no discrimination between forces, humans, materials, tools, mimoids and G-formations.

Speculation 2: Solarism | Inhumanism

As we have seen, *Solaris* concludes with an unverifiable speculation. The ocean produces an a-signifying, a-visual, ahuman experience “without a single thought” [319], one that operates at the level of differences of intensity. Lem’s characterisation of the ocean itself also obeys such non-representational, impersonal, intensive

²² Lem expressly acknowledged the affinity of *Solaris* with Melville’s *Moby Dick*. See [“The *Solaris*”].

logic. First of all, the descriptions of the ocean in the novel are not subject to the sovereign patriarchal privilege of authorial omniscience. The narrator, Kelvin, succumbs instead to a cacophony of disparate solarist positions. In this sense, one can say that the ocean desubjectivates the figure of the narrator, producing a vision of Solaris that functions akin to a vibrating, opaque crystal shot with insurmountable problems and paradoxes. As Kelvin sees it, “fragments of perhaps brilliant intellectual constructions, these fragments are mixed indiscriminately with the products of utter foolishness bordering on insanity” [38]. Despite the plethora of accumulated information, we still do not know what the ocean can do, and all we can sense in our empirical experience is that it goes beyond the human. Solarist knowledge is therefore holey, blind and headless. It opens up towards something within itself that eludes knowledge, proliferating the Deleuzoguattarian *zones of indiscernibility* between static categories. Let us survey this problematic field, extending the solarist archive to encompass the contributions of Deleuze and Simondon.

As one can glean from the book’s solariana, chiefly found in the “Solaricists”²³ chapter, the Solaris planet revolves around two suns: a red one and a blue one. The planet is inhabited by a “thinking” [38] ocean which somehow shapes – or rather, let’s speculate – *modulates* in the Si-

23 See [*Solaris* 27-39]. Solarist speculations also make up the lion’s share of the “Thinkers” chapter [257-274].

mondonian sense, and thus sustains its unstable²⁴ orbit.

24 The system generated by the ocean and the planetary orbit can be understood in terms of Simondon as “metastable” because it is neither stable nor unstable. It is therefore not a question of mutual opposition between the already constituted objects, but a state of disparation consisting in the existence of many mutually incompatible, non-communicating levels or dimensions of reality. As Deleuze explains, a metastable system “thus implies a fundamental difference, like a state of dissymmetry. It is nonetheless a system insofar as the *difference* therein is like *potential energy*, like a *difference of potential* distributed within certain limits” [“On Gilbert” 87]. The distribution of intensive differences does not give rise to individual forms, but corresponds to the existence of irreducible pre-individual singularities. An example of this is the process of crystallisation in a supersaturated saline solution. In such solution, comprising a pre-individual milieu, the introduction of a crystalline seed acts as a singularity. The seed becomes a catalyst which makes it possible to resolve the state of disparation of its milieu through an internal resonance between them. In this sense, the seed can be said to initiate a process of information understood as a communication between disparate realities. See [Simondon 93-115, 222-237]. See also Daniela Voss [“Simondon”] for her excellent analysis of Simondon’s notion of individuation. Interestingly, at the very beginning of writing *Solaris*, in one of his letters from 1959, Lem saw the ocean in parallel categories, additionally employing Wiener’s notion of “steering”, which relates both to the animal and the machine. As Lem wrote, “there exists some form of circulation of information, some internal steering processes. [...] This creature does not have any EXTERNAL language, because there is nobody with whom it might converse” [Lem quoted in Orliński, see *Lem* 206]. Returning to Simondon, the internal communication between the saline solution and the crystalline seed brings about individuation through the growth of layers on the surface of the seed [Simondon 95], hence through the establishment of a new level which resolves the problematic disparation [232-233]. For Simondon, metastability is a prerequisite for individuation across the whole natural-cultural continuum. As Deleuze summarises, metastability should be understood as “a mobile overlapping of incompatible wholes, almost similar, and yet disparate.” [“On Gilbert” 87]. Symptomatically, the final scene of *Solaris* contains the description of an encounter with a formation that merges out of an oceanic black wave. Lem describes it as follows: the wave “hesitated, withdrew, then flowed over my hand yet without touching it, in such a way that a narrow layer of air remained between the surface of my gauntlet and the inside of the covering, which instantly changed consistency, turning from liquid to almost fleshy” [*Solaris* 318]. Contact with the ocean is not presented here as assembling together two discrete, separate elements but a phenomenon of internal resonance between two disparate levels which brings about qualitative change. What is interesting, the solarist corpus in *Solaris* – in its deliberations on the nature of the ocean – also presents a competing, dialectical vision of the ocean’s development, making a reference to Le Châtelier’s principle, known in biology as the principle of homeostasis. According to this principle, derived from chemical thermodynamics, a system subject to an external factor counteracts it, striving towards equilibrium. As Kelvin summarises, “starting from its original form, that of a proto-ocean, a solution of sluggishly interacting chemical substances, under the pressure of conditions (meaning the orbital changes that threatened its existence) [...] it had been able to jump directly to the phase of a ‘homeostatic ocean’” [*Solaris* 31]. For Deleuze, Le Châtelier’s principle’s captures and cancels out the notion of difference of intensity: “difference is the sufficient reason of change only to the extent that the change tends to negate difference” [*Difference* 223].

Solaris also functions in Lem's novel both as the name of the research station that probes the ocean and as a corpus of scientific and philosophical thought (as "solariana") that the encounter of the ocean provokes. The novel problematizes its characterization of the ocean as a "thinking" entity. The ocean might be deemed as "thinking" only in a special sense, only insofar as "thinking without consciousness (...) [might be considered] possible" [39]. As Lem explained on his webpage, "one should not speak of a 'thinking' or a 'non-thinking Ocean, however the Ocean certainly was active, undertook some voluntary actions and was capable of doing things which were entirely alien to the human domain" ["The Solaris"]. The status of the ocean might as well be conceived in terms of material processes parallel to, and yet going beyond, inorganic geological processes such as rock formation and sedimentation, on the one hand, and to cancerous growth, on the other [39]²⁵. The ocean functions according to a specific, albeit inhuman, logic; a kind of rationality whose rules are, however, inaccessible to humans. Solaristics deems it a "plasmic machine", i.e. "a formation that in our sense might be devoid of life, but was capable of undertaking purposive actions on a scale that (...) was astronomical" [30]. This purposiveness is described elsewhere in the novel as

²⁵ Lem's account of the ocean in terms of a paradoxical proximity, opacity and indiscernibility between the vital, biological processes of individuation, on the one hand, and the inorganic, physical processes of individuation, on the other, sets *Solaris* apart from Simondon, who makes a sharp distinction between the two. As Deleuze summarizes, in Simondon "the physical individual creates and prolongs itself to the limit of the body – for example, crystal – whereas the living being grows from the interior and the exterior, with the whole content of its interior in contact 'topologically' with the content of exterior space" ["On Gilbert" 88].

“mechanical”, but this should not be understood in the sense of the teleological logic of the human mechanism that *serves for* something. As Kelvin explains it, a class of the ocean’s creations (‘symmetriads’) “produces in its interior things that are often called ‘momentary machines,’ though these formations bear no resemblance to machines constructed by people—the term only refers to a relatively narrow, and by virtue of this as if ‘mechanical’, purposiveness of operation” [182, modified translation]. Such purposiveness belongs more to the realm of technology than the field of biological life. Or, perhaps, it simply reformulates the very opposition between the “biological” and the “technological” pointing towards the ocean’s processes individuation as technical operations. Paradoxically, the ocean is also described solaristically as “living”, but not in the canonical sense of a biological organism bestowed with a nervous, cellular or protein structure and with a patterned response to stimuli, because it has none of those attributes [37]. Interestingly, it is the G-formations who possess those features, but only – as the members of the *Solaris* crew speculate – as a “camouflage”, “mask,” or supercopy” [156] and hence, as a façade or an effect which ultimately refers to the fundamental, imperceptible and invisible, subatomic plane of incomprehensible neutrino metamorphoses²⁶. The ocean is a plasmic, contractile and ever-mutating gelatinous “amorphous ooze” [31], changing its shapes, colours and phases. But at the same time this mucous formation is not spectral

26 See [*Solaris* 156-158].

or disembodied; instead, its black waves have the definite animal character of muscles [314], resonating perhaps with the might of the eponymous Melvillian *Moby Dick*. The ocean is traversed with the incomprehensible electrical, magnetic and gravitational impulses whose intensive thresholds effect changes in its shapes, colours, textures and phases. The ocean is “living” in the sense of a “parabiological” [30] formation that operates at the level of fields of cosmic forces, whose metabolism modulates and stabilizes the unstable gravitational pull of its planetary orbit. As the narrator remarks, “the living ocean certainly does act – it’s just that it does so according to notions other than those of humans” [38]. What is at stake in the ocean’s plasmic functioning is not a sensorimotor action-reaction occurring within the already constituted time and space. It is rather the case of actions at a distance performed on a scale of an unthinkable magnitude through a system of hidden internal resonances. Such actions not so much happen in time and space as generate them, opening themselves up to the logic of the Deleuzian third synthesis and its repetition in the Eternal Return. As Lem’s narrator points out, the ocean “was capable of directly modeling space-time specifications” [32]. What is exactly the ocean’s mode of operation? One of the solarist hypotheses explains that it “occupies itself with thousand-fold transformations—’ontological autometamorphosis’” [38]. As I see it, the ocean is a differentiator, not so much in the sense of qualitative diversity of it (de)formations but, most of all, as an informal operator of cosmic, planetary and astronomical differential forces.

