

Isaac Asimov's sci-fi novella "Profession" versus professionalism: Reflections on the (missing) scientific revolutions in the 21th century

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Abstract. This is a partly provocative essay edited as a humanitarian study in philosophy of science and social philosophy. The starting point is Isaac Asimov's famous sci-fi novella "Profession" (1957) to be "back" extrapolated to today's relation between Thomas Kuhn's "normal science" and "scientific revolutions" (1962). The latter should be accomplished by Asimov's main personage George Platen's ilk (called "feeble minded" in the novella) versus the "burned minded" professionals able only to "normal science". Francis Fukuyama's "end of history" in post-Hegelian manner is now interpreted to an analogically supposed "end of scientific history" without "scientific revolutions" any more. The relevant dystopia of the prolonged or even "eternal" period of normal science is justified to the contemporary institution of science due to mechanisms such as "peer-review", "impact-factor rating", the projects' competition for funding, etc. Positive feedbacks forcing all scientists needing careers to be more and more orthodox are demonstrated therefore establishing for that dystopia to be the real state of contemporary science. Two counterfactual case studies based correspondingly on Feyerabend's "Against method" (1975) if Galilei should make his discoveries today and Sokal's hoax (1996) if he suggested a scientific masterpiece to be really rejected by journals are discussed. Still one case study considering the abundance of Kelvin's "clouds" on the horizon of today's physics (dark matter, dark energy, entanglement, quantum gravitation, phenomena refuting the Big Bang, etc.) serves to verify the aforementioned conjecture that science has already entered that dystopia of eternal normal science. The conception of "ontomathematics" implying "creation ex nihilo" being scandalous for the dominating paradigm is sketched as an eventual revolutionary way out. An imaginary and utopic "happy end" reinterpreting the analogical "happy end" of Asimov's "Profession" finishes the essay "instead of conclusion" relying on the Internet and AI in an increasingly "fluid" and anti-hierarchical society.

Keywords: Asimov's "Profession", "George Platen", Fukuyama's "end of history", Feyerabend's "Against Method", ontomathematics, Thomas Kuhn, normal science, scientific revolutions, paradigm, Sokal's hoax, contemporary state of physics, eternal normal science

I THE PLOT OF THE NOVELLA AND THE LESSON FOR PHILOSOPHY OF SCIENCE

In the 7th millennium, the development of human education reaches the stage, in which the very slow and gradual process of human education, lasting more than a decade of years now, is substituted then by a two very short procedures for a few minutes and intervening directly in the pupil's brain for changing the general neural network scheme modifying immediately all links so that all knowledge necessary to exercise a certain profession is suddenly acquired without those prolonged efforts nowadays. One might liken the idea to creating a read-only-memory (ROM) for some computer, which is much faster and more efficient at the cost not to be changeable, respectively as to the future "students" in the novella: not to be able to cognate any different, particularly newly introduced, professional data. The acquired profession is forever, it might not

be changed later. Moreover, nobody chooses the profession: the pupil's brain is investigated for the profession most relevant to its natural organization to be picked.

The novella might be interpreted to be in the genre of dystopia¹, i.e., another “Brave new world,” but Asimov's intention is not that². The deprivation of choice and thus of freedom are not a subject of the novella at all. He wrote rather a parable or an allegory of the present education, stripping to the core by replacing the process lasting more than a decade with its “ultimate purpose”: namely, creating an unchangeable scheme of neural links (analogical to ROM) just a mathematical row tends to its limit and might be substituted by the latter in a sense.

The idea does not contradict the contemporary knowledge about the way for the baby's or the child's brain to develop, for example, mastering a certain language (or eventually and more rarely, a few ones) in an earlier age but losing that natural capability later (excluding the peculiar exceptions of polyglots), after which the native language or languages at issue are easily used unlike any non-native but studied one, recollecting the ROM of a computer. The examples of “Mowglies” demonstrate that the human behavior is also learnt only at a certain age and all attempts for a “Mowgli” (meaning real cases of human babies raised by higher mammalian animals) to be reeducated are hopeless or similar to the degree to which the most humans are able to learn an alien language in the comparison with their native ones. Last but not least, one can mention the human sexual behavior, which is also mastered only during certain “teen” years, after which it is very difficult to be changed if it was learnt “wrongly” before that.

There exists a series of experiments demonstrating that the baby's or the child's brain is a really universal “tabula rasa”, in which the training starting from his or her literally first days³ “burns” as in a ROM just certain links to be quite easily utilizable with minimal energy costs since the “RAM universality” for any new cognition needs a huge amount of the bodily energy, which is an essential rate (about 20%) even as to the real case where the almost all behavior of an adult is reduced only to “ROM” structures.

So, meaning the natural efficiency, human education seems to be rather inefficient partly sacrificing the universality, but anyway partly conserving it after numerous exercises in the school far not so successful in comparison with the baby's natural training in the parents' ontology and language(s) resulting in the absolute certainty of “ROM” structures. Asimov's idea consists in the suggestion that humankind will manage to “repair” the education reducing it to its ultimate and thus “ideal” structure of a “professional ROM” both maximally effective and thoroughly unchangeable later: at that, acquired practically instantly rather than by those huge and traumatic efforts and painful endeavors nowadays.

However, this is only the alternative social environment and intellectual milieu situated by Asimov's imagination in the remote future of the 7th millennium when the connections and transport with alien civilizations all over the Milky Way are very well elaborated. The central

¹ For example, it is so labeled in: *Utopian Literature in English: An Annotated Bibliography From 1516 to the Present* by **L. T. Sargent**: <https://openpublishing.psu.edu/utopia/content/profession> .

² There are articles considering social ideas in Asimov sci-fi works: for example, Leslie-McCarthy 2007; Schneider 2007; Miller 2004; Hardt, Negri 2000; Kapferer 2002; Elkins 1976; Asimov 1956.

³ For example, the conception of “imprinting” (Gray 1958).

personage of the novella, George Platen, is peculiar, by the by, just as any teenager feels herself or himself. However, he is really peculiar since the organization of his brain is exceptionally rare not admitting the acquirement of any profession including the simplest ones. So, George Platen is separated from the society and closed in a “House for the Feeble Minded”, in fact not violently or forcedly because he can leave that “sanctuary” or “reservation” whenever he wants, but risking to fall in a perfectly “professional society”, which Heidegger might call a society of the omnipresent “Das Man”.

The plot of the novella consists in the escape of the young George from the asylum since he is absolutely sure that he is not a “feeble minded”, but absolutely normal, and the cause to be proclaimed to be ostensibly that is the personal punishment and revenge of the doctor done the second investigation of his brain for George has secretly been studying programming hoping that he might influence on the structure of his brain after which just that profession will be determined for him officially being before that chosen by himself, because George wishes just that profession.

In the “House for the Feeble Minded,” the residents there may (or may not if they do not wish) read books and master knowledge by means of them slowly, too slowly, but exactly so as all of us do now therefore changing the neural links within own brains step by step by numerous repetitions and exercises. Obviously, that method is extremely inefficient in the sci-fi reality of the novella situated in the 7th millennium when all knowledge necessary for any profession can be acquired instantly without those perennial perpetual and exhausting efforts nowadays or in the foreseeable future.

The unexpected and happy end of the novella is that George Platen realizes that he is not a “feeble minded”, but a genius, one of only about a few decades of thousands of terrestrial citizens able to create new knowledge, which once produced can be embedded instantly in the heads of all the rest, billions of humans at the “Day of Education” after they have become 18 years old in the novella’s reality. If a certain organization is “burned” in the brain, no creation is possible after that. However, that special organization of the brain (which can be called by a neologism “poly-ontological” or “poly-cognitive” following the pattern of “polyglot”) is not enough. The eventual future genius should not reconcile to be “feeble minded” just as George Platen does therefore proving by his escape that he is a real genius.

In the present contexts, the novella is considered to be a parable hyperbolizing the real state of affairs in education until now from a generalized viewpoint relatable to both philosophy of science and social philosophy, more precisely, to the ways for both science and society to develop. Indeed, the knowledge necessary for any profession, but especially for those requiring high education is “burned”, i.e., embedded though not instantly and externally, by a direct intervention in the student’s brain, but by numerous repetitive exercises lasting many years. Nonetheless, the ultimate result as to the organization of the brain is analogical: a professional physicist might not be a professional physician or vice versa. The cause is not only that the necessary corpus of knowledge would miss, but furthermore that the available knowledge is “burned”, embedded in brain (similar to ROM) thus not being changeable.

Anyway, one may admit that there exist “poly-cognitive poly-ontologists” (such as polyglots, but to ontologies or cognition at all rather than to languages) who do not lose their capabilities to learn new and quite different knowledge after they have mastered a certain profession needing high education just as George Paten himself under the condition that their “first profession” is not “burned”, embedded in their brains in a “ROM” way but conserving the option for “writing” fundamentally new data not only in the scope of any certain profession, but also far out of its limits, in arbitrary other professions and even creating absolutely new cognition not being existing before them and not corresponding to whatever branch of all the sciences.

Obviously, “professional dilettantes” such as George Platen are especially important for science, since that capability of being a dilettante forever just concentrates free research not originating directly from all the accumulated prior knowledge which the perennial education “burns” into the students’ brains. One might mean the case study of a real “George Platen”, namely Albert Einstein suffering from childhood dyslexia so that even the first “burning” in the “Reading Day” would be contraindicated for him if his dyslexia had been due to a very rare special organization of his brain predetermined his future revolutionary discoveries in physics. He continued to resist the second and ultimate “burning” (that in the “Education Day” as to the novella) more and more realizing that this would be absolutely inappropriate to the unique capabilities of his brain. However, the general estimation of any pupil or student’s school results (especially in the Kaiser’s Germany where the student Einstein lived initially) depends crucially on the degree and depth of “burning” therefore cancelling the option for “random access” (as in RAM), which, however, is absolutely necessary for remastering new neural structures corresponding to fundamental discoveries.

