Croatian Journal of Philosophy
Vol. XVI, No. 48, 2016

Curiosity about Curiosity

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Ilhan Inan's (2012) approach to curiosity is based on the following central theses: (i) for every question asked out of curiosity there is a corresponding term (definite description) that is inostensible for the asker (its reference is unknown) and that has the function of uniquely identifying an object; (ii) the satisfaction of curiosity is always in the form of coming to know an object as falling under a concept. This model primarily covers curiosity as our search for empirical objectual knowledge. In my critical reflections, I explore some phenomena of non-objectual curiosity which are left out or at least not sufficiently explored by Inan: curiosity as the search for explanation and understanding, and meta-curiosity—curiosity about the very representations, i.e. how to conceptualize a certain problem, and what definite descriptions to use in the first place.

Keywords: Inan, curiosity, inostensible reference, understanding, meta-curiosity.

1.

The Renaissance *curiosity* cabinets ("wunderkammer") were collections of rare, valuable, historically important or unusual objects, compiled for study and entertainment. It is not easy to find the unifying element in these collections of oddities. Nowadays, curiosity has become a topic of serious philosophical and psychological research. Ilhan Inan's book (2012) is an impressive attempt to unify and conceptualize the phenomena of curiosity in terms of our ability to *describe* what is unknown. To be curious about something we need to be able to conceptualize it; we need the ability to represent the unknown.

Definite descriptions turn out to be the main linguistic vehicles of curiosity. We inquire about "the smallest inhabited island on earth," seek "the element that is causing the bright yellow light in the spectrum," wonder about "the location of the book that was on my table," look for "the reason the book that was on my table was taken," etc.

Inan's main thesis is that curiosity expressed in language always involves an *inostensible* term—a term that refers to an object that is unknown for the speaker, where "object" is taken in the widest logical sense (entities, locations, but also reasons, causes, etc.). To quote Inan:

> My first central claim is that for every question asked out of curiosity there is a corresponding term that is inostensible for the asker that has the function of uniquely identifying an object (Inan 2012: 42).
>
> …
>
> So my second main thesis is that every instance of curiosity involves the conceptualization of an unknown object, a particular, a property, a universal, a kind, or what have you that could be expressed by a definite description. Simply anything that can be referred to by a definite description can be an object of curiosity (Inan 2012: 130).

So, we proceed by throwing our conceptual nets expressed in terms of definite descriptions, hoping to catch their referents or the lack thereof. Our aptitude for curiosity is based on our ability to describe what is unknown (inostensible descriptions). Our curiosity is then satisfied when we are able to convert an inostensible term with an unknown referent into an ostensible one (for instance, getting to know the referent of 'Neptune' or "the planet perturbing the orbit Uranus" or else establishing that there is, for instance, no Vulcan; the definite description "the unique planet perturbing the orbit of Mercury" lacks reference). Our curiosity is satisfied when we gain *objectual* knowledge: "The satisfaction of curiosity then is always in the form of coming to know an object as falling under a concept" (Inan 2012: 136).

At first sight it might look that this theory is almost trivial, so obviously true. Compare—question: Who killed the victim? Answer: The murderer. Question: What does it mean to be curious about X? Answer: The object of curiosity about X is the unknown referent of the term 'X'. However, the task of putting some flesh on this proposal is not trivial at all and the interplay between questions of knowledge and questions of language in Inan's book is both insightful and fruitful.

Still, problems remain. According to W. Pauli there are three grades of criticism: Wrong. Completely wrong. Not even wrong. Although Inan does a masterful job of defending his view, I will try to show that there are cases in which his theory is informative since, according to the above Popperian criterion of non-triviality, it escapes the disastrous third grade of criticism. It might be wrong, or better, in need of further development. Inan mainly works with a relatively "flat" conception of objectual knowledge (and the corresponding ignorance), coming to know an object as falling under a concept is based on causal connection, sense experience, testimony ..., of the object in question. Yet there are other forms of curiosity and other ways of satisfying curiosity, or so I will try to argue.

2.