What implications for the problem of contact with the radical Outside stem from the formulation of the ocean presented in *Solaris*? The metamorphic ocean can be speculatively understood as a torsion in the field of matter-force which modulates and individuates that which is enveloped by its penetrating radiation. It operates as a metastable system possessing many heterogenous and disparate levels, between which flash the discharges of imperceptible resonances bringing about change. The ocean is both at once an individual and its own “*environment of individuation*” [“On Gilbert” 86]. What Lem’s artistic and philosophical experiment presents us with is the gift of a “cosmopolitical proposal”²⁷ in the sense of Isabelle Stengers: how does one make contact with that which does not, or does necessarily wish to, have a voice, at least not on the anthropocentric, human, humane, humanist or other pre-existing, externally imposed terms? According to some solarists in Lem’s novel, the ocean’s unfathomable vectors of operation merit its designation as an “oceanic idiot” [*Solaris* 38]. Such formulation resonates with the Stengersian figure of the idiot who “demands that we slow down, that we don’t consider ourselves authorized to believe we possess the meaning of what we know” [1995].

Both the *Solaris*-book and the Solaris-ocean constitute an artistic-philosophical – or, rather, an *onto-aesthetic* – proposal which not so much shows as launches a certain mode of individuation, whose intensity goes beyond the human, beyond life as we know it. Through its formations, which reso-

27 See [Stengers 994-1003].

nate with such non-Euclidean formations as “Lobachevsky’s cones and Riemann’s negative curvatures” [*Solaris* 183], the ocean generates an unlife of intensive multiplicities²⁸. Such multiplicities dissolve the fixed position of the subject and its psychological/oedipal axioms, or rather *givens*. What is at stake here is the specific vision of an encounter of the Outside, of which one can speculate that it functions as a differential movement of multiplicities. An avatar of these changes can be found in the ocean’s productions-destructions, foundations-terminations, stabilisations-destabilisations of shapes, which are signs-symptoms of metamorphoses of invisible forces. To be precise, this oceanic productivity can be understood immanently as an in-formal, auto-generative material sign-force. Oceanic formations are expressive traits which do not express a meaning external to the level of matter-forces. Lem unfurls a veritable ethology of the ocean’s (de)formations, which constitute modes of its functioning. He gifts us with dendromountains, extensors, megamushrooms, mimoids, symmetriads, asymmetriads, vertebrids and rapidos [171-172]²⁹. The ocean’s heterogenous

28 Drawing on Bergson and Riemann, in his 1966 *Bergsonism* Deleuze develops the notion of virtual multiplicity, later on also called intensive multiplicity, defined as that which “does not divide up without changing in kind, [that which] changes in kind in the process of dividing up” [Bergsonism 42]. The concept of virtual multiplicity / intensive quantity is subsequently elaborated in Deleuze’s doctoral thesis (*Difference and Repetition*). As Deleuze explains, “an intensive quantity may be divided, but not without changing its nature. In a sense, it is therefore indivisible, but only because no part exists prior to the division and no part retains the same nature after division” [*Difference* 237]. Such a formulation corresponds to the Simondonian vision of individuation.

29 Given that *Solaris* was written in Zakopane in southern Poland, Orliński sees in these topographies shards of Zakopane’s mountain landscape [*Lem* 215]. Regardless of whether one accepts the validity of biographical criticism, such insight places *Solaris* alongside the novel *Nietota: The Secret Book of the Tatra Mountains* published in 1910 by the Young Poland poet and playwright Tadeusz Miciński. In the novel, the mountainous Tatra ecologies are considered in the field of biological (the eponymous northern firmoss: *Huperzia selago*), physical (processes of mountain formation), psychic (the protagonist Arjaman) and collective (the resurfacing of the Polish collectivity) individuation.

formations are designated by one of the novel's solarist hypotheses as singular "works of art" [34]. Specific ways of entanglement of intensive forces have affinities with particular styles of art – ancient Babylonian, classical Greek and Roman, Gothic, Baroque, Abstract – making resonance with musical, architectural, visual or cinematic compositions³⁰. On the other hand, the ocean engenders absurd biological classifications "**Type: Polytheria, Order: Syncytialia, Class: Metamorpha**" [33], and yet it is the sole member of its class; it is auto-comparative. Interestingly, in his descriptions of oceanic processes, Lem's narrator equates their aesthetic dimension with the material processes of individuation: "the morphogenetic processes – the making of successive architectures" [187, modified translation]. In this way Lem approaches the Deleuzoguattarian transcendental-empirical understanding of art as an ontogenesis in the Real, whose tenets I will outline shortly. As I mentioned earlier, the "idiotic" mode of the ocean's operation goes beyond the human sensorimotor schema of stimulus-response. The ocean chips away at the schema with, on the one hand, a childlike clumsiness³¹, curiosity and spirit of experimentation, but, on the other hand, with its lack of reaction to stimuli, motor deceleration, acceleration or a complete failure of func-

30 See [*Solaris* 184-7].

31 The narrator of *Solaris* expressly frames the ocean's functioning in terms of "the mind of a small child" [312]. The child's lack of motor coordination refers back to the Lacanian mirror stage which establishes an artificial, symbolic plane of identification – in the shape of a mirror surface or a verbal repetition – for the still motorically uncoordinated infant. In *Solaris*, the gigantic materialisation of Fechner's child, as encountered by Berton, does not grasp the process of hylemorphic formation as encapsulated in the mirror stage. Its lack of coordination has its own internal, rigid serial logic. As Berton describes it, "in general it gave the impression of a living child; it was just those movements, as if someone were attempting. . . as if someone were trying them out. [...] The movements were unnatural. [...] made no sense. Normally any movement has some meaning, it serves some purpose. . ." [128-129].

tioning, and at the same time with what, from the human vantage point, appears as a *breakdown* in the functioning of senses. Symptoms of such perceived sensory breakdown are the ocean's aphasic silence or its ostensible blindness. Kelvin diagnoses the ocean's overcoming of the sensorimotor schema with his vision of the ocean as "a cripple God, who always desires more than he's able to have" [310]³².

It is worthwhile adding here, even though a detailed analysis would exceed the scope of the article, that the encounter of the ocean not only proceeds in *Solaris* via its solarist *mise en abîme*. The ocean's inhumanity also launches a singular, depersonalised narrative machine that, through its particular stylistic features, bulldozes narrative and representational clichés. Accordingly, *Solaris* is distinguished by its Beckettian dialogues full of ellipses and repetitions, which yield the vision of a hindered, slowed-down or invisible communication. *Solaris* is also characterised by its Baroque levelling of the difference between the figure and its background, or rather a singular Mannerist gesture whereby the novel's expressive stylistic traits liberate themselves from the yoke of the organic content of its plot³³. Such an effect is obtained through the dispassionate force of detailed description, whose playhead does not distinguish between humans,

32 Such a vision of God, as the constitutive difference of intensity, brings to mind Lurianic Kabbalah and its notion of *Tzimtzum*, i.e. the constitutive auto-limitation or contraction of G-d.

33 In this sense, *Solaris* makes resonance with the literature of Polish Baroque and in particular the vivid metamorphoses of expressive material in the epic poem of Samuel ze Skrzywny Twardowski from 1633 called *The Important Mission of His Grace Duke Krzysztof Zbaraski from Sigismund III to Sultan Mustafa*. The epic is an encounter of otherness, whereby its linear historical plot grounded in Polish identity succumbs to the force of the metre, chromatic effects and a dense texture of numerous Turkisms.

their tools, the minutiae of the equipment found on the station, as well as the ocean itself. Writing *Solaris* did not consist of the actualisation of a prior idea, but in the individuation and production of the writer in the technical process of writing³⁴.

Lem's vision resonates with the Deleuzian philosophical project of transcendental empiricism formulated in *Difference and Repetition*. This "superior empiricism" [*Difference* 57] is preoccupied with the problem of an experimental contact with the Outside, which in its incomprehensible excess has the characteristics of the work of art. As Deleuze explains, "the work of art leaves the domain of representation in order to become 'experience', transcendental empiricism or science of the sensible" [56]. The work of art does not therefore operate in the field of representation, but ontology, or rather, ontogenesis. What is at stake here is a creative sensing of the genetic conditions of – the conditions of possibility which have given rise to – the sensible, empirical experience. Deleuze frames the problem as follows: "something in the world forces us to think. This something is an object not of recognition but of a fundamental *encounter*" [139]. It is an encounter of "difference, potential difference and difference of intensity as the reason behind qualitative diversity" [57]. The object of the encounter is "not a sensible being but the being *of* the sensible. It is not the given but that by which

34 As Lem reminisces, "when I led Kelvin to the Solaris station and made him see the frightened, drunken Snaut, I did not know myself what made him so anxious. I had no idea why Snaut was so afraid of a totally innocent stranger. At that time I didn't know – but soon I was to find out, because I kept on writing..." ["Solaris. Lem's Opinion"].

the given is given” [140]. Such encounter eludes sensory perception and can only be sensed³⁵. In Lem’s novel, to ethically encounter the ocean is not to attempt to conquer and qualify otherness in time and in space. Thought comes from the inaccessible Outside which cannot be captured via recognition and re-presentation or through memory understood as a reactivation of a past event. The living ocean unfolds a field of problems, akin to an expanding rip in the fabric. In the final moments of *Solaris*, when Kelvin lands on the shore of a mimoid on the surface of the ocean, the ocean does not inspire his hope for a specific outcome, such for example as the recovery of a lost love. Instead, Kelvin experiences the non-localisable sensation of permanent wait as an affirmation of radical contingency. The ocean has carried out Kelvin’s individuation, engendering a change in him. The protagonist opens up to the radical Outside whose operations cannot be fathomed or mastered, abandoning himself to its differential force: “I had never before been so aware of its vast presence, its powerful, inexorable silence breathing evenly through its waves” [*Solaris* 319]. The oceanic radiation of something that will remain inaccessible to senses and consciousness is the force of charismatic energy exuded by the abstract monochrome paintings by Mark Rothko adorning the walls of a minimalistic ecumenical chapel in Houston, whose encounter was movingly described Timothy Morton in *ArtReview* [Morton].