The ROM has anyway a series of advantages over RAM: much faster, much less energy costs or errors after reproducing: so, the young Einstein he did not shine with success either at school or at university rather overtaken by his classmates or fellow students since the pedagogical assessment is averaged to the too strongly prevailing ROM brain of a standard German then juvenile. One may mean also not too higher Einstein’s IQ. (Though the mythology about Einstein states that his IQ had been extraordinary). Indeed, if one analyzes practically all IQ tests, they share the same feature to estimate only ROM capabilities requiring maximally faster to resolved elementary and typical intellectual problems: so the most “successful” classmates and fellow students of Einstein would demonstrate much higher results in IQ tests than his, by the by, corresponding to their assessments also tuned to ROM personalities (generalized by Heidegger as “Das Man”) and crucially prevailing in any country rather than only in Kaiser Wilhelm’s or Hitler’s Germany.

Then, one might introduce a newly qualification whether to social groups, strata, societies, countries or states: to be “friendly to George Platen or Albert Einstein”, or to all the “professional dilettantes” sometimes called also “geniuses”. Neither Kaiser Wilhelm’s Germany and even less Hitler’s were friendly to Einstein. The then German society required a certain uniform pattern contradicting Einstein’s mentality featured by the absolute freedom of thought, emancipation and

disobedience to authority, because of which he was forced to emigrate to the USA in the final analysis, moreover being a Jewish and staunch pacifist.

The future society of George Platen is very far from the extreme degree of hostility demonstrated by German to Einstein. Nonetheless, sending a potential genius to the “House for the Feeble Minded” cannot be called to be friendly obviously generating strong and permanent frustration, loneliness and asociality. Though the intention is good and noble, namely, to induce him to prove his creativity by real deals, George’s experience is too painful and traumatic. He suffers due the misunderstanding, indifference and cruelty of society.

One might notice that the relation of any historically real societies has never been positive to the geniuses even if they had proved a unique degree of creativity often granted to be a threat or actual danger for the social hierarchy and order, hiddenly implying blood revolutions such as the emblematic French revolution and its awful terror. Society always tries to prevent itself from the geniuses’ eventual destroying influence regardless of the doubtless fact that the progress, more than obvious in the last centuries, has crucially originated from their activity. Even the contemporary Western societies would like for the geniuses’ creativity to obey thoroughly the existent social order and hierarchy, in which they are usually “black sheep” or “white crows”: therefore, avoiding even the quite peaceful “scientific revolutions” after Thomas Kuhn (1962) by an eternal “normal science” forever.

So, one might ask the question in the title of the next section:

II THOMAS KUHN’S “SCIENTIFIC REVOLUTIONS”: DO THEY YET POSSIBLE?

Neither Kuhn’s “scientific revolutions”⁴ nor Francis Fukuyama’s “end of history”⁵ need any representation both being famous enough. So, one can attempt to synthesize them in a derivative conjecture about the end of the epoch and history of scientific revolutions since Fukuyama has meant the end of social revolutionary changes under the “end of history”: a concept borrowed by him from Hegel and suggesting a rather Hegelian, dialectical “idea of history”. In fact, Kuhn’s “normal science”, complemented by the condition to be permanent and “endless”, “eternal”, i.e., without those discontinuous periods of “paradigm change” metaphorically called

⁴ Many papers discuss Kuhn’s conception relevantly to the present context (e.g., Kvasz 2014; Sismondo 2012; Wray 2012; Kindi 2005; 1995; Larvor 2003; Reisch, 2003; Chen, Andersen, Barker 1998; Corry 1993; Hoyningen-Huene 1993; Keith, Zagacki 1992; Gernand, Reedy 1986; Moore 1980; Stanfield 1974; Shapere 1964); many others consider the conception of “scientific revolution” more or less creatively (by the by, including the present essay), but obviously inspired by his idea (as to the context here, e.g., Parrinder 2015; Kornmesser 2014; Roth 2013; Bland 2012; Kondratiuk, Siudem, Hołyst 2012; Wray 2012a; Barker 2011; Dorato 2008; 2008a; Perla, Carifio; Barnett 2000; Dyson 1999; Kvasz 1999; Andersen 1998; La Cerra Kurzban 1995; Mayr 1994; Schipper 1988; Yalow 1986; Elguea 1985; Sterman 1985; Wieland 1985; Audretsch 1981; Brouwer 1980; Moravcsik, Murugesan 1979; Brown 1976; Klein 1975; Harder 1974; Kohen 1973; Musson, Robinson 1969; Sypher 1965).

⁵ The papers discussing the proper philosophical idea of Fukuyama (1989; 1995; 1999; 2006; 2006a 2013) are sufficient (e.g., Ward 2021; Gøttcke 2019; Hughes 2012; Firchow 2002; Herwitz 2000; Aughey 1998; Pieterse 1992; Knutsen 1991; Prior 1991) are sufficient, but all of them do not refer to Kuhn’s conception of scientific revolutions. However, the cited paper of Firchow (2002) relates it to Huxley’s dystopia just as the present paper does, but here furthermore to Kuhn’s “normal science” extrapolated to be “eternal”; and that of Ward (2021), to education.

by him “scientific revolutions”, fits very well to an understood in Hegelian manner “end of scientific history”.

Then, one is able to test whether the “brave new world” of an “endless” (practically, too prolonged, but certainly finite) period of normal science has not started yet though without being heralded: so that no scientific revolutions any more, preventable and avoidable by an appropriately organized “socially responsive” institution of science, however likened by its “enemies” to be a new “Holy Church” supplied by a relevant velvet “Holy Inquisition” not to admit any George Platen’s “destructive and asocial” creativity pregnant with (not only) scientific revolutions. Whichever period of normal science resisted and resists any paradigm changes trying to prolong maximally its domination utilizing the institution of science obeying its “normal paradigm” to chase all “dissidents” disagree with it, suppressing their freedom of speech and subjecting them to censorship particularly depriving them from authoritative publications and any (at least serious) scientific career stating for their hypotheses to be wrong or false only by virtue of contradicting the dominating dogmas of the official paradigm (ostensibly, “well confirmed scientific principles”). Thus, the metaphor for normal science to be “totalitarian” is relevant: even more so that no periodic election for competitive paradigms in any scientific discipline.

However, Kuhn suggested a natural mechanism, consisting in the gradual accumulation of inexplicable phenomena, anomalies, exceptions, contradictions, etc. needing more and more artificial and *ad hoc* complications and sophistication of the theory at issue and even experimental absolutely fremd to it (e.g., as “black mass” and “black energy” to the dominating now physical paradigm) so that when a critical threshold of them would be reached, the normal paradigm will crash calling the temporary short period of chaos and disorder without any dominating theory (“scientific revolution”) anyway soon ending by a single winner therefore establishing a new period of smooth development (“normal science”).

One might question anyway: which that crucial threshold triggering necessarily a scientific revolution should be; whether a perfected scientific censorship might not prevent effectively enough the recognition of those inexplicable facts whether by their disparagement or by the prohibition of their proclamation; whether a sufficiently clever scientific-like, but in fact metaphysical theory might not be invented therefore not admitting any rejection by any facts in principle. Indeed, all those options were already realized though in the restricted field of social sciences including “ideological hypotheses” such as cybernetics or genetics refuted as contradicting Marxism-Leninism in the USSR and its satellites sometimes notated as the “socialistic states in the 20th century”.

So, one can discuss whether the organization of contemporary science is not analogically “totalitarian” falling in the aforementioned indicators of “socialistic science” obeying the only “scientific” philosophical doctrine, furthermore the official one (such as “Marxism – Leninism” for the USSR and its satellites) being a radical form of Hegelianism and supported by all authority of the repressive state itself. In fact, Hegel’s dialectics or “dialectical logic” (though realized by himself as a conservative ontological generalization of Aristotelian logic able to subordinate the real world and history under itself rather than only the laws of thought) reinterpreted

“revolutionarily” and “materialistically” (i.e., not conservatively and not idealistically) by Marx and Engels is the first and very successful philosophical “theory” able to explain anything and to justify any social practice (such as Stalinism, for example), however being beyond Popper’s “demarcation line between science and metaphysics” as situated thoroughly in the latter.

The mechanism of the omni-explication of dialectical logic and thus dialectics is very simple. If the law of noncontradiction is rejected (being ostensibly generalized in the concept of “dialectical contradiction”) and at least a single contradiction has been allowed for any theory, it is able to “deduce” any statement and its logical negation simultaneously. So, whatever statement should be proved or whatever social practice should be justified, this can be done philosophically by dialectics heralded to be the only scientific philosophical doctrine. Of course, the opposite statement or practice might be inferred not less “rigorously” if need be or the course of the CPSU would be changed essentially including to the just opposite one as in the 20th CP Congress in 1956.

The mechanism of the alleged ability of dialectics to explain anything is psychologically similar to any divination being vague enough and allowing to be interpreted by two logically opposite ways. The client chooses implicitly and unconsciously that of them which she or he prefers or really takes place thus glorifying the fortune teller’s prophecy. Analogically, the totalitarian state authority chooses in Rorschach’s spot of the “scientific” prediction or justification of Marxist “philosophy” what it needs stamped ostensibly by science. All this is very well known, but now it is repeated for unexpected parallels in contemporary science and especially in its institution.