Let me start with some typical (recently heard or read) questions asked out of everyday and professional curiosity:

> Why did she use that phrase?
> How did this problem arise?
> I am really curious about how to make the story of Arya Stark in the city of Pentos consistent (said a friend of mine after seeing the sixth season of the *Game of the Thrones* TV series).
> Why did the U.K. vote against the E.U.?
> Heredity—how does it work?
> Why, within Eurasia, was it Europeans who conquered the world and colonized other people, rather than the Chinese or the people of India or the Middle East? (Diamond 2016)

We are curious about reasons, causes, consistency ... We look for contrastive explanations (Diamond), and sometimes we describe our state of curiosity just as: "I was simply curious to see what would happen." Sometimes our curiosity is motivated by a plain and vague desire "to get to the bottom of the matter". An example might be a quote from Galileo (*Dialogue Concerning the Two Chief World Systems*, cited in Lambie 2014: 46):

> ... considering that everyone who followed the opinion of Copernicus had at first held the opposite, and was very well informed concerning the arguments of Aristotle and Ptolemy, and that on the other hand none of the followers of Ptolemy and Aristotle had been formerly of the Copernican opinion... I commenced to believe that one who forsakes an opinion which he imbibed with his mother's milk and which is supported by multitudes, to take up another that has few followers ... must of necessity be moved ... by the most effective arguments. *This made me very curious to get to the bottom of the matter*.

It is not easy to subsume all of these cases under the search for the object falling under a certain inostensible concept. Let me add a description of curiosity from a recent book on developmental psychology:

> We exhibit something few other species do—the urge to know about things that have no obvious or utilitarian function. We experience epistemic curiosity. This leads to the truly astonishing breadth of stimuli, topics, and events that seems to trigger the human appetite for information. We not only want to know how to get from here to there, what might be scary on the pathway home, or whether the plant matter before us is edible (all things any decent rodent would also want to know), but we also want to know what happened before we were on earth, how people we've never met are living their lives, how a given building or machine was put together, what caused a friend to behave the way she did, and why a certain novelist stopped writing. (Engel 2015: 9)

Engel draws ours attention to different types of curiosity. According to Miščević:

> One can be curious about some skill ("How does one ride a bicycle?") or about more propositional and objectual matters. The first kind of target is

> knowledge how; let us call the other "knowledge wh-", to encompass both knowledge what, whether and why (plus some surrounding sub- kinds, like when). (Miščević 2016: 148)

We express curiosity by asking a question but also by taking something apart (how does *that* work?). Inan is preoccupied with the first type of curiosity ("knowledge wh-"); his approach seems best suited for objectual curiosity (and resultant knowledge) expressed by typical "Who dunnit?" questions (*Who* is the person knocking on my door? *What* object is perturbing the orbit Uranus?). But it seems to me that "why?" in many of its variations is one of the main linguistic vehicles of our curiosity (perhaps even more so than the "who?" or "what?" preferred by Inan). We typically look for reasons and causes—how does Inan's approach cover them? Well, by making them *referents* of inostensible terms—"why" abbreviates "what reason" or "what cause":

> And when I ask, "Why was the book that was on my table taken?", I wish to find out the referent of "the reason the book that was on my table was taken" or, in some contexts, "the cause the book that was on my table was taken". … I may also ask, "How was the book that was on my table taken?" by being curious about the referent of "the way in which the book that was on my table was taken." (Inan 2012: 44—the *only* place where this topic is addressed)

Well, *reasons*, *causes* and *ways* make for strange referents. First of all, what kinds of *entities* are we talking about? Inan says nothing about the referents of terms for reasons and causes. So let me try with a plausible hypothesis.

When asking for reasons and causes we typically look for explanation and understanding, and *facts* are often invoked as ontological grounding of explanation. We usually accept: "the fact that the table was cleaned by the housecleaner *explains* the fact that the book on my table was taken away," some would also accept facts as the causal *relata* (Mellor 1995, among others). So perhaps we can adopt Inan's position with respect to direct questions that admit of a simple "yes" or "no" as an answer ("Is there any life on Jupiter's moon?"). According to Inan, the object of our curiosity in asking a direct empirical question is a fact, an empirical object that is to be found in the world. A true sentence refers to a fact, and a false one fails to refer (Inan 2012: 52). Similarly, we might try to postulate *facts* as candidate referents for inostensible terms referring to unknown reasons and causes.

Inan (2012: 191, fn. 14) is well aware that this account "is based on the rather controversial claim that truth is a form of reference, namely, reference to a fact (or what I prefer to call a "state"), and falsity is simply failure of reference. … it requires a lot more elaboration." Even more so if facts are to serve as potential referents for reasons and causes. There is a familiar conundrum in the area of truthmakers—are there distinct kinds of facts corresponding to logically complex truths, such as negations, disjunctions, generalities? Are there *negative* facts, such as the fact that there is no life on Jupiter's moon—presumably

the answer to the question: "Is there any life on Jupiter's moon?" Also, causes and reasons are often disjunctive: why did the accident happen? Because Fred omitted to take precautions. What kind of empirical object (fact) is to be found in the world as the referent for Fred's omission? Omissions are wildly disjunctive.