35 According to Deleuze, what is at stake here is “the paradoxical existence of a ‘something’ which simultaneously cannot be sensed (from the point of view of the empirical exercise) and can only be sensed (from the point of view of the transcendent exercise)” [*Difference* 236].

Speculation 3: Cine-solarism | *Twin Peaks: The Return and Annihilation*

Lem's vision of contact with imperceptible forces sketched above is particularly useful in capturing and diagnosing a number of singular characteristics of contemporary cinematic artistic strategies.

In particular, I see the solarist onto-aesthetics at work propelling the third season of David Lynch's *Twin Peaks* TV series released in 2017. The third season in the series forgoes the traditionally understood narration and representational structure in favour of transmission of the inhuman forces of crackling electricity and modulations of colour that deform and qualitatively change the protagonist, agent Dale "Coop" Cooper. Another element of the season's solarist logic is a proliferation of series, which can be observed in the decentering triplication of the main character (Coop, Mr. C, Dougie Jones); numerological variations on the theme of specific minutes, times, dates occurring on various levels through the series; compositional repetitions; incorporation of footage from concerts performed live at Twin Peak's Roadhouse pub by music groups who turn the irreducible singularity of the icon singer Julee Cruise, known from the previous seasons, into a burst of series of clones; compulsively repeated gestures and tics which impersonally individuate the host of the numerous characters that appear in the series. Solarism can also be encountered in a rupture, or a slowing down, of the sensory-motor schema of the cinematic image which, as Deleuze shows in his cine-books, has traditionally organised cinema's semiotics according

to the principle of reaction to a previous action, as exemplified by Hollywood's detective and police movies with their scenes of car chases. The character of *agent* Cooper, derived from film noir, as well as the figure of Kyle MacLachlan as an iconic Hollywood *actor* is a figure that diagnoses cinematic clichés, relaxing the feedback loop between action and reaction and its power of agency. This can be seen in the catatonic, sometimes also infantile, state endured by the protagonist, his aphasia, amnesia, as well as the mechanical rigidity of his bodily movements. The specific passive situation of the main character who does not act but who undergoes, endures, succumbs to an event – to whom something happens – can be plotted onto the larger solarist condition of the third season whereby the sensorimotor schema of functioning of the cine-image makes way for the purely chromatic, sonorous, haptic and gestural situations. This can be observed not only in the particular Lynchian characterisation of Coop's character but also in the scenes where one can hardly see what is happening – in the sense of progressing action – while at the same time the frame becomes filled with a stroboscopic pulsation of light that surveys zones of an almost inscrutable darkness. The season also employs techniques reminiscent of stop-motion animation, whose grating micro-delays and discontinuities overthrow cinema's subjection to the imperative of ensuring the illusion of movement. This is especially visible in the scene of Andy's vanishing in the forest in the fourteenth episode. Finally, the season fully develops the potential of the sound layer of the cine-image, treating its exaggerated sound design as a semiotic category

on its own. Such sonic figures compose the scene through their amplitude, timbre, acoustics and the temporal arrangement of the sequence. Frequently they seamlessly pass into live recordings of concerts performed at the series' Roadhouse bar. All the above features of the solarist inhumanity mesh together in a metastable way in a striking scene where the triplicated protagonist, operating on three different incommensurate planes simultaneously – as Coop, Mr. C and Dougie Jones, passes through a short-circuiting electrical socket, hence a socket in the critical situation of a difference of intensity. The internal resonance between the three figures produces an impersonal human dummy that materialises from the socket's holes out of the substance of a solidifying black smoke. As can be seen, *Twin Peaks: The Return* tackles the problem of change, which plays itself out on the level of the Deleuzian repetition in the Eternal Return, understood as a play of intensive multiplicities or, corresponding to it, the Simondonian account of individuation. The third season in the series is autothematic because it contemplates the ontological nature of its serialised genre. A TV series is ontologically one but at the same time it is many through the diversity of its seasons and episodes. Lynch has discovered the mystery of a burst of series in the Eternal Return as the ground of the phenomenon of the (TV) series' serialisation. *Twin Peaks: The Return* is the third time in the series launched by the *Twin Peaks* event. It cannot therefore be considered separately from the other two times in the series, the two previous seasons. In the first time of the series, agent Cooper orients himself towards a charming logging town in upstate Washington

close to the Canadian border. The Pacific Northwest, also known as Cascadia, fascinates with its forest and mountain topographies. This splendourous topography goes however beyond a quaint local charm, coexisting as it does with the animist plane of tracks and traces and their intensive metamorphoses of spirits and souls. The intensive passages of souls on the spiritual plane in turn corresponds to, and diagnoses, an ecology of metabolic and technical changes of trees/wood in the Twin Peaks area. In the second season, Cooper becomes capable of the Cascadian event, ultimately, in the season's last episode, disappearing in Black Lodge which forms one of the poles of the spiritual realm. The space of the third season is occupied by the caesura of the event; Coop's "I" breaks into a series of pieces, partaking in the intensive metamorphoses of a material-incorporeal world. A potent avatar of the inhuman event and the burst of series that characterises repetition in the Eternal Return can be found in *Twin Peaks. The Return* in the scene of denotation of the first atom bomb, which took place in 1945 in the Jornada del Muerto (The Working Day of the Dead) desert in the state of New Mexico. The third season also investigates the temporal caesura of the twenty-five years that have passed in the series since the events presented in the second season and at the same time the caesura of the twenty-five years that have passed "in real life" since the filming of the previous season. While the first two seasons explore personal stories of its main character, the third season shows the impossibility of regaining lost time, the impossibility of saving Laura Palmer, opening itself up to the caesura of cosmic infinity that penetrates Cooper's

brain. The third season also resonates with *Solaris* and its G-formations through its motif of the Tibetan *tulpa* – a material emanation of spiritual power.

Another solarist art-work is the 2018 film *Annihilation*, directed by Alex Garland. This sci-fi feature charts the journey of a group of scientists into the centre of an anomalous ecosystem, called The Shimmer, spawned by extra-terrestrial forces on the southern coast of the U.S. The anomaly acts like a prism that refracts, deforms and multiplies whatever material shape or genetic material it comes into contact with.

Time-wise, the bulk of the film is taken up by tiresome clichés of the genre. Accordingly, we have a crew of specialists sent on a mission to chart the unknown, a history of many unsuccessful past attempts at making contact, flashback cuts to personal backstories of the crew members, and mutated animals. The plot of *Annihilation* is very similar to *Solaris*. The story of *Annihilation*'s protagonists, Kane and Lena, recalls the story of Kelvin and Harey. The film's non-representational solarist logic does not, however, appear until its final scene, set in a lighthouse located in the epicentre of an anomalous coastal zone populated by fractal, crystalline formations. This qualitative diversity opens itself up to the ontogenetic, differentiating machine lodged in the basement of the lighthouse. The inhuman machine probes Lena, producing a metallic humanoid from a drop of her blood. In a close-up of the machine's inside, we can see how the processes of cellular individuation give way to a tight-knit crystalline structure

that ultimately makes up the humanoid. Lena confronts the newly individuated metallic humanoid who mimics her gestures. In an arresting scene, co-composed by the sterile, abstract, inhuman electronic music of Geoff Barrow and Ben Salisbury, the protagonist is locked in the embrace of the humanoid who copies her movements. This excruciating scene resonates with the paintings of Francis Bacon, depicting the struggles of coupled figures, akin to wrestlers on a boxing ring. This unbearable eternal simultaneity of movements, the instantaneous repetition of gestures, however, brings about an imperceptible qualitative change. We might speculate that what is at stake here is the Deleuzian “invisible, imperceptible *dark precursor*” [*Difference* 119] that flashes between two heterogeneous, disparate series and engenders internal resonance. The representational logic of narration breaks apart: the nightmarish choreography, which levels the human and the nonhuman, signifies nothing. The anomaly hence deforms the cine-image and turns it into a sonorous, haptic and chromatic situation that operates as a play of flashes on a metallic surface. This inhuman choreography heralds Lena’s death and her metamorphosis into, or being swapped by, the humanoid. Such death remains a death only from the point of view of the already constituted subjectivity. According to Deleuze, the rupture of the human “I” at the same time opens itself up to the world of pre-individual singularities. In Garland’s film, change is signalled by the metallic flash/lustre of Lena’s eyes in the final scene. It is at the same time the flash of a problem because it is impossible to know if the protagonist still remains her own self or has already become a phantom formation.

Solarism Now for Radical Contingency!