Of course, dialectics itself is too compromised for being suggested, but in fact the general principle of a metaphysical “theory” to be used as a proper and thus an ostensibly refutable scientific theory is conserved. For example, one might invent a special singular point, interpretable also as a “reservation for dialectics”, in which all those inexplicable phenomena, anomalies, exceptions, contradictions, etc. to be “exiled” in a metaphysical “Siberia” not to be obstacles or to disturb that “brave new world” beyond the reservation (even restrictable to an “insignificant” singularity) obeying the “totalitarian” laws of physics such as energy conservation, classical quantum mechanics culminated in the Standard model and featured by Pauli’s particle paradigm, unitarity, Hermitian operators for all physical quantities, locality, “Mach’s principle” in Einstein’s or original interpretation, etc. So, any refutation of those omnipresent and omnitemporal laws will be immediately sent to “Siberia”, called in an “Aesopian language” the “singularity of the Big Bang”, and any dissident disagree with that “wise” decision will become a “client” of the “Holy Scientific Censorship and Inquisition” thus forever being written in the “black list”. Of course, though hyperbolized for being more discernable, this is a totalitarian organization and institution including mastered the education to burn in a ROM way the holy truth of the Big Bang in the students’ brains. What should it do with those eventual “George Platens”, though?

Obviously, they should be really removed from the “Brave New World” of an “eternal” scientific theory, i.e., true forever, for example, in “Houses for Feeble Minded” where to write their rebuttals, which no “ROM” burned scientists might even understand let alone accept as truths. Asimov’s “Profession” finishes with a “happy end”, widespread especially in sci-fi. However, one

can easily figure a more realistic conclusion, for example in an alternative “cover” of the novella by the brothers Strugatsky where George Platen’s escape fails. He understands that the “Das Man” society of “burned minds” is absolutely stable and does not need him and his ilk. He returns voluntarily in the “House of the Feeble Minded” where will live until his death whether natural or by suicide. Respectively, the Brave New World has protected itself forever from refutations or any fundamentally new and revolutionary theories in an end of history (including scientific) in Hegel and Fukuyama’s manner resulting particularly in a prolonged (seeming even “eternal”) period of Kuhn’s “normal science”.

So, one may admit for consideration the “appellation” formulated in the title of the next section:

III “NORMAL SCIENCE” SINCE NOW FOREVER? A NIGHTMARE OR “EDEN”?

Feyerabend’s “Against Method: Outline of an Anarchistic Theory of Knowledge” (1975)⁶ can serve as an antithetic justification for a very prolonged period of “normal science” where the “Method” (whatever it would be) dominates. Feyerabend utilized the case study of Galileo Galilei’s discoveries demonstrating that they had been really made “anarchistically”, indeed against any method since the nowadays criteria of scientific verifications would reject them as quite unfounded and thus much more presumably to be wrong or false. In other words (and loosely speaking), the modern science observing the “Method” commonly accepted in the 20th century would not allow for Galilei’s findings heralding them to be “anti-scientific” as contradicting that “Method”.

One might add the chronicle of Giordano Bruno’s visitation in Oxford (e.g., McMullin 1986) where the then scientists had rejected his “many worlds similar to earth possessing own suns visible by us as stars” as a rather metaphysical conjecture unsupported by essential empirical proofs. As this is very well known the Inquisition of the Holy Church burned him in a pyre for his worldviews soon after the return in Italy, so that one might rather sardonically conclude that the Holy Inquisition executed the scientific Oxford’s sentence.

Feyerabend described how Galilei had invented an own and quite different “Method” relying only and thus tendentiously on his personal observation picking up those statements and facts fitting his theories, thus being practically another postulated doctrine not less metaphysical than the Church’s one. Galilei had created an absolutely new, internally consistent scientific context only in order to justify his theories, in advance presupposed to be true and for which the context at issue is *ad hoc* elaborated. However, the Church’s and Galilei’s contexts are “incommensurable” to each other. If one has chosen any of both, he or she would obtain a consistent picture of the world, but fundamentally incomparable with alternative and without any reasons for choosing just either of both. However, be whichever chosen, this is sufficient for its monopolistic domination therefore accumulating confirmations only by virtue of being the single

⁶ That study regardless of its provocative radicalism is commented for decades, a few relevant the present context are, e.g., Dyer, *Nederman* 2016; Kidd 2015; *Curthoys, Suchting* 1977; *Tibbetts* 1977.

monopolist of “what is true”: namely, what is consistent with its context postulated more and less arbitrarily and *ad hoc*.

Of course, the conception of scientific incommensurability seems to be a metaphor borrowed from the incommensurability of conjugate quantities in quantum mechanics where the experimenter chooses in advance which kind of the apparatus to prepare for either of both conjugate quantities so that the investigator’s preliminary choice predetermines which of both quantities will turn out to be really measured. One may further state that the quantities are complementary to each other in Niels Bohr’s sense and thus literally “incommensurable” simultaneously since the measurement of either transforms the measurement of the other into being absolutely undefinable obeying Heisenberg’s uncertainty.

One can compare the underlying structure of *incommensurability* in both uses (Feyerabend’s in philosophy of science and the original one of quantum mechanics), on the one hand, with any tautologically false logical structure by virtue of some direct contradiction available in it and thus violating the noncontradiction law, on the other hand. The former case is not a “dialectical contradiction” in Hegel’s sense who suggested rather, though implicitly, the commensurability of thesis and antithesis, because they are able to be “dialectically synthesized” in a consistent way ultimately.

Kierkegaard’s “non-synthesizing” dialectics, even more so that Niels Bohr utilized initially it as the philosophical basis of his conception of complementarity in quantum mechanics, is more relevant to incommensurability than the much more famous one of Hegel. Particularly, the fundamental Western idea of historical progress, penetrating also Hegel’s dialectical philosophy of history as well as that of history of science, e.g., in Thomas Kuhn’s version, is quite inapplicable to Feyerabend’s “anarchistic theory of knowledge”. The pre-Galilean astronomy (and not less Aristotle’s physics) and Galilei’s proper observations, experiments, and theory should be rather considered as referring to different subjects (for example, as physics and biology) and thus irreconcilable by their shared subject or in Hegel’s “synthesis” where it is inherently granted to be “more progressive” than either of both thesis and antithesis historically, in definition.

However, the specific lesson, which should be extracted from Feyerabend’s case study of Galilei’s revolution in astronomy and physics as to the present context, is that no legitimate way or scientific “method” in a wide sense leading logically consistently from the old theory to the new one. “Anything goes” fundamentally excludes whatever “burned profession” to be appropriate for some “professional resolutioners in science” and therefore underlain by any universal “method” for Kuhn’s “scientific revolutions”. Feyerabend (1975) radicalized Kuhn (1962), and as far as Asimov’s “Profession” preceded both books, they can be interpreted as its generalizations and connotations as to philosophy of science. Indeed, “Anything goes” might be written on the gate of the “House of the Feeble Minded” built for George Platen and his ilk.

On the contrary, if one would like to prevent society from any radical changes called revolutions including those in science (being understood also as “revolutions” in a more or less metaphorical sense), the free experimenting under the slogan “Anything goes” should be restricted reliably enough only to those “Houses of the Feeble Minded” isolated by a high wall from the

society, so that the theories produced there are to be stamped and stigmatized to be “feeble minded” as well: unlike the brave new theories created by the relevantly “burned” brave new minds outside of the “High Castle” of the “Feeble Minded” therefore hinting at one more allusion to Philipp Dick’s masterpiece, by the by, also relevant in the present context meaning the eventual dystopia of an “eternal” “normal science” therefore preventing inherently and forever any High Castle’s alternative reality and corresponding theory describing it.

Once the outlines of “normal science forever” are already sketched more or less discernably as a kind of dystopia, one might question about which the censorship relevant to it after the “velvet isolation” of all eventual dissidents in those “Houses” should be suggested in that “eternity of normal science”. Might the institution of “blind” (or not blind) “peer review”⁷ distinguishing the admissibility of any scientific publication and the derivative hierarchy of “impact factor”⁸ be identified as the official censorship of the brave new eternally normal science? The next section will discuss that:

IV THE “PEER REVIEWS”: BLESSING OR CURSE FOR SCIENCE?

One might imagine a thought experiment in George Platen’s manner since the many examples of the real George Platen, i.e., Albert Einstein’s “Gedankenexperiments” are well-known and even famous. The counterfactual condition needing for an experiment to be only “thought” would be the following. One transfers the contemporary organization and institution of science, particularly all peer-reviewed journals endeavoring to a higher impact factor in Galileo Galilei’s epoch. So, Galilei needs his ideas, experiments and discoveries to be estimated and recognized. The only way is to publish them in scientific journals with an as higher as possible impact factor to disseminate them faster (and wishfully, to avoid the Inquisition’s exams). Well, he sends relevant publications to those journals, and their editors resend them to very respectable “blind” (or not) reviewers who would be professors in the then universities teaching their students in the geocentric system and Aristotle physics. They read Galilei’s papers very carefully and consciously, from the beginning to the end, and compare them with all available knowledge known for them.

⁷ Many publications discuss the history and role of peer review, its aspects, application in various scientific areas, alternatives, experiments or mechanism more or less critically (e.g., Peters, Brighthouse, Tesar, Sturm, Jackson 2023; Bedessem 2020; Hope, Munro 2019; Rigby, Cox, Julian 2018; Moghissi et al 2016; Chapelle 2014; Peters 2014; Millard 2011; Clase, Pelaez 2010; Bornmann, Daniel 2008; Weicher 2008; Grainger 2007; Hames 2007; Johnston, Lowenstein, Ferriero, Messing, Oksenberg, Hauser 2007; Berger 2006; Green, Callahan 2006; Blackmore 2005; Harrison 2004; Spier 2002; Weller 2000; Stehbens 1999; Rooyen 1998; Lewis, Amoruso 1997; Mandel 1996; Mathews, Jacobs 1996; Geest, Remmers 1994; Daniel 1993; 1993a; Abelson 1990; Ashler 1990; Crawford, Stucki 1990; Hagley 1990; Gillett 1989; Erwin 1985; Hsia 1984; Negus, Jamieson 1983; Osmond 1983; Young 1982). Nonetheless, one does not discover the viewpoint of the present paper to it among them (anyway, some allusions are available in: *Yalow 1986*).

