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An epistemological framework to appreciate the limits of predatory publishing

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Abstract

The concept of "predatory" publishing, despite many studies of the phenomenon, remains unclear. This paper visualizes this theme through an epistemological perspective, and claims that conceptual limitations emerge from an impressionism of idealization, the entrapment of cause and effect induced by a journalology-based perspective, and entrenched fantasized extraction, imagination and divination of what constitutes the truth, in essence, a path never followed by an *epistēmōn*. Reality, proof, verification, recorded observations and their interpretations have been pivoted to fit the theoretical flavor of the day, an entity one day being predatory, the next not. Ephemeral judgements of predatory may have been built on boundless disregard for common sense, and yet, these have led to some scientists' apotheosis, almost oblivious of the intangibility of "valid" or the infinitesimal continuum of "predatory". Maybe, fault-ridden authoritarian argumentative disabilities are at fault.

Keywords: concrete versus idealized; *epistēmōn*; idealization; limits; scientific apotheosis; validity.[§]

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1. *Epistēmē*, science and predatory publishing

Thought leaders and policy-makers of "predatory" publishing have openly declared that – despite intense collective thought – the precise nature of a "predatory" journal or publisher remains unclear and elusive (Grudniewicz et al., 2019). Despite this, this classification in imprecise and erroneous blacklists (Tsigaris and Teixeira da Silva, 2021) have the potential to cause personal or institutional reputational damage because such classification systems may be unreliable (Dony et al., 2020). Yet, they continue to be used both in theory and in practice. This paper is not a review of "predatory" publishing, nor does it aim to comprehensively or quantitatively decipher what this phenomenon is. Rather, this paper strives to offer a philosophical explanation of the grey zone that abounds in "predatory" publishing by offering an epistemological understanding of this phenomenon. This is achieved by exploring its origin, offering possible routes of the discovery of its progression, and attempting to understand its apparent limits and weaknesses. Epistemology, in this paper, is thus viewed from the perspective of limits and validity.[**]

A proposed difference between *epistēmē* and science (Papageorgiou and Lekkas, 2021), and therefore between *epistēmons* and scientists, lies in the directionality of observation and the ability to correlate observed facts to models. Whereas the scientific method goes from an observation to models (experience, empiricism), the epistemonic method goes from models to real world situations (surveillance, overview). The very real problem, only too often conveniently ignored in the literature and also in the minds of people, is that logic forbids the course from effect to cause and, even more so, from observations to causal models. The dichotomy between what one *is* (*essence*) and what one *does* (*activity*) goes back very far and is reflected both in/by grammatical typology, between *noun* and *adjectives* or other *qualifiers*, as well as in syntax, between *subject* / *agent* on the one hand, and on the other hand, the status and information in the *complement*, with the *action* stated or concealed in the *verb* in association with possible *attributes*. When objects are judged by the *outcome*, they tend to get leveled, obscuring the essential differences of whence and how they got there. And if, as in "predatory" publishing, the attributes are multiple or if the situation is "*multi-factorial*", then it is imperative to derive a judging and grading system that is complete with compromising algorithms, merges and leveling procedures, whereby the prevalent target levels off what it takes to get there.

What this means is typical of multi-factor attributes, as the sentence states. Suppose there is a clause "this publishing procedure is predatory". Thus, syntactically, this is a simple clause where "this publishing procedure" is the subject (Gr. υποκείμενον), "is" is the connective verb (Gr. ρήμα συνδετικόν), and "predatory" is the attribute (Gr. κατηγορούμενον). All these pertain to fundamental Indo-European attributive syntax. What the sentence also says is that if the attribute is compound