As I have demonstrated in the article, Lem's literary legacy has become the inspiration for contemporary deliberations concerning science, art, culture and media. This is especially important in the current times of profound ecological, economical and social changes going beyond the human scale and human understanding. Notions such as Katherine Hayles's "cognitive nonconscious" or Joanna Zylińska's "nonhuman photography" pragmatically insert Lem-inspired concepts into global circulation, problematising perceptual clichés regarding "media", "technology" and "nature". The outline of solarism sketched in the article is a speculative proposal for/towards the future of art and philosophy beyond the Anthropocene. Its ahumanism can be found in its influence on the human, also seen in terms of an empirical historical category, which orients itself towards ineffable event. Passing through a threshold of intensity, the human changes. Metamorphosis therefore always has its vector but at the same time it both diagnoses and goes beyond its milieu, both its "natural" and "social" environment. Undergoing change, the human ceases to be, but at the same time opens up to the world of invisible differences of intensity which can only be sensed non-sensorily. Inhumanism speaks to the irreducible character of the radical Outside which yields paradoxes and a spirit of speculation, and which also penetrates deep into works of art that resonate with its forces through their novel stylistic configurations. Irradiated with the Outside, the solarist aesthetics forgoes the traditional narration in favour of pure sonic and haptic situations. Framed in this way, the ahuman-inhuman solarism allows us to appreciate the uncanny intuition of the author

of *Solaris*, which – a half century after the book’s publication – still continues to draw new directions of thought and aesthetics. What is truly astonishing is the curious convergence of Lem’s philosophical orientation with Simondon, Deleuze, as well as speculative realism. Simondon defended his doctoral dissertation – in which he presented an exposition of his theory of individuation – in 1958, a year after before Lem started writing *Solaris*. *Solaris* affords an inspiration for a new reading of Deleuze’s *Difference and Repetition*, whence it extracts invaluable tropes of the Simondonian philosophy of individuation. What is more, Lem’s thought launches the project of ethical resistance against the ideological takeover of change and contingency by the state apparatus, which can be extended to the connectivist logic of global capitalism. All this leads me to the diagnosis that the time of Lem is yet to come upon us. It is not so much the case of Lem’s gift of anticipating contemporary technological solutions, as his vindication of the contingency of the cosmos and giving voice to the creative force of non-knowledge, smouldering slowly in the crevices of what is given and known. What is at issue here is to move with difficulty in the shadow of a falling planet. To strenuously wrestle with the Outside, bathing in the splendid excess of a planetary glow, akin to Justine in von Trier’s *Melancholia* or *Blessed Salomea* woven out of the mineral-vegetal imagination of Stanisław Wyspiański. To succumb to the radiation of the solarist planet. Let us therefore speak slowly, think and act with difficulty, for cosmic contingency – solarism now!

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“If Only We Could Communicate with Him”. Technique, Communication and Media in Stanisław Lem's *Eden*

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Communication problems, manifested in various configurations and in different interpersonal and non-human relationships are, as needed, one of the main leitmotifs in Stanisław Lem's science-fiction prose. Interpreting the works of the writer from the perspective of media development, one could put forward the following thesis: tech-

nological development does not always mean more efficient, effective and better communication¹.

Some examples from Lem's rich literary output seem to be symptomatic of this. Humanity in *Solaris* (1961), represented by Kris Kelvin, the main character, has difficulty finding a common language with an unexplored and unknown civilisation. In *Terminus* (1961), a pilot named Pirx, faces a different problem when he tries to reconstruct the course of the spacecraft disaster and is not able to communicate with a robot. In *The Invincible* (1964) astronauts, who were sent on a rescue mission and look for a missing ship, the "Condor", on the planet Regis, come across a "cloud" of microscopic robots that they are not able to communicate with. *His Master's Voice* (1968) depicts the struggles of scientists trying to decipher an extraterrestrial message, and *Golem XIV* (1981) contains the "lectures" of a supercomputer, which are devoted to the broadly understood media. These and other examples of "communication problems" can be seen today as somewhat archaic. At least at first glance, in times of transnational communication networks, we should not have difficulties in making contact, exchanging information and

1 This issue has been addressed by, among others Katarzyna Kobos in her article *Could we learn anything from Martians, even if we could ask them a question*. The author not only focused on the interpersonal dimension of communication difficulties encountered by Lem's prose characters (e.g. in *Golem XIV* or *Solaris*), but primarily considered this problem from the point of view of the philosophy of language. One such communication difficulty is represented by the ocean surrounding the planet Solaris, where neither media messages sent by people, nor methods of communication known to them work. According to the author, there is no way to communicate with something that can neither encode nor decode messages: "In Solaris there is a conscious being devoid of the perceptual interface, who can reach in its consciousness straight to the nerve center of other living entities. As a result, it can only repeat and reconstruct and is not open to external experiences" [31].

finding agreement with other people on a global scale. Is this really the case? Do modern technologies make it easier for people to communicate? Do we understand more and know more about each other thanks to the media²?

Lem's *Eden* is a 1959 novel (initially serialised in a number of issues of a newspaper called *Trybuna Robotnicza* in 1958), where struggles with technology, science and communication are inextricably linked. This novel is part of the "more serious" narrative of the prose writer and is included in the *hard science fiction* subgenre, together with the previously mentioned *Solaris*, *The Invincible*, *His Master's Voice* and in *Tales of Pirx the Pilot* to some extent. *Eden* is Lem's third science-fiction story, after *The Astronauts* and *The Magellanic Cloud*³. By this time, Lem was no longer a novice writer and had a specific vision for his prose. Andrzej Stoff thought that in *Eden*, Lem laid the foundations for something like a "laboratory" to test the characteristics of humanity [18-19].

Difficulties in establishing contact with an alien civilisation were already a major theme in *The Magellanic Cloud*, but it was in *Eden* that they became distinctive. Perhaps it was due to the political situation in the world? Lack of stabilisation? Destabilisation between the thaw after October 1956

2 To some extent, such questions, as well as other issues, relate to Paweł Majewski's dissertation *Between an Animal and a Machine: Stanisław Lem's Technological Utopia*. The author interprets the essays *The Dialogues* and *Summa technologiae*, and comes to the following conclusion: Lem's project, which is primarily visible in these two volumes of essays, is a picture of a liberal utopia in which science, technology and knowledge will provide humanity with answers to every question.

3 As part of the novel genre, Lem debuted with *Hospital of the Transfiguration* (completed in 1948). It was the first part of the *Time Not Lost* trilogy.

in Poland and the rise in communication problems – between people! – that come to the fore and seem worthy of attention, especially today in the age of digitisation of all areas of life. "Lem and technology" is a topic that has been widely interpreted from different perspectives. Today, however, we could add one more topic to this vast field of "Lemology", namely a reflection on the relationship between the author's prose and mass communication and the media⁴.

Hard landing

The beginning of *Eden's* narrative signals that technology and the achievements of various research fields are an important element of the described world. Earthly technology products help astronauts travel in space: "Because of miscalculation, the craft dipped too low and hit the atmosphere with an ear-splitting scream. Lying flat in their bunks, the men could hear the dampers being crushed. The front screens showed flame and went black; the cushion of incandescent gas at the bow was too much for the outside cameras. The control room filled with the stench of hot rubber. Under the force of the deceleration, the men temporarily lost their vision, their hearing. This was the end... No one could think. No one had the strength, even, to inhale. Breathing was done for them by the oxypulsators, forcing air into them as into straining balloons" [*Eden* 5].

As can be seen, and this is not an isolated case, but a kind of rule that Lem liked to weave descriptions of objects,

4 "Lem and technology" was one of the main topics in the *Philosophical/Literary Review* (Pol. Przegląd Filozoficzno-Literacki), a scientific quarterly published by the *Institute of Philosophy at the University of Warsaw*. See [*Przegląd Filozoficzno-Literacki*, no. 1(22), 2009].

mechanisms and devices that testified to the advancement of human technical thought into the narrative. Shock absorbers, wires, mechanical parts, brakes and hydraulic fluids, which usually squeak, screech and leak under the pressure of physical forces are particularly interesting. Technology in Lem's works usually gives in to "nature" and does not withstand the laws of gravity. (As a side note, it is worth mentioning that people often deliberately put devices to the test; for example Pirx, who just kicks the pilot seat shock absorbers in order to check the technical condition of the ship ["Terminus" 67]). Looking at this today, this is something that seems obsolete in an entertaining way and something that does not fit the vision of the future, and simply, regardless of the level of sophistication, it is unreliable. That one should not rely indiscriminately on technology seems to be Lem's message in most of his science fiction novels (with an emphasis on "scientific"), and this is the case in *Eden*.

It turns out that clocks, calculators and gauges (our versions of these today are screens, multi-core processors and GPS) do not help the crew avoid a catastrophe. Thus, the crew of the spaceship deviates from the chosen course, pierces the atmosphere of planet Eden and hits into its surface with force for unclear reasons. The astronauts are literally trapped in a 100-metre long rocket tomb that has bored deep into clay soil. The crew consists of: Captain, Doctor, Engineer, Cyberneticist, Physicist and Chemist whose names are not assigned but only the functions or professions they perform (with one exception – the Engineer's name is Henry).