⁸ The publications, the subject of which is “impact factor” (e.g., Jacso 2012; Leydesdorff, L., L. Bornmann 2011; Larivière, Gingras 2010; Leydesdorff, Opthof 2010; Althouse, West, Bergstrom, Bergstrom 2009; Archambault, Larivière 2009; Egghe 2009; Waltman, Eck 2009; Bensman 2008: 2007; 2007a; Bollen, Sompel 2008; Habibzadeh, Yadollahie 2008; Zitt, Small 2008; Coleman 2007; González, Campanario 2007; Mansilla, Köppen, Cocho, Miramontes 2007; Pudovkin, Garfield 2004; Vinkler 2004; Harter, Nisonger 1997; Garfield 2006; Greibrokk, Svec 2003), are too far from the idea of its crucial influence for the “normalization of science” sketched in the present study.

The conclusion by almost all professors would be practically the same: “Nonsense, contradicting all entire human experience rather than only absolute authorities such as Aristotle. The author suggests various funny and absurd “experiments” to refute any man’s experience and common sense in the final analysis”.

One might figure even some very progressive then professor, himself doubting the geocentric system and Aristotle physics, and created alone an own telescope to repeat Galilei’s observations just according to the descriptions in the publications at issue assuring himself that they are real and true rather than nonsense. That professor starts reflecting and thinking of his colleagues’ mentality, the own reputation and the family needing his salary, and also of the journal’s impact factor. “Nobody would believe!” is to be his sad conclusion. Even himself might be fired for a categorically positive review. The scientists will stop reading the journal publishing fantasies rather than reliable results. Consequently, he will prefer as Pilates that it be better to “wash the hands” by a vague and ambiguous review interpretable as so as otherwise. It together with the rest, sincerely negative ones would not influence the ultimate rejection of Galilei’s publications.

However, the real state of affairs is even worse. The editor of the journal would consider preliminarily the suggested publication immediately noticing that it contains a series of absurd statements, conjectures, and suggestions obviously demonstrating that the author is whether feeble minded or crazy. No reason for wasting the time of the respectable and very busy professors to review a meaningless article. So, Galilei’s papers would not even reach those blind reviewers as above in the most or rather almost all journals with really high impact factors.

Finally, the dean of Galilei’s faculty will ask him where his publications are. The students informed for Galilei’s bad scientific reputation will begin escaping his lectures. The attestation commission of the faculty will estimate him negatively and will recommend to be fired: no need of any Inquisition and Galilei’s rejection of his own results. All will be done up quite peacefully and in an absolutely acceptable, legitime and civilizational way observing strictly human rights.

One can further realize that the suggested thought experiment is not a loose play of fantasy, but its conclusion originates directly from Feyerabend’s conjecture of incommensurability, applied particularly in the case study of Galilei’s discoveries. The necessary condition for them to be really recognized in the final analysis was the too weak power of the Holy Church and Inquisition, needing cruel repressions because of that, in comparison with the contemporary organization and institution of science able to cancel “velvetily”, but much more effectively any revolutionarily newly worldview incommensurable with the official paradigm. So, any contemporary Galileo Galilei, respectively George Platen would not be merely published and isolated ultimately in a symbolic “House of the Feeble Minded” together with many really mad people rather than only with his ilk of scientific dissidents.

Anyway, one may object to Feyerabend’s incommensurability itself being necessary for the above suggestions. It presupposes discrete leaps in the development of science, called by Kuhn “revolutions” and then radicalized by Feyerabend himself to the concept of incommensurability, from which an “anarchistic theory of knowledge” follows where “anything goes” in the search of

a new paradigm, i.e., “against method”. However, one could allow for an alternative and much more moderate evolutionary hypothesis for the gradual scientific growth according to which “Galilei” (though rather or extremely difficultly) would manage to publish his discoveries and acquire their official recognition since the real contemporary organization and institution of science though initially not being able to distinguish an actually crazy author’s paper from that of some “George Platen”, will estimate the latter after a long enough period of time. The essential problem is “how long” for being enough as well as the originating derivative issue of how much rigorous the screening of seeming equally “madcap” articles should be, therefore unavoidably admitting papers of really mad or at least ill-intentioned authors.

Then, the link to the casus of Sokal’s affair (1996)⁹ is relevant, which will be initially considered in its Weberian “ideal type”, i.e., meaning only one certain side of the real case being the most relevant to the present context: it is suggested to be representable by the Biblical metaphor about the temptation of Eve by the serpent to taste the forbidden fruit and more especially the phrase that “you will be like God, knowing good and evil”. Of course, this is only a seduction rather than a truth: people, including any blind (or not) reviewers, unlike God, can only roughly “tell right from wrong”. One might continue the metaphor that Sokal “like the serpent” offered a “forbidden fruit” using the inability for “telling right from wrong” in a special case where the wrong is intentionally and “serpentine” more or less disguised as the right. God would not be wrong. People would like to be similar to God and also not to be wrong, but they are not and they are wrong sometimes or often. So, they would be wrong if the “serpent” (as another Sokal) had suggested a paper of Galilei or any “George Platen” where, on the contrary, the right is more or less disguised as the wrong. God would not be wrong in that case as well, but – Alas! – unlike people.

One may stare at the reason for people not to tell right from wrong in some instances being sophisticated enough as that picked up by the ill-intentional real Sokal just to demonstrate the inability to be distinguished a correct article from a fake one. Anyway, one might figure a counterfactual benevolent Sokal who would create an anti-precedent, respectively an anti-Sokal’s affair and here is how. “A George Platen’s paper” is submitted, and it is rejected as usual. Then, its author turns out to be a very respectable scientist, still better, a Nobel Prize winner thus famous and well-known to media, to the social networks and the Internet rather than an unknown to anyone “George Platen”, and the mystification is polar to the real Sokal’s one. He has suggested a too innovative and creative paper confronting the official paradigm in the corresponding scientific area. Obviously, it will be rejected if its author is George Platen who has nothing to lose unlike a Nobel laureate who stakes his or her reputation.

That hypothetical case study, still one “Gedankenexperiment”, questions as far the blind reviewers are really “blind”. In fact, they would guess a Nobel laureate, even if the paper at issue is perfectly anonymized, only by its intellectual and professional “smell”, by the feeling of one’s

⁹ Also commented by many authors, including Sokal himself: e.g., *Lyman 2013; Sokal 2011; 2008; 1998; Franklin 2012; Carrier 2001; Boisvert 1999; Gottfried 1997; Hilgartner 1997; Longino 1997; Schweber 1997; Weissman, Weissman 1997.*

certain presence, induced as a “hologram” and “hovering” over the text: however, nothing mystic here since a powerful enough GPT¹⁰ would guess the most probable authorship of the article as well. Then, the anti-Sokal’s hoax should replace the real author’s “smell” or presence by that of some “George Platen”, e.g., by the assistance of another GPT, but nonetheless remaining the ideas and their argumentation to be identically the same, as if ostensibly formulated and written by that George Platen unknown to anyone and “hallucinated” by AI. Loosely utilizing Frege’s distinction, the meaning or reference of the article (“Bedeutung”) would be the same, but its sense (“Sinn”): quite different, of course, just to mislead the “blind” reviewers for rejecting the study.

Then, Frege’s “Sinn – Bedeutung” distinction can be in turn applied to Sokal’s hoax by doubling the real ill-intended Alan Sokal by his “dual” counterfactual and benevolent “twin” created in a “thought experiment” just above. Obviously, both twins are able to demonstrate the same meaning demonstrating that humankind tells right from wrong difficultly enough, because of which any blind reviewers might be misled rather easily. However, the sense would be exactly opposite after each of them, correspondingly ill-intentional versus benevolent.

The former would cause a rather essential restriction of the scientific publications since the journals or their blind reviewers would obey the “presumption of the authors’ guilt”, which would be relevant only if the harm of any wrongly adopted publication is much greater than that of its wrongly unpublished counterpart. Indeed, a contradiction implied by a wrong article falsifies all the corpus of knowledge, to which it belongs and in which any statements would be inferable once the “original sin” of a single contradiction has been “consumed”. This is the main tenet ostensibly justifying the “presumption of the authors’ guilt”. In fact, that kind of presumption, confessed in particular by the real Alan Sokal, cements forever normal science therefore preventing it from any eventual scientific revolutions being nipped in the bud, though. Kuhn’s normal science can also be interpreted as an only conservatively developed collection of statements strictly obeying classical logic thus rather needing the “presumption of the authors’ guilt”: so that the provocation of the ill-intended real Sokal is quite correct and relevant for showing essential deviations of that principle at least as to humanitarian science.

However, if one has been granted in advance the alternative admission of periods of nonconservative development even radicalized by Feyerabend’s mutual incommensurability needing “epistemological anarchism” to happen or to be described, they imply direct logical contradictions during the course of science however turning out to be impossible in principle under the “presumption of the authors’ guilt” visualized above by the thought experiment relied on Feyerabend’s case study of Galilei. So, the counterfactual benevolent Sokal would cause a counter-effect obeying the opposite “presumption of the authors’ innocence” just as Western justice seeking that no innocent should be convicted at the cost of some guilty going really unpunished. So, social practiced is presupposed to be incommensurable rather a conservatively developed consistent logical construction; even more so that the “normal society” equivalent to “normal science” would be inherently totalitarian, a “brave new world” where freedom contradicts society and thus freedom is persecuted as asocial or antisocial.

¹⁰ For “Generative Pre-trained Transformers”, i.e., neural networks transforming themselves.