Consider, as a further example, the Columbia space shuttle disaster in 2003—the shuttle broke apart while reentering the atmosphere, killing all seven crew members on board. *Why* did the accident happen? A piece of foam insulation broke off from the shuttle's propellant tank and damaged the edge of the shuttle's left wing. How could this happen? Strict security procedures were apparently omitted by NASA. How so? There were cuts in the funding of the space program. Why? Well, after the end of the Cold War space technology lost its strategic importance for USA governments.

This story illustrates several problems with the simple idea that "what constitutes an answer for one who curiously asks a question is the apprehension of an ostensible concept that the asker comes to know to determine the same object as the inostensible concept that gives rise to the question" (Inan 2012: 64). First of all, the structure of causes and reasons is often disjunctive, general or even more complex—the inostensible concept that gives rise to the question is correlated with ontologically ill-behaved entities. Take Diamond's question and his reply: Why was it Europeans who conquered the world rather than the Chinese? It turns out that Europe had an optimal intermediate degree of fragmentation (a too-unified society is a disadvantage, and a too-fragmented society is also a disadvantage). Difficult to pin this down as "the object of the inostensible concept."

Also, as the Columbia disaster story shows, the satisfaction of curiosity might be context dependent in more than one way; it is not just that the verb "to know" is context-sensitive for objectual knowledge (Inan 2012: 151). According to van Fraassen (1980), an *explanation* offered to satisfy our curiosity is an answer to a why-question. Why P? P is the case, as opposed to Q, R, S, ..., because X. The questioner assumes a set of possible, although not actualized, alternative states {Q, R, S, ...}, which together with P are called the contrast class (Why did the shuttle break apart in 2003 and not earlier?). We do not just ask why P, but why P rather than Q? Diamond (2016) is also a typical example of this pragmatics of explanation: "Why, within Eurasia, was it Europeans who conquered the world, rather than the Chinese?" The answer, X, must be true and *relevant* to the question. A relevance relation between the question and the answer will typically vary with the context (the breaking of a piece of foam insulation is relevant in certain contexts; the end of the cold war in certain broader geo-political contexts).

Of course, there is always an inostensible description available for any "Why X?" question. A simple "the reason for X" or, even more general, "the explanation of X" can be postulated as the unknown referent,

whatever that might be. But this is just like saying that the "epistemic file" on X has been opened, but there is nothing in it, or that a file has been created without any descriptive content. The very posing of the "why?" question does this job. The usual synonyms for "why" are precisely: For what? For what reason, cause, or purpose? The content of the epistemic "file" might be sometimes difficult to specify but the theory should provide at least some structure of the "file" in order to escape triviality. Will at least the most general "object" do—"the satisfaction of curiosity is always in the form of coming to know an object as falling under a concept" (Inan 2012: 136)?

When asking questions out of curiosity we typically look for *explanation* and *understanding*. Consider some standard models of scientific explanation. According to Hempel, scientists explain phenomena by showing that they are logical consequences of general laws. For Salmon, events are explained by showing how they fit into the physical patterns found in the world. The aim of functional explanation analyses is to show how the item contributes to the functioning of the system as a whole. The model of *unification* is based on the idea that successful explanatory theories unify phenomena. It is not just the simple objectual knowledge (What is the cause?); we seek connections, general patterns, unifications and understanding. There is surprisingly little in Inan's book on the topic of understanding and "grand-scale" curiosity. For Miščević, this is the central kind of curiosity:

> … on the one hand there is curiosity focusing on a simple propositional target, on the other, connections-focused curiosity, aiming at understanding of connections and reasons and causes, expressed by appropriate why-questions. Curiosity has often been described as a desire for knowledge and understanding, and I think this may be the central kind of curiosity. While we are examining the target(s) of curiosity it is also worth noting the contrast of scope: depth vs. width. Again, one can go wide, in a disconnected, slightly chaotic manner, or in search of connections and unification; the latter option is more germane to understanding, and more valuable. (Miščević 2016: 149)

There are various accounts of the nature of understanding but they all seem to transcend the level of simple objectual knowledge. For Zagzebski (2001: 241), for instance, "understanding is the state of comprehension of nonpropositional structures of reality". Elgin (2007: 35) in a similar way states that "understanding is primarily a cognitive relation to a fairly comprehensive, coherent body of information."[1] Our deep quest for understanding the world was strangely reflected already in the very idea of a *curiosity* cabinet[2]:

> Renaissance wunderkammer were private spaces, created and formed around a deeply held belief that all things were linked to one another through either visible or invisible similarities. People believed that by de-

[1] Quotes are form McCain (2016: 144–154).