The first pages of the story describe the crew's attempt to dig themselves out of the ground. The nuclear reactor on the ship is not working, there is no electricity, and the machines, which Earthlings have in abundance to perform various tasks, including work and defence, cannot be used. This is because, firstly, they all compacted into one shapeless mass on collision, and secondly, there is no electricity to start them. Technology becomes a burden, an obstacle, and does not fulfil its function. It transpires that a space ship, equipped with calculators and automata is useless and unable to withstand a collision with "nature". Instead of protecting, it endangers people. In such a situation, salvation comes in the form of an invention, albeit an older, one could say "primitive" one, such as a cigarette lighter, thanks to which it is possible to illuminate the darkness of the interior of the ship: "We're alive," said the Chemist. In total darkness, he could not see a thing. He was hanging in his nylon bag fastened on four sides by cords. The ship had to be lying on its side: otherwise the berth would have been horizontal. There was a crackle, and the pale glimmer of the Doctor's old lighter" [*Eden* 7].

All these inventions mentioned above – shock absorbers, oxypulsators and screens – are today seen as anachronistic rather than impressive and, in fact, were no use in the crisis situation in which the astronauts found themselves. In order to see what is happening around him, the Doctor uses a completely ordinary object that has nothing to do with "modern" technological advances. The fact that it is this character that pulls out the lighter is no coincidence. Firstly, having a lighter seems very "human", and secondly, the Doctor is the most "enlightened" member of the crew, not so much in the sense

of knowledge, but rather in his humanistic, rational and sober attitude to reality. It is worth watching the recent film by Ridley Scott *The Martian* (2015), where the main character of this film, just like the characters from *Eden*, falls victim to ultra-modern, but basically defective technology and has to deal with an extreme situation as a human being.

The Doctor probably has the most to say in the rest of the book – about the planet, natural phenomena, the inhabitants of Eden and the like – if compared to, for example, the Chemist who gives the impression of being a colourless, supporting character, and one that is definitely less involved in the events on Eden. The Doctor can accurately and humorously summarise virtually any situation, even the most hopeless one that he and his colleagues face. When the crew are struggling to get out of the ship and are trying to open the airlock hatch, placed too high in the control room, and when the characters build a few-metre tall platform using books (!) and various equipment scattered here and there, the Doctor concludes: “I would never have believed that such makeshift measures could be taken – on stellar voyages” [*Eden* 11]. When he finally manages to move to the main hatch leading to the surface, which also resists quite a lot, he sarcastically states: “Arriving is easy – the hard thing is to disembark” [13].

Thus, from the beginning of the novel, Lem’s narrative tends to question the achievements of modernity. Should people face the stars at all? Do they have the right to cross the bounds of the Earth? And what awaits those who try to break existing rules? Such issues are also often addressed

today, in relation to the media. After all, attention is consistently drawn to the fact that perhaps we are too hasty to judge the impact of free access to the Internet and mobile devices on education, science and social life [Spitzer].

Moreover, technologies, and indeed all the achievements of modernity ranging from robots to space ships, become obsolete at some point and thus what at that time seemed "revolutionary" in Lem's novels (calculators, automata, nuclear reactor, etc.) today brings to mind a museum of technology. Marek Oramus, an author of science-fiction prose, who interpreted *Eden* in a collection of journalistic texts entitled *Gods of Lem* (Pol. *Bogowie Lema*) emphasised this problem: "Of course, from today's point of view, the technology is archaic there (all these niobium-tantalum diodes, calculators, electron brains, nuclear reactors, etc.), but we should remember that the text is almost 50 years old and with time it becomes, like other ones from this genre, more of a record of contemporary ideas of the future than the future itself" [Oramus].

However, by transplanting the issue of aging technology into the problems of the present, one could say that what seems progressive and makes life easier for us today, may tomorrow have a completely different dimension, a different meaning and may even be forgotten in accordance with the dynamics of modernity⁵. The aging of inventions is a fairly common theme in Lem's prose. For example, in *Eden*, Pirx cannot communicate with Terminus because the machine is old, broken, useless, and eventually

5 Magda Goetz wrote about Lem's predictions and how his imagination influenced modern technology and implemented technologies. See [Goetz].

scrapped [“Terminus” 99-100]. Therefore, progress is not something one should rely on completely. Trust in technology without critical judgment can either lead to disaster, or worse, not being saved from disaster’s effects.

Faith shaken

When the crew finally manage to extricate themselves from the sealed ship, they see a normal planet that looks somewhat like Earth, thanks to, among other things, the atmosphere with air, a desert landscape and the alternating flat, and then hilly terrain here and there. Everything looks almost the same, although some differences can easily be noticed: “The sun was high overhead —small and distant, yet hotter than the Earth’s. But what struck them most was that the sun was not completely circular. They observed it through the cracks of their fingers and through the semitransparent red paper used for wrapping the individual antiradiation packs. “It’s flattened because of the velocity of its revolution around its axis, is that right?” the Chemist asked the Captain. “Yes. The flattening was more noticeable during the flight. You don’t remember?” <<But, you see, I wasn’t paying attention then...>>”[Eden 30].

From the beginning, and throughout their adventure the astronauts refer to knowledge, learned mathematical formulas and judgments based on scientific proof. Observing the phenomena taking place on Eden, they also draw upon their earthly experiences, which does not always lead to meaningful conclusions. Despite the relatively favourable circumstances, the characters consider two rational ways out of their difficult situation: firstly, they can begin to

carefully explore the planet; secondly, however, they should try to repair the rocket equipment, mainly the reactor and automata in order to dig the ship out of the ground, start the engines and return home. Except that it is easier for them to take up the first challenge because they conclude that the six of them would not be able to dig the rocket out by themselves. They need automata for this task, and to run automata they need electricity, and to have electricity they need to start the reactor, which is operated by automata... Lem often showed that technology can be malicious.

During the first foray around the area, the characters encounter harmless but bizarre manifestations of Eden's "vegetation". These are: calyx-trees, which grow out of the ground and quickly hide under the surface; spider-plants, which do not reveal a specific purpose, but grow as if they were coppices; and also something like an animal-plant, whose main characteristic is its almost two-metre long hair. These "creatures" can bring to mind *Hothouse*, a novel by Brian W. Aldiss, published for the first time in English in 1962, in which the surface of the Earth is overgrown with dangerous vegetation that feeds on people who are a dying species⁶.

This situation in the book, just like many others, could be interpreted through an eco-critical lens. In this sense, *Eden* would then be read as a story about the intersection of what is "natural" and "unnatural", "human" and "animal", "humanist" and "posthumanist". According to Przemysław Czapliński, co-editor of the publication entitled *Literature*

6 The first Polish edition of the novel was published by Iskry in 1983 in the "Fantasy-Adventure" series.

and its nature (Pol. *Literatura i jej natury*), it is not a matter of “natural” and “unnatural” that seems important, but rather a multitude of ways of defining nature [Czapliński 7-18]. Probably similarly for Lem, “nature”, “culture” and “technology” have more than one name, and their definitions can be as different as the skills, competences and views of the characters. Sometimes, however, they also fail. The next discovery of *Eden’s* characters exceeds their wildest expectations.

Extermination Factory

The crew come across a more disturbing thing after a short trip around the planet. It is a factory hall with an unusual purpose, or rather its absence. It quickly turns out that the factory, which is equipped with production equipment and conveyors, and is divided into parts, in which various components are made, in fact does not produce anything, or at least does not produce anything that would be usable. The crew do not understand how production can be done for production alone. How can you understand something that you cannot understand?

It is mainly the Engineer that is responsible for the technological analysis of this creation. However, as a specialist in the field of technology, he does not have optimistic conclusions. After examining one of the factory’s “products”, the character tries to describe his thoughts: “It’s the work of a lunatic, or, rather”— he pointed in the direction of the factory —“lunatics. A civilization of lunatics, that’s what this damned *Eden* is!” Then he added calmly: “The object we hauled here was manufactured by a whole series of processes —compression, segmentation, thermal treatment, pol-

ishing. It's made of polymers, inorganic crystals. What it's for, I have no idea. It's a part, not a whole. But even as a part, taken out of this crack-brained mill, it looks crazy to me."

The factory that produces "nothing" resembles a modern three-dimensional printer (it can also print any shape that does not have a purpose), it is not known, however, who controls it and why it manufactures these various parts. Another thing is that people are unable to understand the essence of the ghost factory and there are no workers, which is also worrying. Perhaps their knowledge is insufficient, and they use only earthly concepts to formulate conclusions. What is produced in the "factory"? What does it exist for? Who built it?

We know, of course, thanks to Agnieszka Gajewska's book entitled *Holocaust and the Stars. The past in the prose of Stanisław Lem* that the "factory" is one of the metaphors of extermination and genocide, a way to show the "incomprehensible" situation. The researcher put it this way: "*Eden* shows in a radical way the position of the gap/witness of the ongoing extermination of a large proportion of the planet's inhabitants" [177]. Thus, the reader of Lem's novel will quickly capture the sense of this scene – the "factory" shows terrifying perfection, and at the same time the incomprehensible brutality of *Eden's* technology (and the Holocaust). Wojciech Orliński argued that Lem's dramatic memories from the Lviv ghetto were hidden in *Eden* [181-183].