Then, one may conclude the pair of the “twins Sokals” or more precisely, their relation would predetermine the degree of freedom of science allowing for scientific revolutions or, on the contrary, preventing them. The real case where only the “ill-intended Sokal” “hating” all “scientific revolutions”, but adoring “normal science” is only available is extremal and thus “alarm signal” troubling for an eternal normal science repressing but accumulating more and more unresolved conflicts threatening a spectacular catastrophe at the end.

Then, one may discuss the influence of the real institution of peer “blind” (or not) review and the impact factor ranking of the scientific journals on the degree of freedom of science and therefore as far scientific revolutions are admitted, visualized above by the “bifurcated” Sokal into “Dr Jekyll and Mr Hyde” where the later dominates absolutely. More than a metaphor, quantum mechanics would be welcome since the degree of freedom not only in science is able to be well modeled by whether the probability (density or not) distribution of all possible different states or their characteristic (i.e., “wave”) functions as certain points in the separable complex Hilbert space. The “classical case” is where the probability distribution degenerates into a Dirac delta one (also known as “Dirac delta function”) of a single value and zero entropy without any freedom at all. If all possible reviewers share the same paradigm even in all detail, any paper is forced either to share it or to be rejected otherwise regardless of the randomly chosen reviewers.

Of course, the real normal science admits some deviations anyway falling into a narrow enough distribution of opinions so that the acceptance or rejection of a given article slightly depends on the randomly chosen reviewers. The wider is the distribution, the more unestablished is the paradigm, the more possible is its change, and a “dissident” paper is more probable to be published. The transition to a new paradigm after Kuhn would correspond to a second local maximum attracting more and more opinions transforming gradually into the prevailing, dominating and single one more and more narrow, so that the reviewers’ opinions are uniform even in detail.

However, that smooth transition would not be possible after Feyerabend since the initial maximum becomes more and more narrow by itself therefore preventing any other one to appear. Normal science tends to be more and more consistent just as a logical system of propositions about the same subject is inclined to be a first order logic by itself. If two maximums are eventually available, they separate from each other into two different first-order logics referring (as if) to two different subjects absolutely independent of each other.

One may question how the institutions of both blind (or not) peer review and impact factor ranking affect the consolidation of all opinions about a single paradigm as well as whether they favor or hinder the emergence of a new paradigm in any given science. The short answer is: they consolidate the existent paradigm and prevent a new one to appear whatever it be. So, they are a crucial factor for a too prolonged period of normal science. Here is the acting mechanism:

This can be likened to an adiabatic heating process with no energy input, only due to a decrease in entropy, for example due to gravitational compression, which has positive feedback, until an equilibrium is reached with increasing temperature and pressure, preventing the further contraction. Then, one should demonstrate how the positive feedback appears tending to unify the

opinions more and more closely to each other by the permanent action of the aforementioned two institutions. An arbitrary paper submitted to a journal is to be considered. One may suggest the following quantitative variable for it to be accepted or not: its average “distance” (difference) to the viewpoints of all reviewers of the journal corresponding to its limited volume: some constant number “n” of items is published in each issue (each month, for example).

The positive feedback at issue consists in the following. The completion of submitted papers (to which pressure in an adiabatic process might serve as a metaphor) grows permanently due to more and more scientists needing publications in journals with higher impact factors for their careers. That rivalry forces them to cruel auto-censorship, to more and more conformist research closer as much as possible to the core of the paradigm, to maximally orthodox viewpoints, even to a single most dogmatic one. Just the winners, in that contest of “burned minds” will be the future editors and reviewers of the same journals, therefore much more dogmatic than their forerunners, but in turn much more free-thinking than their successors. That is the one positive feedback for more and more conformism due to the increasing mutual competition of submitters.

The other positive feedback is that struggling of the journals themselves for higher impact factors. The closer to the orthodox and maximally “burned” center of the paradigm is a journal, the more scientists share the same viewpoint, the more probable is for them to cite a publication of its, the higher is its impact factor, the greater is its funding. That is: the contests of the journals are absolutely analogical to that of their submitters, and can be considered to be a metalevel positive feedback to the former positive feedback for the rivalry of individual scientists: and therefore, amplifying it exponentially.

Even only those two positive feedbacks would be enough to transform science into a new, far more dogmatic “Church”. Nonetheless, there exists still one and stronger, third positive feedback due to the limited material resources necessary for science, especially empirical and experimental rather than theoretical as well as those for universities and number students willing to be trained in them and paying for that regardless of whether themselves or by government subsidies, private grants, etc. The strict limitation of those resource generates still one kind competition, e.g., those of projects. The more orthodox is the intended research in a project, the more probable is for it to win and to be funded. So, all scientific enterprises obey the same mechanisms as the journals. One is to conclude that no chance for George Platen to become a “serious and respectable scientist” since it means for his mind to be “burned. The organization of today’s science does not allow for Feyerabend’s incommensurability. Galilei, Newton, Einstein, etc. are not yet possible.

By the way, the case study of Einstein is very instructive suggesting new dimensions about the discussed problem. Poincaré¹¹ and Lorentz¹², established and respectable scientists, might, but dare not formulate explicitly Einstein's special relativity implying the scandalous ontology of deformable and linked space and time into spacetime. In fact, once that ontology had been granted, general relativity was implied by it being contained in the deformability of spacetime¹³ itself. The *twenty-five years old* Einstein could simply not be afraid of what so frightened those experienced scientists, simply because he did not suspect its existence. He was an outsider in physics, in a remote enough time where similar outsiders might yet publish in journals, but that "backdoor" for revolutionary discoveries has been closed as to contemporary science to prevent "hopefully" forever all "disasters" caused by scientific revolutions.

Which was that monster that horrified Poincaré and Lorentz, but invisible for Einstein himself? Gauss in an analogical scientific situation about a century before Einstein's age mentioned in a private letter the "uproar of the Boeotians"¹⁴ as that "monster" prevented also himself to publish the research on non-Euclidean geometry. Janos Bolyai or Nicolay Lobachevsky¹⁵, far from the "monster" dwelling the absolute center of the then mathematics and philosophy, German, were able to ignore it in the remote Budapest or the much more remote Kazan.

That "uproar of the Boeotians" (i.e., the "burned minded" professionals of Asimov's novella to whom the imaginary George Platen or the real Gauss, Lobachevsky, Bolyai, Poincare, Einstein, Lorentz are "feeble minded") is the predecessor of the aforementioned dystopic eternal

¹¹ There are many enough papers about the similarity of Poincaré's conception and Einstein's special relativity (e.g., Del Colombo 2013; Minguzzi 2011; Giné 2010; Hacyan 2009; Stachel 2005; Darrigol 2004; 2000; Martínez 2004; Galison, Burnett 2003; Boi 1996; Miller 1992; Winterberg 1986; Torretti 1978; Goldberg 1970; 1967). One might conclude that Einstein's superiority consisted in his marginality and inexperience, including philosophical, tending not to distinguish physical reality from mathematical model thus merging both in a kind of "ontomathematics" by itself, though unarticulated by him.

¹² A series of paper discusses the link of Einstein and Lorentz: for example, Kox 1993; 1993a; Illy 1989; Nersessian 1986; Nugayev 1985; Zahar 1978; 1973; Prokhovnik 1974; Schaffner 1974; McCormmach 1970; Goldberg 1969.

¹³ The comparison of Einstein's general relativity versus Hilbert's theory of gravitation is instructive (Tresoldi 2009; Sommer 2005; Wuensch 2005; Logunov, Mestvirishvili, Petrov 2004; Rowe 2001; Stachel 1999; Corry 1998; 1997; Medicus 1984; Earman, Glymour 1978; Lanczos 1970; etc.). Though the ultimate results are similar, their "philosophies" are quite different. Hilbert meant a mathematical model of gravitation. Einstein created a theory of gravitation by itself, by default interpreted by his contemporaries to be a usual (though fundamental) physical theory. In fact, he suggested a geometrical, thus mathematical theory of Newton's universal gravitation therefore following and perfecting his original design outlined in "The Mathematical principles of Natural Philosophy" (in more detail, in: *Penchev 2023 November 2*). Einstein possessed a unique philosophical capability for "Husserl's epoché" (articulated in the doctrine of phenomenology) to the distinction of mathematical model and physical reality, which predetermine his superiority over the scientific rivals such as Hilbert in particular.

¹⁴ Cited according to the article "Mathematical Proof and the Principles of Mathematics/History/The problem of parallels" in Wikipedia:
https://en.wikibooks.org/wiki/Mathematical_Proof_and_the_Principles_of_Mathematics/History/The_problem_of_parallels

¹⁵ There are many philosophical, historical, and mathematical reflections on the discovery of non-Euclidean geometry (e.g., Tanács 2009; Gray 2006; 2004; Evtuhov 1995; Stäckel, Engel 1987; Portnoy 1982; Greenberg 1979; Rozenfeld 1976; Kalmar 1954; Varga 1954; Jenks 1940; Winger 1925; Hilbert 1903; Halsted 1900).

“normal science” because of those positive feedbacks in science sketched above and their permanent action during a few centuries. In other words, the “uproar of the Boeotians” has become stronger and stronger since Gauss’s age, so that it dominates all over the world, all over the science nowadays thus not allowing for those exceptions of great thinkers developed science by “revolutions” in the past.

Any scientific revolutions are not more possible in the “brave new world” after the “end of scientific history” (in Fukuyama’s manner). On the contrary, only the continuous progress in the more and more restricted framework of a single paradigm established forever is humankind’s destiny since now and forever. George Platen’s ilk are reliably isolated in the “Houses of the Feeble Minded”. This is the thesis of the present, rather essayistic study, more or less loosely and metaphorically formulated.

The next section intends a case study of the contemporary state in fundamental physics to support the above conjecture by the following tenet. Lord Kelvin’s “two clouds of the horizon” are much more and larger than those cited by him in the eve of the 20th century: nevertheless, no “thunderstorm” of a new scientific revolution, conjectured to be impossible in principle any more in the burned minded professionals’ brave new world won the ultimate victory against the feeble-minded dilettantes and their “crazy” ideas. “This idea is not crazy enough to be true”, Niels Bohr said: so worse for truth in the Brave New World, though.