[**] "the study or a theory of the nature and grounds of knowledge especially with reference to its limits and validity" https://www.merriam-webster.com/dictionary/epistemology (last accessed: August 24, 2022)

and/or multi-factor and/or intermediate, regarding the adjectival attribute "predatory", here, even if it regards an interim or grey zone, contingent on factors A, B, C, D, and E (such as fake, pretentious, coercive, compulsive, or with an extraneous ulterior motive), the analytically meaning is that "predatory" is a composition of these five simple unethical and imposed components. In such a case, a grading system of relative weights should optimally be attached to these factors (e.g., 5%, 20%, 30%, 10%, 35%) and an exact compound weighted average ought to be presented in the verdict, rather than nebulously stating "these are the factors", as if they all have the same importance or weighting, turning grey into "greyer". Typically, as in multi-factor situations, whereas some components are extra-critical, others are moderate or even peripheral. Even so, grading may level out and confound factors at terminal points regarding behaviors and performances, quite possibly obfuscating genealogies and systemic references, depots, motives, plans, procedures, and thus outcomes.

Since our discussion will evolve around the limits between two things or components that are combined in some way, specifically "predatory" and legitimate publishing, we need to refer to a major epistemological issue, namely what happens when a pair from two opposing components (say, A and B) is created? Then and there, based on internal (to the pair) circumstances, one of the two components becomes the *substrate* and the second becomes the *superstrate*. The substrate is the *defining* while the superstrate is the *defined*. External circumstances will define what is accepted or deemed appropriate: a pair having A as substrate and B as superstrate or the opposite pair. Next, we provide some examples, via analogy.

2. A theatrical analogous interpretation

Back in 1996, a decision was made to make a movie version of the ultra-successful musical *Evita*. Naturally, there was a major decision required as to which illustrious lady in the artistic world and in the industry of spectacle would play the leading part. The choice was pretty much narrowed down to a very small group of contenders, two of whom are of consequence in our line of argumentation here: Meryl Streep and Madonna. These two ladies got to be preeminently considered for the same part in the same movie. And yet, the difference is obvious at a first glance: no matter what, Meryl Streep would have been an exceptional *singing actress* and Madonna would come out as a top-notch *acting singer*. In essence, their whole provenance, career, training, reference population, social entourage, ambitions, focuses, life(style) targets, performing stages, managers, publicity channels, networks of collaborators, structural identities, or most crucial components in short, would be strikingly different. So, finally, what was the deciding factor? Was it who did what? Was it who would do the job better? Which job in an analytical breakdown, given that the crucial issue here is one of analysis and synthesis, and not one of abstraction and structure? The acting or the singing component part? Are these two jobs the same or are they two different things? Was a safer ground the determinant, or was it the greater surprise? Was it a

matter of essence or the importance of a publicity stunt? Was it a safe choice after weighing and grading the pros on either side and, after securing the perspective of remarkable performances in either case, ultimately amounting to an estimate of who would sell more tickets at theatres in this particular occasion? Well, knowing the business world of spectacles, this was probably it. Judging safely by the aftermath, Madonna made history and marked a pinnacle in her career and life's work. Would it have been the same had Meryl Streep been selected? Who can tell? In any case, naturally, after making the film, Madonna went back to her world of singing and organizing and rehearsing concerts and the stage shows accompanying them. Had it been Meryl Streep, she would likely have gone back to her grand way of more theatrical and cinematic acting and making movies. Who is to say, in all honesty and righteousness, that such a critical yet sophisticated difference is not ultimately somewhat conspicuous and does not shine through in this or that detail, is not somehow reflected in their performances, is not sensed in the eyes and ears of well-trained "talented" public and does not get pointed out and commented in reviews and analyses of the critics?

Similarly, in the publishing world also, apart from the two extremes (a 100% legitimate journal and a 100% "predatory" journal), all other cases fall somewhere in between, being legitimate (in some aspects) and "predatory" (in some other aspects). Automatically, each time, one of the two properties (illegitimacy, legitimacy) becomes the substrate and the other one the superstrate. We reflect a bit more on that.