Further discoveries are equally frightening. After returning from the first trip, it turns out that someone (or something)

has visited the ship. It is interesting that the first trace of the presence of “Aliens” is mucus sticking to the Physicist’s shoes (just like in the film *Alien* from 1979, as well as in other parts of the series, in which the first signal of an approaching deadly monster is just sticky semi-translucent mucus). The mysterious guest is a creature who, on first contact with humans accidentally dies after being electrocuted. After the autopsy, the Doctor cannot understand what this creature resembles, because its structure is completely unknown to earthly science. Similarly to the “factory” – it is something known, but it is impossible to explain what it is, how it works and why it exists [*Eden* 71]. The Engineer calls this creature a “doubler” because it consists of two separate parts, two independent organisms – of a baggy shell and a small body with limbs and head fused to it [80-81].

All this does not give hope to solving the riddle of *Eden*, though! It does not even promise a light at the end of tunnel of difficult, unanswered questions. Some of the characters’ discoveries are quite typical of science fiction, for example they encounter large vehicles on their way, which resemble huge illuminated wheels with an unknown driver (The Engineer concludes sarcastically: “I have a Ph.D.” [85]).

A city, which is quite original: hilly, furrowed and illuminated is another manifestation of life on Eden. It is not known whether it is a modern construct or rather a mysterious settlement of a now-extinct civilisation [89]. Somewhere around this metropolis, the characters make a discovery that is as surprising as it is macabre. It turns out that they are standing on the edge of a gigan-

tic grave: "The waxy heap along the edge of the ditch at first appeared to be a homogeneous mass. The men could barely breathe, the stench was so bad. Then they began to distinguish separate figures. Some creatures lay with their humps upward, others on their side; frail torsos with small upturned faces were wedged in between huge muscles, and massive trunks lay intermingled with tiny hands, knotty fingers, that dangled limply. The swollen bodies were covered with damp yellow patches" [91].

Is this supposed to be the most important discovery, the culmination of the exploration of a civilisation unknown to the crew? Are they witnessing the highest achievement of Eden's engineers' technology, whoever they are and whatever their intentions are⁷? Associations must be: these are mass graves, the effect of a planned extermination, on the outskirts of some terrifyingly vast death camp⁸. In the face of these events, the human crew are not fully capable of giving unambiguous judgments. The actions taken by the characters, and above all, discussions between them become signs of a shaken faith. On the one hand, they expect some contact with the representatives of the alien civilisation, but on the other, quite understandably, they begin to follow the *Si vis pacem, para*

7 The idea of the death camp as a paradoxical manifestation of the pursuit of modernity was undertaken, among others, by Giorgio Agamben in the *Homo sacer* series of texts [Jankowicz and Mościcki 192-199].

8 Jacek Leociak mentions the holocaust theme in Lem's work when he writes about burials, graves, sections and desecration of corpses and other issues related to the body after death in the fourth part of *Limit experiences: A study of twentieth-century forms of representation* entitled *Encounters with the corpse* [330]. This scene in *Eden* is also the subject of analysis in the above-mentioned book by Agnieszka Gajewska [178-179].

bellum maxim. How are they to communicate with representatives of a civilisation that murders its citizens?

Last but not least, the connective tissue running through all the threads in the novel, described above, is the fact that the characters do not have the opportunity to consult on or verify their discoveries. There is no communication with Earth so it is impossible to shout into the radio: “Houston, we have a problem!” The books on board are the only meaningful “medium” and source of knowledge, thanks to which somehow the collected data could be pieced together. Like in Lem’s other novels, for example in *Solaris*, where Kelvin spends most of his time in the library, books are relayers of information and they have a similar function that the Internet has today⁹. However, in *Eden*, even books are not as important a source of information, knowledge and inspiration as in *Solaris*. It must be remembered that Eden is unexplored and there is no separate field of science about this planet, as there is in the case of *Solaris*. Another thing is that at the beginning, when the characters dig out the the ship, they throw all the extracted clay into the library. Therefore, they cut off access to the science written and preserved in books of the Earth, which is a helpful reference point for them. Subsequently, all the extracted clay disappears from the library

9 In *This is not the end of the book* Umberto Eco proves that the book is in line with other examples of humanity’s most perfect inventions, such as the spoon or glasses, which cannot be replaced with anything else. What is meant by that is that it is impossible to imagine spoons or glasses different from those we know well. These items may have different shapes, can be made of different materials, or be intended for use in specific situations. They will always, however, be what they are, i.e. a spoon and glasses. In this sense, Lem’s inventions are always what we know well. That is why, while looking for traces of alien civilisation on Eden, the characters find traces of their own experience and a reflection of science and technology on Earth [Eco and Carrière 13-14].

thanks to the doubler, but the impression of the "flooding" of knowledge remains strong nonetheless. Did Lem make the lives of the characters harder on purpose? What would the Earth's astronauts of today do? Would they look for a broadband internet connection? Try to use a mobile phone? GPS? Whatever choice would probably end in failure, misunderstanding or some smaller or greater disaster. Maybe because it these are just "human" inventions, and so an extension of the technological thought of humans who are not ready to communicate with unknown civilisations.

Lack of understanding

The problem of *Eden's* characters is also that they try to understand everything by looking through an "earthly lens". The Doctor can be considered as the only character who looks soberly at the real threat to everyone: "Being human, we make associations and interpretations that are human, we apply human laws, arrange facts into patterns brought from Earth. I am absolutely certain that we all thought the same thing this morning: that we had come upon the grave of victims of violence, of murder. But we don't really know..." [*Eden* 105].

The doctor is probably right. It is difficult to measure *Eden* against human yardsticks, because it is impossible to understand its inhabitants by using only human knowledge and experience brought from Earth. Therefore, discussions between the six astronaut-scientists are usually fruitless and lead to a common conclusion: one must try to make contact with doublers. However, how to do so and what the effects of this communication will be – the characters do not know.

The final chapters of the novel introduce a very interesting theme in terms of communication and the media. The scientists try to talk to the doubler which appears on the ship (Is it the case that it is the “alien” that is looking for contact?). The inhabitant of Eden, however, does not speak the same language as the Earth-dwellers (it is not indicated in Lem’s novel what language it precisely is). However, in order to somehow communicate with it, astronauts reach for the universal code of all fields of science. First they try to draw different things on the blackboard with coloured chalk, as suggested by Physicist who thrusts himself into action by saying: “If only we could communicate with him” [263]. Then they manage to translate human speech into the doubler’s communication apparatus based on the transmission of electrical impulses. By connecting to a “calculator” (computer), thanks to mathematics and concepts from the science dictionary, the characters have a broken and unclear “conversation” with the “alien”. The effect of the conversation itself is not the worst from the point of view of new information obtained from the doubler. It turns out that Eden has a kind of totalitarian rule, and the technologies produced by its inhabitants are used to biologically improve the race. Mass graves are part of the criminal justice system. Factories produce biological “spare parts”. The conclusions to which the scientists arrive at after this bizarre conversation are interesting: “An abuse – so total, so thorough, as to arouse one’s admiration – of information theory. It shows that it can be an instrument of torture far worse than anything physical. Isolating, repressing, compelling without compelling – they’ve made a ghastly science of it, their ‘procrustics,’ as the computer called it.” [291].

Information is an instrument of power and those who have information can also control the inhabitants of Eden, their life and death. This is perhaps the most important idea and Lem's prophecy arising after the "conversation" with the doubler. In this dramatic situation, however, it is impossible to help the inhabitants of Eden from the point of view of earthly rights, because, as Jerzy Jarzębski claims: "[a]n attempt to intervene in the defence of some over-planetary morality brings, however, another hecatomb, which leads to the conclusion that any imposition of one civilization's standards created within another, is extremely risky" ["Lem i świat" [transl. Lem and the World] 305]. It is, therefore, a stalemate, because any help would impose on Eden's inhabitants earthly points of view, laws and ways of organising society, ergo freeing them from one totalitarianism can be a straight path to another.

And how would we communicate with such, let us say, inhabitants of Eden today? Would we launch an Internet connection? Would we prepare them Powerpoint slides with the most "earthly" images? Would we use interactive whiteboards instead of sheets of paper? Lem had a firm opinion on mass communication and new media; in a sense, he was "afraid" of the internet and what the future of its development might bring. He pointed out that while the network of connections between users seems revolutionary, the content transmitted thanks to it may leave much to be desired. Of course, some of Lem's fears seem unfounded today. For example, in the mid-90s (when the internet with only just beginning to gain popularity outside of science) in an essay entitled *Cave internetum*, he wrote: "Japanese, Thai or Slavic

people who speak Cyrillic, will not enter the Internet with their writing or speech as there are no devices that would translate it” [235]. Such a proclamation was correct at the time of writing, but with the benefit of hindsight, it was a completely misguided fear: Internet tools are increasingly better at translating different languages and enabling better communication for users from around the world. Lem’s doubts also concerned the replacement of the printed book with a digital one. He wrote in 1996: “For example, I cannot imagine reading my favourite poet in such a way that I would place the computer monitor next to my bed, next to my pillow” [“Raju nie widać” [transl. Unseeable Paradise] 238]. It is not necessary to place a monitor on the bedside table today (Did Lem mean one of the cathode-ray tube computer monitors that had long since gone out of circulation?) – all that is needed is an e-book reader or tablet in one’s hand to conveniently browse through books or magazines.