V A CASE STUDY: TOO MANY “CLOUDS” ON THE HORIZON OF PHYSICS, BUT NO “THUNDERSTORM”?!

The “two clouds” speech of Lord Kelvin is famous. So, one can immediately attempt to describe the present situation in physics by his metaphor. The biggest “cloud” now is immense and doubled, at that so dark to be much darker than the absolutely black body and its radiation implied by the “Maxwell-Boltzmann doctrine of the partition of energy”, which was mentioned by Lord Kelvin. Those are the twins of dark matter and dark energy. Both are more than too scandalous since they make obvious that the dominating paradigm is in principle incapable to mean about $\frac{19}{20}$ of the universe, being beyond Mach’s principle both in Einstein’s interpretation for only mass and energy to be sources of gravitation in general relativity (Einstein 1918) and in Mach’s original (including proper philosophical) formulation, in particular restricting all possible scientific experience and experiments to be only local (e.g., in Mach 1896).

On the contrary, both dark matter and dark energy are rather nonlocal and thus “dark” because only locality is “light” (the attempts to be assigned any local sources of “darkness” fail seeming to be contradictory in definition). Moreover, they might be inconsistent with the usual for science Cartesian opposition of theories being ideal and mental versus the material and bodily world able to refute them by experience and experiments granted to be only local if one follows scientific common sense at all rather than only Mach’s doctrine (being rather an extreme radicalization of the former).

The next, vast enough “cloud” is entanglement also twinned by quantum information. Unlike dark mass and energy supposedly nonlocal, entanglement is nonlocal in definition. So, its

official recognition was almost a century later¹⁶ after the initial admission as a purely theoretical conjecture (implying eventually an only alleged incompleteness of quantum mechanics suggested by Einstein, Podolsky, and Rosen in 1935): by and after the 2022 Nobel Prize in physics. Another study (Penchev 2023 March 13) considers its revolutionary sequences for physics, science, and society in detail, therefore allowing for them to be here omitted.

The problem about the impossible quantum gravitation is not less grandiose than the Siam twins of entanglement and quantum information. The just cited study suggests the hypothesis that the Nobel Prize pioneers the pathway for an entanglement theory of gravitation as nonstandard quantum gravitation considering it as a Fourier counterpart of gravitation being described as a composed operator acting on pseudo-Riemannian space according to the Einstein field equation. That entanglement interpretation is nonstandard since quantum gravitation according to it is not still one interaction along with those three explicitly meant by the Standard model, but their cumulative result obeying the condition to constitute a Fourier pair with Einstein's local gravitation. Then, the joint solution of the scientific puzzles adjusts in turn entanglement and "dark" gravitation due to dark mass and energy as another pair of Fourier counterparts so that the former pair is distinguished to be local from the latter, nonlocal one. Therefore, the two pairs can be understood also as Fourier "twins", but at the immediately next level, i.e., metalevel.

The discussed consideration can be seen to be a general tenet proving and therefore explaining why the huge efforts of great physicists for about a century to be created a "normal" standard theory of quantum gravitation were fruitless, namely because that theory is fundamentally impossible, inherently self-contradictory, analogically to the historical lesson of "perpetuum mobile" inconsistent with the principle of thermodynamics.

The Standard model itself contains a few diffuse mysteries, rather confusing and more difficult than the usual puzzles alleged by Kuhn to be the everyday "profession" of all scientists. Those are the semilegal *confinement* resulting into the not less ridiculous undetectability of free quarks therefore generating the derivative problem, what the quarks are: only mathematical abstractions or real and observable physical items? Confinement should be an interaction similar to electromagnetic, strong, and weak ones, but seeming to be irreducible to them and thus not being adjustable in the strict framework of the Standard model. Its magnitude would be exponentially increase at a greater, but subatomic distance unlike the other three ones correspondingly decreasing. Furthermore, at least one boson of its field should possess a certain negative mass at rest seeming to be nonsense and without any experimental confirmations. In addition, those of free quarks somehow overcome the confinement barrier are not reliably enough established allowing for it to be infinite and excluding at all the existence of free quarks, i.e., beyond that barrier.

Then one might question whether all quarks though postulated by the Standard model are real elementary particles such as electrons, photons, etc. or they are only mathematical abstractions similar to virtual particles blurring the ostensibly clear Cartesian boundary between mathematical abstraction with identically zero energy in definition and physical entities necessarily possessing some though quite tiny, but finite nonzero energy. For example, one might admit a nonlocal

¹⁶ By the 2022 Nobel Prize in physics for entanglement and quantum information.

generalization of physical motion as the transformation of information, so that a true subset of which possesses a certain finite, thus inherently local energy and studied by the entire “light” physics until now but being about only 5% of the universe. Time and energy are not physically universally any more as referable only to the local and “light” physics wrongly identified to be all the physics until now.

Only the “light” physics is featured by all those quantities of mechanics, both kinematics and dynamics, which are very well known not only to the students, but even to the pupils in the secondary schools. In fact, all of them rely on the three fundamental constants, gravitational, Planck, and “light” (i.e., the barrier of the speed of light in vacuum) able to generate the Planck mass, time, and distance, from which all mechanical quantities are derivative in an elementary way. However, those three constants are not equally universal: the gravitational and light ones refer only to “light physics” wrongly identified to be physics at all until now. Particularly, the most fundamental law of energy conservation forbidding “creation ex nihilo” is relevant only to it.

The local “light” physics can be likened to the screen of a computer, the most visible part of it, but quite not the most important one. Anyone knows that what (s)he watches on the screen is the current result of a permanent calculation processed in its hidden part, within the box and only mapped on the screen for humans utilizing the computer but absolutely unnecessary for itself and its work. Then the inherently nonlocal “dark” physics should be analogical to the gadgets hidden within the computer box without any human interface. As to that dark physics itself, energy conservation and even the quantity of energy are not valid any more therefore allowing for the so scandalous for science “creation ex nihilo” in particular. One is naturally to ask how that omnipresent and omnitemporal “creation ex nihilo” inherent for the dark universe would be depicted on the “screen” of “light” physics: just as the Big Bang, at that changing its parameters in the course of developing calculation flowing in the dark “bowels” of the universe.

What is the most fundamental and thus universal physical quantity is quantum information equated to the physical quantity of action by the Planck constant (referring to the dark and light parts of the universe unlike the “light” and gravitational ones making sense only as to the light one). The conservation of quantum information regulates those omnipresent and omnitemporal processes of “creation ex nihilo” in fact generating the universe rather than the mythical Big Bang ostensibly had taken place about 14-15 billion years ago, but in fact so real as God’s creation of the world described in the Bible. Humankind needs myths for fulfilling the immense areas of ignorance by stories created by human imagination but not referring to reality at all:

God’s creation of the world in the Bible is an example, the Big Bang in contemporary science is another. The former story explains how the world has appeared relying on the doubtless fact in human experience that many things appear being created by humans and then extrapolating that observation to the world as a whole only substituting all real humans by a hypothetical superhuman called “God”. One can assure God’s creation in the Bible is a conjecture consistent to human experience and thus very similar to any proper scientific hypothesis such as the Big Bang in particular.

Analogically to those ancient people suggested quite reasonably “God’s creation of the world” in a way consistent with their experience as the complicated enough entities appear not by themselves but only as a result of human activity, contemporary scientists “thought up” another story, ostensibly already scientific to replace that “unscientific” ancient one, but in the same way of extrapolation: all scientific experiments obey energy conservation, so it is to be related to the universe as a whole. Then, the conjecture of the Big Bang is not absolutely consistent, but even only possible once energy conservation is thoroughly granted for an ultimate truth, by the by, also not less consistent to contemporary practice than “God’s creation” to the ancient one. Both stories rely on inductive extrapolations from “all known until now” to “all at all and forever”.

Of course, the conjecture of God’s creation has met more and more refuting facts, nonetheless it is alive and still widely spread even today regardless of them, thanks of the Church, which is an only human organization postulated that the Bible is forever true and needs belief rather than scientific experiments. Science managed to emancipate from the Church and its doctrine very difficultly, effortfully, and even painfully. In its centuries old battle between them, science has permanently relied on human experience and more and more sophisticated and costly experiments by apparatuses being so colossal as the Large Hadron Collider and its eventual future extenders.

On the contrary, the Church has constantly refuted that scientific method and research opposing them not only to the “eternal truth of the Bible”, but trusting much rather to the millennia old perfected organization and practice of it relying on the immutability of human psychology, experience and social behavior and their underlying principles. However, today’s science has gradually built an organization and social institution rivaling that of the Church, by virtue of which it needs more and more an only “normal science” without “revolutions” from now on, being already incompatible with the stability and even existence of a so comprehensive and omnipresent organization and institution maybe more influential than those of the real Church.

So, today’s science is increasingly comparable to the new “Holy Church” (by the way, a metaphor coined by *Ernst Mach 1896*), for which the scientific method and research ought to obey the much higher value of being stable to provide in turn social order and hierarchy just as the real Holy Church did. So, no matter how many “clouds are on the horizon” and no matter how “big and dark” they are, there will be no “revolutionary storm” just as the numerous facts refuting the Bible could not cannot waver the Church itself in turn establishing for the Bible to express the ultimate truth. The relevantly dogmatized scientific method and research herald forever locality therefore stigmatizing any “nonlocal darkness” thinking up decent “light” and local explanations for it and building more and more costly and large colliders as temples for the new scientific faith in locality.

Humankind is on the fork of a crucial bifurcation: ether a devastating scientific and further social revolution or a bifurcation of science itself, in which a new branch of a holistic and nonlocal “post-science” or “meta-science” forced to emancipate itself from classical science by battles analogical to those of the later against religion.