Originally, as the Western-world dialectic foundation sought to confirm the organized outlook on the mind and thought *vis-à-vis* sensory inputs from the surrounding world in Greece, and in ancient "pre-Socratic" philosophers, Pythagoreans and Plato developed an outlook of an abstract horizon of archetypes and ideas. These were clearly reflected in the ideal and immaterial realms of abstract mathematics, definitions, logical sequences, demonstrations or proofs, with the familiar desired requirements of removal from reality. Their intellectual or spiritual fabric was focused on the familiar virtues of logical consistency, completeness, elegance and theoretical fertility, seeking the truth in such elevated and removed manners, far from tedious mundane realities that were but indirect reflections or ambitious copies, replicas, representations, sketches or mere shadows of that world beyond. Their entire epistemic and epistemonic principles were based on this outlook and its few variants – the former adjective focuses on the objective discipline and its composure, practices, methods and features, whereas the latter focuses on the agents, i.e. the people practicing it, and their approaches and tactics and considerations and spirit.

Thus, according to the Pythagoreans, who tried to decrypt the secrets of the universe based on music theory, manifestly first, the intake or impression on a real-world object, situation or process was to be compared to an external elevated pre-extant abstract philosophical and/or mathematical *archetypōsis* or *idealization*, in order to see how faithfully observable reality reflects the external and irrelevant model "up and out there", how much it resembles it, and where it deviates from it. In no way was

the model systemically "extracted" from reality nor was it "expected" to conform to it, any more than the manifestly absurd inverse, where reality would be extracted from the model or expected to conform to the model because those are ideas that border on nonsense. The model (archetype, "prototype") existed out there immaterially in the world of ideas, and real-world situations were but its downplayed likenesses. As for the observing scientists, all that they could hope for was to visualize a model by inspiration motivated or incited by observation, perhaps, and managing to conceive the "beyond", learning the abstract horizon, then making good sensible matches of objects, processes, relationships, and facets. Thus an impure observed concrete *phaenomenon* (literally *appearance*) would be correlated to or declared to be actually reminiscent of or reflecting the pure conceptual abstract *einai* and (*ontōs*) *on*, respectively the infinitive and the adverbially reinforced participle of the same verb, more or less corresponding to Latin *esse* and to French *être*, to English *to be* and to German *sein*. This reflexive matching was in no way viewed as an actual or potential causality, in a direct or opposite sense since there was no cause and effect here, unless an extra tentative (and always vulnerable) match could be made between an observed material causality and a continuity or interlacing, so-to-speak, between logical propositions that were conjectured or "positively checked" or (colloquially) bought as positively carrying the mental match attributed.

So, it was not actual audible artistic music that governed the astronomical behaviors of the planets and it was not the physical observed celestial planetary reality governing the melodic modes and the beauty and rules of resounding simultaneities. Rather, it was that both of these realms, perhaps along with a whole mess of other things, were carrying the abstract relations of pure numbers and arithmetical operations and proportions, further extended by the capital institutional two-dimensionality of abstract plain geometry. Both of these things, then, and conceivably not only these two, carried a manifested likeness to an abstract *harmoniā*, an unworldly realm (idea, archetype) of good effective and aesthetic fitting together. And thus, an *epistēmōn*, i.e. someone literally etymologically "standing on top of something" as though mastering it, would understand the rapports and learn from them and write them down and develop them and teach them (Papageorgiou and Lekkas, 2020a).

As for causality, it was a repeated matched observation of pairs of things happening in matched succession, with an ideally perfect score of matching success, where the cause was expected to somehow *generate* the effect. Yet, the effect was not expected to reproduce a particular cause, unless it was accepted and rigorously demonstrated to the best of the knowledge available that a certain effect could only be pinpointed as having been generated by this single particular cause and no other. At that time, people had not yet fallen into the delusional trap of flirting with a deluded thought. As [A→B] could mean "A is the cause of B", and as [A←B] is the symmetric inverse of the prior (given that a lot of "logic" textbooks will tell you, without proof, as a self-explanatory fact that {[A←B] ↔ [B→A]}), it would follow that the cause-effect sequence is reversible within certain premises left at that. The wordings "if A

then B" and "only if A then B" and the jumble "if and only if" have contributed tremendously to this confusing farcical disgrace passing among many as "logic".