[2] Tate Britain. "History of the Wunderkammern (Cabinet of Curiosities)." http://www.tate.org.uk/learn/online-resources/mark-dion-tate-thames-dig/wunderkammen (accessed September 7, 2016).

> tecting those visible and invisible signs and by recognizing the similarities between objects, they would be brought to an understanding of how the world functioned, and what humanity's place in it was.

Cognitive contact with reality can be established on different levels: by knowing who or what, by knowing reasons and causes and finally, by understanding. I do not think that all questions of curiosity can be reduced to the quest for objectual knowledge so masterfully covered in Inan's book. "Why?" of causes, reasons and explanations cannot be (easily) accommodated in this model, even less so our desire for understanding. True, one can always coin inostensible descriptions like: "the explanation of this strange fact." But, in this case, inostensible reference seems to be just the name of the problem and not the proper solution.

3.

Can we also be curious about something we are at the time unable to conceptualize, to describe with an inostensible term? According to Inan (2012: 65), "if we cannot express our curiosity by a definite description, then we really have not expressed a precise question that captures our curiosity." This sounds plausible—the inability to conceptualize one's inquiries is often a sign of confusion and one's search in the dark. But not always. We are able to ascend to higher levels and ask meaningful questions about curiosity itself. We can be curious about the very conditions for the cognitive contact with reality: What representations to use? How to conceptualize a certain problem? What definite descriptions to use? Why should these questions not be allowed as the proper focus of curiosity? One way to understand Galileo's "This made me very curious to get to the bottom of the matter" is precisely as a question of meta-curiosity: how to approach a certain problem and what concepts to use?

Let me illustrate some of these points with the help of a science fiction novel, *His Master's Voice* (HMV), by Stanislaw Lem (published in 1968, English translation 1984). Its main topic, I would say, is *scientific curiosity*—scientists are trying to decode, translate and understand what *seems* to be a message from extraterrestials (specifically, a beam of neutrinos with regularities from the *Canis Minor* constellation). The story could easily serve as a thought experiment about possible SETI scenarios (the current scientific search for intelligent extraterrestrial life is actually monitoring electromagnetic radiation for signs of transmissions from civilizations on other worlds).

By the time the project has ended, the scientists are no surer than they were in the beginning about whether the signal was an attempt at communication that humanity failed to decipher, or just a poorly understood natural phenomenon. The neutrino signal seems to have had the effect of increasing the likelihood that life would develop and some speculated that the life-producing property of that communica-

tion could not be the work of chance. But there were many other hypotheses. Some speculated that the letter was not meant for humanity, and that by pure chance we lay in the path of its transmission between two "conversing" civilizations. Also, the signal might have been a mathematical description of an object (possibly a molecule), and the scientists were able to use part of the data to synthesize a substance with unusual properties. The "form of representation" itself was the object of investigation: the letter could be "written" in some declarative-transactional language operating with units of meaning; it could be a system of "modeling" signals, such as television; or it could represent a "recipe", that is, a set of instructions necessary for the production of a certain object (in the opinion of the Pentagon the message from the stars was a kind of blueprint for a super bomb) or a description of a particular "thing" in a code that referred only to certain constants in the natural world.