The list of “clouds” enumerated above is only sketched and thus quite not exhaustive, many smaller “clouds” are omitted, since the objective is to be demonstrated that a relevant scientific “thunderstorm” should occur, but nonetheless it has not happened for already a few decades since the afore-enumerated troubles have been confirmed well enough. This is an indirect argument in favor of the thesis of the present paper, that the “brave new world of eternal normal science” is already a real fact thus excluding in principle the solutions of those problems because their eventual solutions need scientific revolutions prohibited any more since now and forever in our reality, turning out to be dystopic and featured by metaphorical “Houses for the Feeble Minded”: however, maybe and rather not in the final analysis. The description of any eventual dystopia serves to be avoided ...

VI ONTOMATHEMATICS: THE RESTORED UNITY OF PHYSICS, MATHEMATICS, AND PHILOSOPHY FOR PIONEERING A WAY OUT?

The present section will try barely to sketch outlines or rather some features of that eventual future holistic science of nonlocality, or particularly to physics, a new “information physics” (where “information” should mean both classical information, e.g., after Shannon or Kolmogorov, and quantum information involved by quantum mechanics as well as theories of entropy). A newly coined concept of ontomathematics (Penchev 2023 November 2) will be used for the meant above approach. Obviously, ontomathematics is a neologism following the pattern of ontology often loosely understood as a synonym of first philosophy, e.g., as Heidegger in his “fundamental ontology” in “*Sein und Zeit*”, however too remote from the rigorously ontological design of Husserl’s “*Logische Untersuchungen*”. Ontomathematics¹⁷ claims the same status of first philosophy, but rather in a new-Pythagorean manner visualizable by the slogan “Physics is mathematics” interpreted quite literally, for example as “Physics is a particular case and thus branch of mathematics”.

The pattern of ontology in a narrow, but more exact sense as to ontomathematics can be back traced to Aristotle’s revolution to Plato’s doctrine in turn more or less directly relatable to the original Pythagoreanism. Speaking loosely enough, Aristotle’s revolution might be likened to a kind of Husserl’s “epoché” only applied to Plato’s distinction of “ideas” versus “things”: logical

¹⁷ Bruno Latour’s conception (2009; 2005; 2001; 2000; 1996; 1996a; 1996b’ 1991; 1991a; 1990; 1988; 1987; etc.), also widely discussed (Delchambre, Marquis 2013; Schmidgen 2013; Gross 2010; November, Camacho-Hübner, Latour 2010; Kennedy 2010; Riis 2008; Harris 2006; Austrin 2005; Martin 2005; Baron 2003; Krarup, Blok 2001; Elam 1999; Cohen 1997; Sschaffer 1991; etc.) is to be expressively mentioned as similar, a proper sociological, and thus empirically observable counterpart of ontomathematics, a fundamental and philosophical idea referable rather or immediately to physics, astronomy, cosmogony, cosmology than to social or humanitarian science. However, that “social constructivism”, even in a sense analogical to the constructivism in the foundation of mathematics, once any entity able to be a subject of sociology is granted to be an increasing or decreasing “graph” linking humans and “non-humans”, can serve as a bridge between those two “shores” of exact ones versus less or more humanitarian studies. Indeed, any abstract graph, even more so being dually doubled by a twin, can be considered corresponding in an infinite and converging series of graphs to a wave function and by it, to a probability (density or not) distribution as those featuring any quantities measurable in quantum mechanics. Finally, Thomas Kuhn’s “scientific revolution” or “normal science”, thematized including here, are inherently describable by transforming or not transforming Bruno’s networks.

propositions obeying that logic called nowadays Aristotelian are able to neglect the distinction at issue. In other words, the terms in any logical propositions can be interpreted as Plato's "things" or "ideas", or whatever combination of both without that interpretation to influence on whether the proposition is true or false. So, ontology in that sense originating still since Aristotle means rather Husserl's phenomena to which all propositions in Aristotelian logic refer.

Nonetheless, Aristotle and his doctrine was not so radical to continue further back, to the Pythagorean sacral "Numbers" doubled into Plato's "things" and "ideas", the unity of which was again restored by him, but in the propositions obeying his logic rather than in those more ancient "Numbers". So, mathematics and logic could be interpreted quite differently as to their relation to philosophy more than two millennia later in the classical philosophy of modern Europe essentially conditioned by Plato's fundamental distinction even in the organization of scientific cognition where mathematics was on the "ideal" or "mental" side divided by the Cartesian abyss from physics being situated on the opposite "shore" studying the "material" or "bodily" world by empirical experience and cleverly invented experiments rather than deductively and axiomatically as Euclid managed to build geometry, an empirical science before him and remotely similar to today's physics.

Regardless of that modern opposition of mathematics and physics, Aristotelian logic continued very successfully and fruitfully to unify them since its proposition could neglect whether they refer to mathematical "models" or to their counterparts of physical theories tending to mean the material world "by itself" and particularly rejecting any mathematical model only by virtue of experiments refuting it. So, logic could be on the side of the proper philosophical unity of the world being opposed to only the "ideal" or "mental" mathematics still until the 19th century when Hegel's dialectical logic, on the one hand, and John Bool's mathematical logic, on the other hand, wavered their opposition,

In fact, Newton a few centuries ago had already published his "The Mathematical Principles of Natural Philosophy", which can be interpreted in the present context to be the first modern ontomathematical theory heralding universal gravitation to be omnipresent and ruling both celestial and terrestrial mechanics by the same mathematical laws utilizing another discovery of him (as well as by Leibniz, regardless of whom the priority¹⁸ belongs to) and centuries later called "infinitesimal" or "differential and integral" calculus. However, that initial ontomathematical design of Newton himself, tending to unify nature studied by physics with mathematics, where the latter is far not only a language to be described the former, but rather as its deep, hidden philosophical essence, has been gradually forgotten therefore enrolling his originally universal gravitation among the tuple of all physical theories.

Einstein restored partly that initial ontomathematical plan¹⁹ of Newton for "Natural Philosophy" underlain by the "Mathematical Principles" by his geometrical theory of gravitation as the Einstein field equation interprets it to be a certain class of operators onto pseudo-Riemannian

¹⁸ For example, in: *Bardi 2006*.

¹⁹ Maybe, this was the secret of his success and superiority over his scientific rivals, discussed above to be more "burned" than the "feeble minded" Einstein, a real "George Platen".

space, however in an “Aesopian language” due to the cruel Cartesian censorship prohibited even the thought of ontomathematics as well as any hints or allusions to it.

Anyway, ontomathematics could not be but resurrect, and that occurred in quantum mechanics where it appeared in particular by virtue of the theorems of the absence of hidden variables in it generally proved by Simon Kochen and Ernst Specker (1967) after the initial and restricted proof of John von Neuman (1932). They imply ontomathematics at least for the area studied by quantum mechanics and here is why. Any hidden variables, even the option of which is fundamentally excluded by virtue of them, could and thus should be situated within the Cartesian abyss dividing the one shore of the ostensibly only mathematical model of the separable complex Hilbert space alleged to be not more than a tool of quantum mechanics, along with many others, from the other shore of the proper subject quantum mechanics by itself supposedly referring to physical reality and therefor, to reality at all.

However, the merging of mathematics and physics in quantum mechanics, though being heralded by those theorems, was officially recognized about a century later, only in 2022, by that year’s Nobel Prize in physics for entanglement and quantum information since the theorems at issue imply them. Meanwhile quantum mechanics culminated in the Standard model obeying energy conservation, Pauli’s particle paradigm in it, respectively unitarity, and particularly rejecting the smooth transition between the areas being subjects correspondingly of both physics and mathematics since the scandalous “creation *ex nihilo*” follows from its eventual recognition, which the theorems of the absence of hidden variable might imply.

The unity of physics and mathematics underlies the concept of “ontomathematics” coined recently in another paper (Penchev 2023 November 2) being a neologism according to the pattern of “ontology” where “logic” is substituted by “mathematics” by that radicalization of Aristotle’s revolutionary innovation, now to be able to include forms of Pythagoreanism rather than only Plato’s doctrine. Holism implied by quantum mechanics, and being commonly accepted as to it, implies the unity of physics and mathematics as their “holism” in question as well as it is able to overcome all troubles and paradoxes in the foundations of mathematics (such as the Gödel dichotomy about the relation of arithmetic and set theory or Russell’s antinomy, etc.), however at a certain cost seeming too “expensive” for many mathematicians, scientists and philosophers: the physical world (that is the subject of physics) is to be include within mathematics for it to be complete therefore the basic Cartesian opposition of “body” (for physics) versus “mind” (for “mathematics”) to be “scandalously” cancelled.

Finally, that “ontomathematics” just as its antecedent of “ontology” is a fundamental philosophical approach meaning that mathematics (just logic before that) is able to suggest a universal viewpoint where the concept of Aristotelian logical propositions thus obeying all laws of classical logic are substituted or rather generalized by Pythagorean “numbers”, however now de-sacralized and meant as the hierarchy of structures postulated by contemporary mathematics thoroughly following the same deductive and axiomatic method so that those of Boolean logic, Peano arithmetic, and ZFC set theory (or any equivalent of it, respectively of them) are its basis,

so that the unity and interrelations of the just mentioned three fundamental structures is necessary to be emphasized.

VII INSTEAD OF CONCLUSION: FLUID SCIENCE ON THE INTERNET IN A “PERMANENT REVOLUTION”?

Isaac Asimov’s “Profession” ends happily just as the genre rule of “happy end” needs. People know that happy ends in the real life are very rare, to which the genres of “drama” and “tragedy” are more relevant. The previous description outlining a dystopia is not rather optimistic as well, therefore tending by itself to a dramatic or tragic final rather than to a “happy end”. Nonetheless, following people’s wish or dream for any story to end happily (since the dramas and tragedies in the real life are too much and thus enough), the present essay might attempt to end also happily simultaneously emphasizing that this should be related rather to its discourse than to its reference.