In the process, then, beginning with the school of Aristotle, people started slowly but steadily to lose this perspective. Scientists started to become more and more assuming and behaving as though the theoretical cause was actually causing the result of the observable reality and the material experiment as a logical outcome and an essential effect of what was suggested and checked as an essential confirmation of a matching or a likeness. This led to a significant corruption of the viewpoint that the two observed and correlated (or merely "matchable") realities did *not* match common effects that should have been found or hypothesized of another *different* or even *transcendent* "establishable" true cause, whatever that (a "cause") may be construed as meaning.

The stemming realistic trouble is two-fold. It is true of course, based on a first assessment, that some of the observable paired sequences are indeed mechanical or physical scientific symbioses of cause and effect, but not all, and it remains to express and apply meticulous clever tests of causality to confirm the fact effectively and to rule out fraud, misunderstandings and systematic coincidences. There is also an extra requirement to effectively establish a scientific order of which is the cause and which is the effect in an irreversible procedure. The lurking tragedy here is imminent. In another sense, anything in an attempted coupled correlation is, alas, indeed, emphatically a cause or an effect or both interchangeably, jointly or disjointly, contingent on the approach and on the modelization scheme. But there is a catch here: cause and/or effect *of what*? And the Oscar goes to: cause and/or effect of *information*, that's what.

3. Setting epistemological boundaries

So, in the pathetic gradual degradation process of a) abstract theorists and mathematicians getting more and more removed from things mundane and setting up "models" in "paperland", immune to interpretation and application and b) scientists more and more exalting themselves such that their pivotal observations carry and convey greater and greater actual loads of unconditional, uncontrolled and unhindered cryptic causality devoid of any test except someone's prestigious pronouncement and "supporting" statistical correlation, which only they were visionary and inspired enough to pronounce, enter the scientific method, with its empiricist principle of observing and taking notes and building contraptions experimenting with the real world, i.e. manifestly with effects, and extracting or imagining or divining causes.

Elementary logic, even in its pathetic shambles, forbids that. And duly so, except, as was already mentioned in this paper, we are talking about cause of *information*. Yet, for a scientific and un-epistemic observatory-experimental-verdict issuing method to exist, thrive and advance, whether as a worthy notable prestigious discipline or as a fraudulent travesty, or both, inextricably, inseparably and indistinguishably contingent

only on the ballroom, channel, tribune or academic pedestal, one step is necessary, namely to effectively and inextricably obscure and confound the difference among a concept, an entity, its idea *and* the information about it. Alas, since the Middle Ages and into the Renaissance, there were people doing both, that is where the boundary line became obscured and the game was lost. Was Galileo a physicist, a mathematician, or an astronomer? How about Descartes? Or are they mathematicizing technicians? Which way are their devotions tilted? And, what about Newton? Is he even methodologically consistent in his concept of a force? Behold, an ominous question for all of us to ponder on!

Whichever way, truth is now free to be unhinderedly jumbled up with reality and proof and verification and demonstration and recorded observation and its interpretations will be inextricable, and things will happen on paper or in the testing chamber and it will not matter where, in experiments that are actual or on paper or mental. No longer will space be an abstract geometric concept. It will be a tangible physical reality felt and yet not felt, describable by field equations that are sensed out there as seen on endless pages upon pages of cryptic equations which cannot be understood by the poor commoner who is supposed to feel them. However, unfortunately for some, they can be understood in principle, as proposed, by an abstract mathematician, who will not understand why they are not abstract and how they are "felt" and, if they are perchance abstract and "unfeelable", what is the business of the sciences to be dealing with them and to be writing sagas about them in the first place, all the time using mathematical equations predominantly, as a matter of supposed prestige and guaranteed rigor.

So now some can triumphantly start exclaiming whatever they like about definite indefinites and indefinite definites, undefinable definabilities and definable undefinabilities, absolute relativities and relative absolutisms, irreversible reversibilities and reversible irreversibilities, certain uncertainties and uncertain certainties, and about flat curvatures and curved flatnesses, and all that and more and more, regarding who said what and who listened and who said OK and approved and applauded, and who they all were to each other, and where they stood in relation to the rest of us. In essence, this is the deification and apotheosis of the poetic cause.