Would Google translator be enough to communicate with the inhabitants from Eden? Perhaps the truth is that today’s advancement of communication technology could make it more difficult for us to make contact¹⁰. After talking with the Engineer, The Captain emphasises the media mismatch with the Eden’s civilisation: “In the first place, these are not human beings. Remember, you spoke only with the computer, and therefore understand the doubler no better than it does” [*Eden* 293]. It is worth comparing *Eden* with the 2016 film *Arrival* 2016, in which a linguist studies the language

10 Lem warned about the destructive impact of technology on culture, which was emphasised by Andrzej Wasilewski: “When it comes to technology, it is important to us, because it is science and technology that have led to the cultural crisis we are currently facing” [177].

of aliens and is partially successful. Should we rely on new media, developments in IT and easy access to information?

Conclusion. What is next?

In the excerpt from Jerzy Jarzębski's *Smutek Edenu* [transl. The Sadness of Eden], quoted at the beginning of this paper, the interpretation of Lem's vision inclines towards stating that it is in some sense an anti-utopia of the world in which technology and science know the answers to all questions. Neither technology nor science provide those answers because there are no universal communication languages, as evidenced by the difficult adventures of the astronauts on an alien planet. Jarzębski sums up this problem: "In *Eden*, only scholars are able to talk and are armed in a universal language shaped by the objective characteristics of the world itself, not this or another civilisation" [*Smutek Edenu*] [transl. The Sadness of Eden] 292]. So what is the modern world like in the face of the "communication problems" presented by Lem?

The present, despite Lem's visions, is probably constructed differently, and above all, differently from twentieth century social reality, which was a breeding ground for Lem's imagination. For today, science itself must strive for an audience, it must look for communication channels that allow it to reach wider masses of recipients. Such a "channel" for science is, for example, TED (*Technology, Entertainment, and Design*), which is a kind of international science-promoting project that has existed for at least three decades (the first audio-video lecture of this kind took place in 1984), but only in recent years has it gained

widespread popularity due to universal access to the Internet. Everyone can, at least theoretically, present a TED talk and does not necessarily have to use the language of science for this. Quite the opposite – science adopts a language characteristic of popular culture and understandable even to recipients who do not have much knowledge on a given subject.

This does not mean, however, that such a “language” of Internet communication would be an easier way to communicate with “aliens”. After all, it is only human science and the human internet, and the purpose of knowledge is always humans themselves and the universe that surrounds them. That is why TED and the popularisation of science thanks to the increasingly accessible media, may also be a kind of utopia. The “mediatisation” of science and education and the popularisation of research and culture as a whole does not necessarily lead to a better life or a better functioning of societies. After all, the media is not always easily accessible to everyone. And so, at least in this sense, they should not be treated as the most important manifestation of the development of civilisation, just like science in the worlds created by Lem. The fact that we have various information relayers at hand undoubtedly makes communication easier, but in no way guarantees understanding, gaining knowledge and reaching agreement¹¹. So the question about the fu-

11 This issue, as well as other problems related to new media, are presented in the book entitled *Together alone* by Sherry Turkle, in which the author considers the ways in which technology, and in particular modern mass communication channels, has changed people-to-people contacts.

ture turns into a problem of the present, just like in Lem's works, where visions were a reflection of real political events and social problems.

The characters in *Eden* finally make a decision to leave the planet. Their ability to communicate through the universal language of science turns out to be too hermetic; the ability not to make contact per se, but rather to exchange information and establish deeper cooperation with the inhabitants of Eden. With advanced technologies such as space crafts, automata and energy-throwers, they are only able to accidentally destroy or kill one of the doublers at best. This is largely a sign of the failure of technology, communication and human civilisation, which leads to the abandonment of the alien planet. Do the characters set out on a return journey to supplement knowledge and maybe someday, consciously, try to make contact with the inhabitants of Eden? This is not known, although it is certain that thanks to this expedition, the astronauts learned much more about themselves than they could have initially thought. It is also one of Lem's warnings for the future: everything that is inhuman will, in fact, always be alien to us.

Translated by Aleksandra Sokalska-Bennett

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Laying a False Trail, Shaking Off Pursuit. Notes on the Margin of Forewords to Stanisław Lem's Novels

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The imagination of the long 1960s.

In the popular science documentary *Przed podróżą* [trans. Before a journey] (1960) by Maria Kwiatkowska the eye of the camera pans towards the glass window of the Orbis travel agency. A painted inscription reads: “We don’t sell tickets into space yet”. An off-screen narrator’s voice adds: “Neither Intourist, nor Pan American sell them either. Engineer Walczewski talks about the first Polish rocket, RM1, meteorological for now. Poland is not and is not expected to be a space power, but something is also

being done in this area” [*Przed podróżą* 00:01:00-22]. The film was made a year before the first human flight into space, three years after the launch of Sputnik, the first satellite. And although there were no prospects of monopolising the interplanetary market, a lot was done to ensure that the Polish contribution (of course, adding to the Soviet’s) to the development of the space industry was noted, both on the pages of history, and in Kwiatkowska’s film produced by Documentary and Feature Film Studios (WFDiF). Hence, we see the wind tunnel of the Warsaw University of Technology, a staging of the rocket launch in the Błędownska Desert and the ubiquitous models of meteorological heads resembling missiles.

Almost 60 years on, no human foot has stood on another planet, and no Polish space rocket has ever been constructed, despite the development of technology and apparatus for space missions. The fever of galactic expansion and faith in the possibilities of technology have become part of the collective imagination of society since the second half of the 20th century, which saw the creation of a “technocultural paradigm” [Jelevska 9]. The first widely reproduced photos of the Earth seen from space became a turning point in the organisation of imagination and reinventing the world¹. Photograph number one, view from the Moon, was taken by the crew of the Apollo 11 mission in 1969. The second picture, even more suggestive, because it presented

¹ However, these were not the first pictures of Earth. In 1946, a K-25 camera was placed in a V2 rocket, a weapon brought by German scientists to the United States. These photos were to document what was happening to the rocket, so that it could be calibrated more precisely in order to more accurately aim at targets to be bombed [Jelevska 52].

the Earth as a whole, suspended in endless space, was taken in 1972 by a crew member of the Apollo 17 mission, Harrison Hagan “Jack” Schmitt. It was this image of the globe, later called Blue Marble, that was later to grace the covers of newspapers around the world and also became the most reproduced photograph in history [Mirzoeff 17-18]. In the field of imagination a lot changed, and more was to change. Space and technological progress have entered the pool of important problems for everyday (and for art). From projects for futuristic cities, through fashion shows and graphic school, to film [Kordjak-Piotrowska and Welbel]. In addition to dreams of cosmic conquests, there were also existential fears and questions about the boundaries between human and non-human, especially in literature, and in particular in the novels of Stanisław Lem. In the long 1960s there was no literature more relevant to reality and more socially sanctioned than that of the author of *Solaris*.

Science fiction and literary traditions

While science-fiction literature during Stalinism was condemned as a work of imperialism, its role became invaluable to the authorities during the Cold War’s machinations and the struggle to capture the social imagination. The propaganda of technological development and the military-industrial complex was coupled with increasingly bold projects of the cities of the future. A utopia of homeostasis, and thus a perfectly balanced environment, supported the solutions proposed by technical thought. Literature played a significant role by instilling ready-made images and ideas in the social imagination, and thus making a seemingly innocent and insignificant shift — marking the human-machine re-

lationship – which, as a consequence, triggered thinking about human beings in the category of networks of relationships, dependence on other actors and game elements, which contemporary research in the field of posthumanism gladly took up. The end of the Gomułka era allowed science fiction to become subversive. The irony towards huge plans and scepticism towards the key category of progress went hand in hand with political doubt and the realities of everyday life [Kordjak-Piotrowska and Welbel 48-56].

A simple attempt to rank and classify texts within a somewhat vaguely defined science fiction ends in failure, or at least defies attempts at clear categorisation. The matter is serious, because the phrase “genre prose”, especially in the colloquial approach, clearly brings negative connotations. These are associated with the schematic structure of the text, and thus a relative limitation of creativity at a time when the ambitions of science-fiction literature (or rather – the ambitions of its creators) often met with the ambitions of a political novel, such as a barometer of abuse of symbolic power, or of a moral and psychological novel. These works thus provided a snapshot of the life of a given community – its fears, dreams and longings. So what do researchers recommend? As usual, broadening the perspective: “This phenomenon [science fiction] today is neither purely literature, nor a genre of a novel, nor a writing technique, nor a sociological phenomenon – but everything to some extent” [Oramus 8]. Therefore, by highlighting the paradox of science fiction as a genre that began to disappear in its “literary” form and simultaneously infiltrated visual media and thereby gained popularity, Dominika Oramus proposes

considering the genre in the postmodern tradition, with all the consequences that this entails. As part of this way of thinking about science fiction literature, it would occupy a particularly privileged position [9]. An important reference point for the researcher is Jean Baudrillard's conviction about the uniqueness of science fiction as a genre that provides contemporary culture scholars with the necessary language to describe our rapidly changing reality. In an essay entitled *Simulacra and Science Fiction*, discussed by Oramus in her work, Baudrillard creates a useful typology of the genre, where the shots of fantastic worlds are divided into: utopian ones (separate worlds based on a critique of the world around us) and those with the origin in "classic science fiction from its golden age, falling in the second half of the twentieth century. In this case, the fantastic vision is created by extrapolating and imagining the expansion of the order existing today" [12], and, most importantly, beyond the escapism of two previous "science fiction of simulacra times" that create fairy-tale realities[12]. The third kind, which according to Baudrillard, is the only one that is able to describe today's everyday life, would be based on blurring the border between what is fictional and what is socially considered true; what is a thing and what constitutes only its projection: "A certain type of science fiction is able to show, thanks to its poetics, the world of models and illusions that cannot be verified to discover the hidden truth about the world – because projection and staging the facts is the only truth. Baudrillard mentions here the novel by Philip K. Dick entitled *The simulacra* in which Americans re-enact the Civil War and seek the confirmation of their national identity" [Oramus 12-13].