Anyway, that “happy end” is not quite impossible and depends on the human efforts to take place. What might deviate reality from the described dystopia is the Internet since it embodies sufficiently many features of the cherished unity of physics and mathematics or the “heated liquid state of science and society” thus excluding any “crystals” of hierarchy within both oceans of them.

Indeed, the Internet is a quite fluid structure without any “boss” or strict hierarchy. There exist many enough repositories for scientific texts checking only whether the text is really scientific, but not whether it obeys the dominating paradigm as the “respectable journals” do by the mandatory institutions of both peer review and impact factor. Moreover, some of them confess “open science” and “crowdfunding” thus not being dependent on the standard and official ways of financing such as scientific projects needing the submitted research to be “orthodox”, i.e., it to be thoroughly within the official paradigm without any dissident heretic ideas, otherwise simply not supporting it.

The suggested text can be downloaded by anyone for free thus supplying for its dissemination to be so wide as the access by the search engines of the most popular browsers can offer. So, if there are scientists or people interested in the text, it will be downloaded more and more according to its increasing rating in the search engines at issue just as any text, audio, video, etc. uploaded on the Internet, of course, without being able to reach even a percent of their popularity due to the obvious fact that the maximally possible audience of an extremely exciting, but anyway really scientific text cannot reach those billions of downloads or views possible for some musical video.

Nonetheless, the uploaded scientific text will be disseminated into its relevant audience therefore avoiding the official censorship imposed by the “respectable journals” and their dogmatic paradigm of Kuhn’s “normal science” dystopically extrapolated in the present essay to be forever after the eventual “end of scientific history” in Fukuyama’s manner. In fact, the dissemination of new scientific ideas by peer-reviewed journals with higher impact factors appeared and corresponded to the age before the Internet when the publications needed paper, printing, redacting or editing with essential expenses for them unlike the same now, on the Internet. Furthermore, the

maximally possible audience of any scientific research then was much narrower than now, being able to comprise almost instantly all relevant scientists all over the world, each of them “peer-reviewing” the downloaded or read online text and propagating or not further in his or her personal network within or by the Internet. Consequently, one might conclude more or less metaphorically, that the Internet nowadays is a collective and potentially vast and unlimited “peer reviewer” thus making absolutely redundant the classical ostensibly “blind” and randomly chosen peer reviews authorized to decide for the submitted paper to be disseminated or not.

The following question is natural: whether the Internet’s escape avoids those afore-described positive feedbacks leading to the absolute domination of the “burn-minded” over the “feeble-minded” among the authors to be published in the “respectable journals” and by means of them, in science at all. Yes, those positive feedbacks are not available on the Internet as far as the necessary condition for them to act consists the restricted number of publications and in the resultatively increasing competition among the submitting authors to be more and more orthodox to the official paradigm. Obviously, that restricted number of publications is not relevant as to the Internet. The “burn-minded” are not privileged over the “feeble-minded” on the Internet: one is better to use more or less metaphorically Charles Percy Snow’s “two cultures”²⁰ however now as to the Internet so that the one “culture” to be “burn-minded”, but the other one, accordingly “feeble-minded” mutually not reading or downloading each other as if again divided by a “Cartesian abyss” on those two opposite shores. The competition of those figurative “two cultures” is really free on the Internet unlike that on the journals “burned” in definition as this elucidated in detail above.

However, that “pink” optimistic picture on the Internet is relevant only to theoretic research not needing costly experiments and the corresponding rivalry for their funding. Anyway, once a “happy end” is presupposed, a few reasons for optimism might be revealed even for experimental science on the Internet and those would be: crowdfunding; much less costly experiments due to the promotion of new viewpoints forbidden by the official paradigm; the further development of AI and the resultative release of newer and newer resources due to the exponential increasing labor productivity of AI; the more and more increasing influence of the Internet on society transforming gradually it into a class of social networks rather within itself.

Crowdfunding now is relatively insignificant to the classical investment of the business or the state for scientific research thus obeying the official paradigm reproducing that dystopic picture of slow smooth progress without “revolutions”. Its volume has even essentially decreased during and after the coronavirus pause. Nonetheless, one can suggest that it should be increasing due to the general tendency of increasing donations for various “noble noncommercial causes” able to be attractive. Unfortunately, a scientific project is not usually understandable enough for that Internet “crowd” necessary for its crowdfunding.

²⁰ Snows’s conception (1959; 1964; 1990) is very well-known and discussed from different viewpoints (e.g., Massey 2019; Cole 2016; Jacobs 2011; Fins, Melo-Martín 2010; Latham 2010; Craige 1999; Ruprecht 1999; Stinner 1991; Stringer 1983; Bezel 1975; Lufkin 1964).

The change of paradigm is often accompanied by much cheaper experiments because of the introduction of a new viewpoint to the same subject. This can be easily illustrated by the larger and larger hadron colliders necessary for greater and greater energies, thus obeying the official “normal paradigm” of energy conservation and unitarity in quantum physics. However, if one grants the eventual new and more general viewpoint of non-Hermitian operators featuring entanglement, the much cheaper even in exponents experiments for quantum correlations might replace those monstrous colliders only by virtue of that any energetic and super-costly experiment by them can be equivalently translated into the language of quantum correlations needing much cheaper experiments.

Furthermore, the new conception of ontomathematics suggests that the purely theoretic science would be vastly extended thus being able to decide experimental problems in a sense of much more certain predictions. The example of the “feather tip”²¹ discovery of Neptune²² would explain the sense of that exact theoretic forecast. Neptune might be discovered also purely experimentally by quite random celestial observations²³. However, after its “paper” discovery, the necessary astronomical experiments for the same objective became much cheaper due to the rigorous determination where it should be. Analogically, ontomathematics allows for an almost incredible restriction of the corresponding experimental investigation resulting into much cheaper experiments for the same discovery.

One might suggest the following metaphor for visualizing the relation of theoretic and experimental research: the former can be likened to any technical transport such as airplanes, trains, buses, etc. only approximately taking the passenger to its ultimate destination, after which she or he continues walking to it, i.e., by “experimental research” in the metaphor. The exacter is the transportation, the shorter is the corresponding walking. Then, ontomathematics suggests a fundamentally much more precise “transportation” and thus much cheaper experiments (much shorter walking), which can be quite easily demonstrated even by its principle presupposing a smooth transition between theoretic and experimental research unlike the Cartesian abyss dividing them on its two opposite shores thus needing enormous efforts to be overcome and resulting particularly and visually into the Large Hadron Collider, the monstrous size and cost of which originates from the incorrect paradigm rather than from the obstacles of nature as if, but only ostensibly, “sabotaging” the further human cognition. Not at all, rather Heidegger’s “We do not think yet” is more relevant: “therefor we build larger and larger colliders” if one dare continue his thought.

AI is also able to “saturate the pink color” relevant to any “happy end”. Nobody in the middle of the last century could figure even quite remotely today’s progress immediately caused by the Internet and its all-encompassing flourishing. Entering AI, though only starting or yet forthcoming (since GPT is maybe not a real AI, but very similar to it only granted to be it because

²¹ François Arago's often cited apt phrase that Le Verrier had discovered a planet "with the point of his pen" is meant though the original source containing the phrase is not easy to be traced back to Arago himself.

²² For example, *Grosser 1962*; and about the aftermath of its discovery: *Kent 2011*.

²³ Even more so that it had been really (most probably) observed by Galileo Galilei in 1613, Jérôme Lalande in 1795, and John Herschel in 1830 (Kowal, Drake 1980), but not being recognized by either of them as a planet.

of satisfying more or less Turing's test), might influence much stronger what science is, including its part on the Internet. In fact, even a powerful enough GPT might progress the normal science relied on the official paradigm, the essence and core of which those immense language models and neural networks would reveal by the analysis of literally all publications in the high impact factor journals in any scientific area therefore being able to be more orthodox than the most orthodox human scientist, i.e., to be more "burned" than the most burned one. Consequently, AI make all "normal scientists" redundant sooner or later regardless of how much they are "burned".

Then, the only rest option for humans would be to be "feeble minded" since GPT seems to be yet incapable for that. In other words, AI would demonstrate to humankind that our fate is to be "feeble minded", however that, at least in the present "pink" context, would not be apocalyptically dystopic, an ultimate crash of humankind replaced by the "much smarter AI" (as Elon Musk prophesied and prophesies), but would allow for all to be creative as long and as far they would wish that. Particularly, the AIs' much higher labor productivity not only in normal science might provide the missing funding for the human, "feeble-minded" science on the Internet.

Last but not least, the trend for society to become more and more "fluid", less and less hierarchical is permanent and obvious at least in Modernity. So, the institution of normal science being so hierarchical as the Holy Church seems to become more and more irrelevant and anachronical to humankind's advance. An increasingly "liquid" society tends to resolve the solid crystal of science as an institution since it is unavoidably "sunk" within it at least for funding. Indeed, one may observe those blurring of science even today, for example, by Grigori Perelman's solution of Poincaré's conjecture by not peer-reviewed publications on the Internet, anyway recognized by CMI, heralded by it to be one of the seven most essential problems of the Millennium (that is, the third millennium AD.)

The final paragraph will try to merge Isaac Asimov's own "happy end" originating from the pre-AI age (1957) with the current one, when the total entering of AI seems to be quite probable. Humankind, being already thoroughly on the Internet as if in a shared figurative "House of the Feeble Minded, some representatives of which decide to be creators as George Platen, though the most would not do it, just living their lives free from any care. Those few in number "George Platens" would invent and discover the innovations embodied by the inherently burned AI into practice.

Expectedly, the happy end of a dystopia is a utopia ...

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