Two years of intensive curiosity were mostly spent on formulating the proper questions for inquiry—how to conceptualize the strange phenomenon, what kind of inostensible terms to use. The initial question, I suppose, was just—what is *this*? And then the focus shifted to the hypothesis that the observed regularities constitute a message. This was just a provisional, hypothetical conceptualization, typical, I would say, for certain foundational scientific investigations. Inan might say that the main question of curiosity was: "What is the meaning of the signal?" with "the meaning of the signal" as the inostensible term, standing for … what, exactly? Meanings make for very strange objects, even more so than facts (just consider the eternal search for "the meaning of life"). In the scenario by Lem, this question comes very close to the question of meta-curiosity: "How to represent the strange phenomenon?" We might try with a direct question "Does the transmission constitute a message?" If *yes*, is then the object of curiosity a fact, an empirical object that is to be found in the world? Recall the hypotheses under investigation: declarative-transactional language OR a system of "modeling" signals, such as television OR a "recipe", OR … a wildly disjunctive "entity", difficult to understand as the uniquely identified object of an inostensible term. Also, due to Lem's mastery, there is an ambiguity between the researcher's expectations *de dicto* (a message saying that so and so is the case) and the possibility *de re*—the signal itself being the object with the life-enhancing properties or both (not to mention the Pentagon super-weapon speculations).

What appears to be a first contact SF story is not a typical novel: it lacks an adventure plot, there is almost no dialogue and no action. The bulk of the novel is densely philosophical pessimistic reflections of the main protagonist (mathematician Hogarth). The following is a typical quote:

> In my opinion, the stellar code denoted neither a plasmic brain nor an informational machine nor an organism nor a spore, because the object it des-

> ignated simply did not figure in the categories of our conceptualizations. It was the plan of a cathedral sent to australopithecines, a library opened to Neanderthals. In my opinion, the code was not intended for a civilization as low on the ladder of development as ours, and consequently we would not succeed in doing anything meaningful with it. (Lem 1984: 93)

This final pessimism about the human predicament is in harmony with Inan's "rule of thumb"—no precise representation (definite description), no curiosity. But must we really always "know" what we are looking for in terms of precise representations in order to be curious? HMV depicts cognitive puzzlements which are much more common than we might initially think.

There is an old joke about a drunkard, searching under a lamppost for his house key, which he has dropped some distance away. Asked why he didn't look where he dropped it, he replied "It's lighter here!". This methodological procedure has been dubbed "the principle of the drunkard's search" (Abraham Kaplan) and also "streetlight effect"[3]. The story sometimes functions as an illustration of observational bias where people only look for whatever they are searching for by looking where it is easiest. We look for explanatory factors for a given phenomenon in a place where the light is already shining and the territory is well illuminated by our familiar conceptions. But sometimes a crucial methodological issue involves precisely "meta-curiosity"—the very identification of the dimensions of the search.

The story also functions as parable for breaking with the old ways of thinking. Inan's (2012: 153): "... there cannot be curiosity without the ability to represent the unknown" can be interpreted as implying that we always search under the light of familiar inostensible terms. But consider Thomas Kuhn's conception of normal science—there are puzzles, anomalies, "curiosities" to be solved under the "light" of the reigning scientific paradigm. When anomalies and inconsistent details significantly threaten a paradigm, a crisis occurs and scientists reexamine the conceptual foundations of their science and invent new questions. The main object of their curiosity is precisely the accepted conceptions and representations of reality.

You might disagree with Kuhn's model of scientific progress—many do. Still, I think he is right to stress the importance of scientific meta-curiosity, a search for new representations and new conceptions, when open-mindedness and other intellectual virtues usually associated with curiosity flourish. On the more down to earth level of everyday scientific activities, there has recently been some discussion about the methodology of "fishing expedition". In legal contexts this term stands for any inquiry carried out without any clearly defined plan or purpose in the hope of discovering useful information. Very often this is synonymous with pure "curiosity-driven" research when this term is used in a derogatory manner (similar to Inan 2012, 65: "if we cannot express our

[3] https://en.wikipedia.org/wiki/Streetlight_effect (accessed September 7, 2016).

curiosity by a definite description, then we really have not expressed a precise question that captures our curiosity"). The search for Neptune, one of Inan's main examples of *de re* curiosity, was clearly *hypothesis* driven: look for the planet perturbing the orbit of Uranus. But in the opposition between maverick "curiosity-driven" research versus precise "hypothesis-driven" research, the stakes are often on the former, as Firestein vividly depicts the position of a scientist:

> Anyone who thinks we aren't all on a fishing expedition is just kidding himself. The trick is to have some idea about where to fish (e.g., stay out of polluted waters, go where there are lots of other fishermen catching lots of fish—or avoid them since the fish are now all gone from there) and some sense of what's likely to be tasty and what not. I'm not sure you can hope to know much more than that. (Firestein 2012: 80)

Scientists are curious beings; that is what makes them scientists. But it is difficult to capture all forms of their curiosity as having a concept expressed by an inostensible term in the form of a definite description and in search of its referent. A "fishing expedition" is also an important manifestation of scientific curiosity!