So what now? After centuries and profuse plethoras of conversations construing *epistēmē* as an empirically driven vocation, money talks, and philosophy walks, truly, as we have witnessed during the COVID-19 syndemic, humanities and social sciences were thrown out of the window, even though ethics and *epistēmē* should go hand in hand. Classical epistemology patently underlies the core of *epistēmē*, historically, at the outset, as revealed by the very term used, even if science nowadays has deviated from its origins – the deviation either passing unnoticed or being automatically construed as "progress" (Papageorgiou and Lekkas, 2018).

A classic theme in epistemology is the problem of the *continuum* as is exemplified by many famous thought experiments and *paradoxa*, such as those of the never-reaching arrow, the bald head and the sorites. In the problem of the bald head, if

someone is in a process of losing their hair, at what exact point are they considered bald? In the *sorites* paradox, if someone is accumulating grains of sand, at what exact point do they have a heap of sand? These paradoxes demonstrate this ever-lasting fight between infinite and infinitesimal. In brief, there is no way for the phenomenon itself to tell us when. Rather, we are the ones who should define the threshold. Here lurks a deadly gap in science: no theory exists that treats thresholds in a systemic way, i.e. no approximation theory has ever been developed. Likewise, when this issue is applied to the *continuum* from predatory to legitimate scientific publishing, there is absolutely no specific systemic criterion capable of informing us when a journal has "become" predatory or anything in between. Academics are the ones charged with doing this "dirty" job of identifying the various cases and of evaluating and appraising predatory and "predacious" publishing ourselves. Even if no definite answers are provided here, at least we will attempt to provide the epistemological context, or framework, we shall ask the right questions, and maybe give some answers.

A discussion usually ends when boundaries have emerged. Boundaries are practically indistinguishable, so letting it go and leaving it at that is the usual end of discussion for all parties involved. Behold, then, an extra manifestation of the top-notch and so-called "expert" dialectical invalidities governing the authoritarian argumentative disability of the Western European Cartesian aphasia, thinking and even boasting about the epistemological hogwash that, supposedly, is both correct and plausible to pass judgments – even extreme ones – relying on the effect while being almost in complete disregard of all due holistic perspectives, *cf*. the approach by Jeffrey Beall, e.g., Beall (2016). However, in all actuality, the very *fact* that there are identifiable continuous scales, interfaces, transitive overlaps and hybrids between two extreme definitions in no way eliminates or abolishes the fact that these extremes do exist and that they may have *opposite senses*. No matter how indistinguishable the boundaries and the dividing lines in the yellow-greens are, the autonomous independent existence of yellow *and* green is in no way semantically cancelled, weakened or disputed. Quite the contrary, it is confirmed and strengthened.

If that is a fair account of the situation, and in any case where it seems like the proper thing to do and to whatever extent deemed necessary, theory certainly knows how to even insert one or more graded intermediate zones, with their boundaries always placed *by our convention*, as is the case for example with detailed "rich" colour palettes spanning many multiple shades and naming them (one need merely to open Photoshop and behold the colour palettes provided there). Yet, if it is found that such multiplicities conceptually complicate or obscure the clearer picture and cannot be substantiated by autonomous conceptual entities, then this fact *intensifies* the sense of an urgent need for a clearer demarcation of fundamental dichotomies, despite all the possible "fouls" regarding an excessive simplicity, coarseness, *naivety* even, of "black and white" (Teixeira da Silva and Tsigaris, 2020). There, the qualitative dipole departs from the realm of inadequacy and reaches the boundaries of a fundamental conceptual

contradictory binary dichotomy, and questioned functionality of "predatory" publishing blacklists and whitelists (Teixeira da Silva and Tsigaris, 2018).

All possible complications and combinations in the course of a disease mean nothing much regarding the sheer existence and applicability or relevance of the life-death dipole, analogous to between non-predatory and predatory journals, respectively. Indeed, a patient (publisher/author's reputation) may be dead or alive, but also clinically dead, brain dead, alive with vital functions, alive without vital functions, dead with vital functions, alive on mechanical support, dead on mechanical support, in a short- or long-term coma, and many other possible states with or without an "extant" expected chance to ever wake up – even if some of these paradoxical states (e.g. dead with vital functions) might just be transitional. In each case, a decision may have to be made most essentially based on the two clear-cut extremes: is it dead or alive?