Finding the roots of science fiction, deciding whether it was constituted in the twentieth century, or whether the first manifestations of this way of writing about the world should be seen in earlier centuries, has remained an open question in the dispute about the boundaries and definitions of the genre. In his work devoted to the development of science fiction, Antoni Smuszkiewicz traces the path of its development “from the eighteenth-century utopian novel to modern science fiction” [*Zaczarowana gra* (trans. The Enchanted Game) 18], marking, however, the heterogeneity and initial dependence of those texts. So, we are talking rather about “the growth of science-fiction motifs”, which Smuszkiewicz illustrates with the motive of distant travel, one of the first present in science fiction texts, but also occurring in fairy tales and enlightenment philosophical tales [20]. In the field of setting boundaries, beginnings and development of science fiction, as well as mapping the work of individual writers within this area, one genre determinant is particularly important. At first glance it is nothing more banal than the requirement to respect the probability principle in employing fantastic technological solutions or scientific hypotheses. This issue is important because, in the case of Stanisław Lem it is important to be faithful not so much to the appearances of science, as to the cognitive method sanctioned by science. This method leaves the author limited room – by internal logic – to implement technological solutions in writing about biology or evolution [16-17]. In a few words: nothing can be written about science and technology without knowledge and insight into the current state of research.

Thus spoke Lem

Speaking of Lem's strong social sanctioning and tracking of science's development pathways, science fiction novels are equally interesting when confronted with another tradition, the origins of which are also anchored in Enlightenment: that of the realistic novel, or the realism connoted by it, as a way of shaping the presented reality. As Lem himself pointed out, "fantastic literature is essentially a kind of branch of realism. Even if [...] it is not realism in the proper sense of the word, it testifies to its era and expresses very real content contrary to the intentions of its creators" [*Stanisław Lem* 33]. Although the author spoke succinctly and clearly, according to warnings from academia (but if you think about it, also common sense) he cannot be believed definitively and utterly.

Sometimes Lem's novel is preceded by a characteristic preface, which is neither the publisher's note nor the author's word. Its action takes place in the United States (or similarly shaped territory), often to show how the (Cold) war industry works, and the realities, although distant by several decades, are in line with the then state research on cybernetics, physics or life sciences. We know that due to his education, interests, but also compliance with the aforementioned scientific method, Lem was up to date with publications from these fields, and also read the classic works of Norbert Wiener, which is even expressed in the preface to *Golem XIV*: "On the other hand, in the works of the two American "fathers" of cybernetics, N. Wiener and J. Neumann, the concept arose of a system which could program itself" [*Golem* 9]. Interestingly, the names of real scientists

play a special role – their authority confirms and legitimises the argument of Professor Irving T. Creve, who in 2027 agreed to write a preface to the novel for the scientific publisher Indiana University Press, published in 2047, about which we find out from a quasi-title page. As might be easily guessed, Professor Creve never existed – or, to be more precise – has not been born yet (or he exists, but it is quite possible that he has not obtained the title of professor yet). Lem’s skill of navigating and feigning the realistic narrative is particularly clear here. The foreword by Professor Creve mixes elements of futurological literary fiction with historical facts about military operations and the post-war arms race. Predictions about the future introduced through the back door are related to the technological solutions of the 1950s and 1960s – they are somehow their logical consequence, a vision based on strictly defined premises – and also on the issue of artificial intelligence, which preoccupies scientists to this day. So we read first about matters known to us (or which are also provable and confirmable), about ENIAC, a device built at the end of World War II that started the computerisation era and was used by military services, and we learn later that with the increase in demand for digital mass-production machines in the 1950s, they were introduced by IBM. However, when a reader who is not confident enough with their knowledge of the beginnings of computer networks loses their vigilance, Professor Creve continues to tell his tale about the next decades, and thus the reader finds themselves almost a decade before the modern reader. It turned out (maybe it will turn out) that by 2027 RAND Corporation will have provided the Pentagon with “a method of predicting occurrences in the interna-

tional politico-military arena, a method relying on the formulation of so-called “scenarios of events”, and in two years from now GOLEM VI will conduct global manoeuvres of the Atlantic Pact as the commander-in-chief, because it has already exceeded the abilities of the average General with its number of logical elements. The third race between East and West has become (will become?) a fact, after two historical ones – a nuclear- and missile-race, and in 2023 there were disturbing and sensational incidents that, fortunately, will not be made public “due to the secrecy of the work”: “While serving as Chief of the General Staff during the Patagonian crisis, GOLEM XII refused to co-operate with General T. Oliver after carrying out a routine evaluation of that worthy officer’s intelligence quotient. The matter resulted in an inquiry, during which GOLEM XII gravely insulted three members of a special Senate commission. The affair was successfully hushed up, and after several more clashes GOLEM XII paid for them by being completely dismantled”².

Another version of the supercomputer, GOLEM XIV, which is also the epitome of human fear of machine rebellion, is more than just a fantastic variation of artificial intelligence research. In a text under the telling title *Monster of Massachusetts*, Stanisław Bereś notes that the brilliant computer that gives a lecture on the intricacies of the process of evolution and technology with superiority is the mask of Stanisław Lem himself (as evidenced by, for example, entering the writer’s name in the name of the machine) and a summary of his knowledge in 1981: “The idea is intellec-

2 Quotes and paraphrases come from a synthetic summary of the history of military technology “authored” by I.T. Creve, see [Golem].

tually desperate, because introducing a philosopher a thousand times smarter than a human to the reader, entering his “skin” and filling him with knowledge higher than what the world’s best scientists possess, is an impossible task. And yet such a work was created” [18-19]. Not only was it created, but it also became a clever narrative tool that allowed Lem to express views that he would not have to explain with complex arguments. Although the Golem-Lem diagnosis is based on scientific findings, their further course is not, and does not have to be scientifically verifiable, as long as it is in accordance with logic [18]. Thus, with the help of the literary character, behind which the author hides, the novel becomes “essay-ified” and the border separating fiction from the writer’s beliefs is weakened. Lectures by the brilliant computer are not only predictions of the future, but above all they express Lem’s attitude to the surrounding reality and its changes.

And what happens when Lem’s preface is treated strictly genealogically and narratively? In addition to the issue of “essayisation”, on the one hand, it may turn out that they also meet the conditions and assumptions of a mature realistic novel. On the other hand, in this type of text, first-person narrative is less common than third-person narrative, and when it does appear, it takes on characteristic forms, for example of an “objectified diary” [Martuszevska 57]. As Anna Martuszevska [56-66] observes, the novel of mature realism at its peak almost exclusively uses first-person narrative. What about the determinants? A large time difference is the most characteristic – the preface prepared by Creve in *Golem XIV* is also as far from the events he talks about – especially in the part of reconstructing the history

of the progress of military technology – as the preface, in the form of a memory added at the end of life by mathematics professor Piotr E. Hogarth – an account of his own life, scientific achievements and a peculiar discovery in outer space in *His Master's Voice*. The events presented in both cases are already closed and finished, and their task is to introduce them to the reader and embed them in the realities of the world, specify the framework and sketch the background. And although the first-person narrator, especially in a positivist novel, was at the same time a fierce moraliser, in the case of the novel of mature realism, the matters are more complicated. Above all, what becomes important is the tension between the subject and the theme. The narrator stands out in the foreground of the story – the way they experience events becomes as important as the events they talk about. That is why Hogarth's autobiographical arguments in *His Master's Voice* are accompanied by a constant question about the boundaries of professional ethics and the moral dilemmas in the face of the possibility of developing a potential weapon of mass destruction.

Compositional function is also important – it is the character of the narrator who becomes the nodal point, a character who connects various elements of the plot. In *The Star Diaries* and *His Master's Voice* the preface remains closely related to the “editor's note”, in which the situation of finding the posthumous manuscript is specified (*His Master's Voice*) or the rules for issuing editions of Ijon Tichy's writings (*The Star Diaries*) are presented. Both bring to mind associations with the convention of found papers, popular in the history of the development of the realistic novel.

Or maybe the issue of prefaces to Lem's works, and some of his texts is directed towards an experimental novel? If so, then following Raymond Federman [215-224], issues regarding the desire to contract Lem's prose in a given genre would become completely irrelevant due to the change of the reference system. Readability, defined as something suitable for reading, would be the basic criterion. What would be particularly useful here would be *Roland Barthes' typology*, quoted by Federman, which divides texts into those focused on pleasure in the act of reception: resulting from culture and not breaking with it; as well as those that are somewhat experimental, i.e. they violate the relationship with language and contest the foundations on which culture is based, provoke questions and encourage criticism of the current reality. This distinction is not innocent at all. What is considered "readable" is often identified with the non-literary world, thus blurring the concepts of fiction or fact. The statement that you cannot escape realism is key. And this is because language itself is reality, while the task of the novel is not to represent, but to "present" reality – embellishing, selecting and amplifying selected topics, problems and issues. For these reasons, Lem remains a realist. His writing translates the fears and anxieties of the era into literary material. So what if this translation does not remain faithful? What is faithfulness in translation anyway?

Translated by Aleksandra Sokalska-Bennett

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