That is why field sciences – sociology, anthropology and ethnology, or psychology – prefer to limit their approach to looking at examples that are "representative", "typical" and "average", where inclusions falter, where boundaries get confused and dialectics disappear. Here, mother mathematical logic habitually employs a contrary tactic: judging by a dialectical quality, it considers and inspects by way of extreme examples, thereby shedding light on the full spectrum and scanning the scale holistically. And, as is well known, logical thinking, especially that of mathematical logic, despite its holes and the distortions that it experiences coming from hordes of rigid wiseacres, and despite its own gaps, is (at least) *not* notorious for being "dense" or structurally irrational in the ways manifested by stuck-up Cartesian rationalism. Cartesian rationalism is the philosopher's logical system that fails to offer minimum logical quadrupoles, concentrating on a superposition of dipoles, under the assumption – or worse, definition – that not true means false and not false means true. Thus, leading down the slippery road that, under the rules of its inferences, a false premise may generate a true conclusion (i.e., if P is false and Q is true then $P \rightarrow Q$ is true), an effect very well known in classical philosophical logic.

4. When does a predator become predatorial?

What does all this mean in what regards our issue? It means that, from a certain point on, from a particular viewing angle and beyond, the predatorial publisher becomes a publishing predator. Both are "predators" in the general sense (Teixeira da Silva, 2013), but the first one is a publisher employing predatory practices whereas the latter is a predator, an irrelevant imposter pretending to be a publisher (Teixeira da Silva et al., 2019). Now let anybody go ahead and attempt and construct and utilize criteria for all conceivable intermediate cases between those two, such as in Beall's and Cabells blacklists (Cabells, 2019): perchance a "bad" publisher, or perhaps a "good" publisher that uses all or some of the "bad" publisher's tactics. If we judge not according to causal origins but according to observable outcomes, we may well end up associating or identifying different tanks of any functioning population. There is a

critical point of split between what one *is* and what one *does*. It seems or sometimes there are attempts for it to pass as though a fine secondary distinction, or as if a matter of point of view, but in actual fact, it is a matter of true deep-down essence, pretty much as gross as it gets.

In a definitive and proving outlook of *essence*, and of deeper abstract *truth*, essentially operating on *thought*, such as the old Greek one, what one *is* determines what one does – provided that we are capable of having some access to the foundation of *being*, enter ontology. On the contrary, in an indicative and recording outlook of *demonstrative documentation*, and of apparent undisputable directly observable concrete *reality*, essentially carried out on the basis and in terms of sensory intake and experimental testing, such as the old Latin one, it is what one *does* that determines what one is. Now, whether this determination is *causal* or *inspective*, i.e. supervisory of effect, and whether the causal depot of thought delineates a cradle of a situation *per se* or a fountainhead of information on it, is an ongoing philosophical drama taught and performed and watched over and over by all of us on the world's stage for centuries: authors and directors and players and spectators. And it is not even always clear who is who and who does what to whom as long as we assess situations based on action (the end-result) and not on essence (or the set by us "necessary cause").

Even in a context similar to that of general cultural theory, if we have a set of phenomena that are similar in their outcomes, such as when we watch sets of events on an abstract stage, we may easily get stuck with skewed analyses if we adhere too much to the features and "bare necessities" of the observable phenomenon. We may be spontaneously fusing dissimilar things and losing their natural directionality, or we may be unduly dissecting instrumental wholes, or even both, without even realizing what we are doing or what is wrong (Papageorgiou and Lekkas, 2020b). In talking analogically about the opera and the musical theatre for instance, or about architecture as large-scale abstract sculpture versus sculpture as a form-conscious compact architecture, especially in parallel and/or joint activities where the dividing lines are transcended beyond habitual limits, as in landscaping, we may not even be able to stay institutionally clear.

In such a fix, we could indeed very well end up talking in indistinct and muddy ways about two or more different pools of artistic or other populations with divergent origins, with alternative skills, references, inclusions, ambitions and cultural sub-identities, about two or more distinct senses of *belonging*, much as they all might potentially communicate or interface in the middle, from different origins, with different skills and references, not despite but precisely due to the fact that they may intersect, cross or overlap in the arena of their end result. So, then, here, who are the publishers who happen to be preying on their writers and who are the predators who happen to be making their work public under the cloak of other people, such as predatory reviewers (Al-Khatib and Teixeira da Silva, 2019)? And, since we have reached so far out into the wilderness, are there also predatory authors preying on the flesh of publishers, or literary predators writing as a bloody hunting sport for that

matter? Perhaps there are plenty. For an appreciation, look only at citation abuses or gaming metrics (Teixeira da Silva, 2021). Maybe these theoretically fictional categories, like predatory-applied credit ratings (Teixeira da Silva et al., 2021), serve one another even as they parasitize one other, creating a Matthew Effect (Merton, 1968), accumulating credit by milking the system in optimized, yet unscrupulous, ways.

While the experimental method is the core and centrepiece and crux of the scientific method, this particular process is completely useless for us as there is no experiment to reveal where the threshold in this (or in any) continuum is (Yamada and Teixeira da Silva, 2022). Our only bet is that we must stick to referring to the *bona fide* applicable sub-methods drawn from genuine *episteme*. We can likely best expect a reliable diagnosis by concentrating mainly on the two conjunct constituent methods of analysis and synthesis and of abstraction and structure (Papageorgiou and Lekkas, 2018). This includes the breaking down of the phenomenon by determining, *a priori*, which characteristic attributes are acceptable as "legitimate", when and for how long. Evidently, we silently presume here that the term "predatory" means "not legitimate", so we carry on defining the positive term. Only thus shall we be in actual possession of a theoretical system that is available and fit towards being applied back to reality. Or, to be more accurate, only in this fashion can we build a standard capable of accepting and meaningfully absorbing whatever observational data we may want to attempt to assign back to it.

We start off with the positive structural properties corresponding to *legitimate* journals which, according to working hypotheses set arbitrarily by us, by other scientists, or by other players in the publishing pipeline (Teixeira da Silva, 2022), are those of integrity, scientific rigour and professionalism. We gather that these properties can actually lead us to the development of a consistent, full and productive system regarding the description and definition of the properties of "non-predatory" journals, i.e. legitimate ones. The system will be articulated by connecting these three properties with analytic elements (again via working null hypotheses). Such elements may then be sought after in various journals. More specifically, now, and as far as the analytic components are concerned, we may have the following to say: integrity is defined as "the quality of being honest and having strong moral principles" and, as such, it may be expressed through the background of the members of the editorial board, the various (other?) activities of the publisher, and the devotion to ethical guidelines. At least in the world according to Beall. Scientific rigour, defined as "adherence to the scientific method", may be expressed by the methodologies used in accepted manuscripts, proper peer-reviewing steps and transparency protocols. Professionalism is thus "the competence or skill expected of a professional", in the very literal sense. That could include the production of error-free manuscripts, the dissemination or diffusion of the produced knowledge (usually in the form of published articles) in various databases / media and, last but not least, the availability of the material a long time after it has been published. All these *measurable* analytic elements may be

evaluated, and the resulting score could indicate how trustworthy a journal really is, no matter the arbitrariness of the working criteria.

In this paper, while nothing of concrete has been said, many things that matter have been stated. Academia is thus left to its own devices to appreciate the origins, confines and limits of "predatory" publishing, unable to rely on the teachings of journalology-based "specialists", in its quest to define and identify a *bona fide* journal or publisher.

Academics can only begin to appreciate the apolar nature of "predatory" publishing when it moves away from Cartesian rationalism and distances itself from deification, including self-deification. Finally, among the lines of the text, a new concept emerges, that of the *epistēmōn*, an academic knowledgeable of the epistemological and methodological twists of science.

Authorship

The authors contributed equally to all aspects of the ideas, writing, development and editing of the paper, all drafts and take responsibility for its content. They are co-corresponding authors.

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