True, one has to be careful; these are muddy waters. If we do not have any precise definite description to express our curiosity, then we are easily confused about what we are curious about, if anything, as Inan rightly points out. As my final example, which nicely illustrates these dangerous waters, consider the notorious statement made by U.S. Defense Secretary Donald Rumsfeld five months after 9/11 and a year before the invasion of Iraq (in 2003). Intelligence "reports" suggested the absence of a link between Saddam Hussein's regime and terrorists seeking weapons of mass destruction (WMD). Rumsfeld responded:

> Reports that say something hasn't happened are always interesting to me because as we know, there are known knowns: there are things we know we know. We also know there are known unknowns: that is to say we know there are some things [we know] we do not know. But there are also unknown unknowns—the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult one. (Rumsfeld 2011: xiii)

Known unknowns are gaps in our knowledge, but we are aware of them, we know where to look—the majority of Inan's examples fall into this category (the 98th prime, the space object responsible for the extinction of dinosaurs, the shortest spy, etc.). We can potentially fill the gaps in our knowledge, eventually making them a known known. The category of unknown unknowns encompasses the gaps in our knowledge that we don't know exist. Not only may we not have all the evidence we know would be relevant, there may be evidence we don't have that we don't even realize is relevant.

In 2002 Rumsfeld's unknown unknowns won the *Plain English Campaign's annual prize* for the "most baffling remark made by a public figure". It is hard to deny that this was the case of curiosity of utmost (life and death for many) importance. For some, Rumsfeld's re-

mark was a typical politician's reply (how to avoid answering the direct question about evidence for WMD), others dismissed it as "a little bit of amateur philosophizing," while some actually still agree that WMD really existed (relocated in a neighboring country). From the philosophical point of view, at least one epistemologist took seriously the idea of the "unknown unknowns":

> To assess how good the evidence was that, e.g., Saddam Hussein had weapons of mass destruction, U.S. intelligence services needed to know not only where the available evidence (the "knowns") pointed, and how secure it was, but also how comprehensive it was; and to do that, they needed to know what relevant evidence there might be that they didn't have (the "unknowns"). Unfortunately, though they knew what some of the relevant evidence was that they needed but didn't have (the "known unknowns"), they didn't realize that other evidence, evidence they also didn't have, was also relevant (the "unknown unknowns"). (Haack 2011: 12–13)

I am inclined to agree with Haack's diagnosis—there are genuine epistemological worries about the potential of incomplete evidence to mislead. Is the evidence comprehensive is a legitimate question. But note that this is a question of meta-curiosity: *What* to look for? How to frame our curiosity? What representations and definite descriptions to use?

The dire consequences of the above reasoning dramatically illustrate the important issue of the *satisfaction* of curiosity. We are less prone to admire the epistemological subtleties of the "unknown unknowns" when we hear that:

> There's another way to phrase that and that is that the absence of evidence is not evidence of absence. It is basically saying the same thing in a different way. Simply because you do not have evidence that something exists does not mean that you have evidence that it doesn't exist. (Rumsfeld 2002, NATO press conference)[4]

Well, "the absence of evidence is *not* evidence of absence" has also been used to support the possibility of alien abductions and various UFO claims, past life experiences and other pseudo-scientific hypotheses. Can the absence of evidence about X satisfy our curiosity about X? In opposition to Rumsfeld, Inan allows, so it seems, given his discussion on Vulcan, for the validity of "absent evidence reasoning." Leverrier believed that there was a unique planet perturbing the orbit of Mercury; he called it "Vulcan." The search gave no results, so in this case the fact that there was no evidence that anything fell under the concept of "the planet perturbing the orbit of Mercury" ended the inquiry. Rightly so, sometimes the absence of evidence for a hypothesis amounts to real evidence against it. If the hypothesis were true (the planet existed), some evidence favoring it would have been observed.

I think that the evaluation of this last conditional (or, in probabilistic terms, the likelihood of the probability of observing the missing evidence for H on the assumption that H is true) is crucial for the

[4] http://www.nato.int/docu/speech/2002/s020606g.htm (accessed September 7, 2016).

evaluation of the cogency of "absent evidence reasoning" as satisfaction of our curiosity. The probability of observing at least some evidence of UFO abductions is high, so the absence of trustworthy evidence is really the evidence of absence (falsity of this strange hypothesis). Compare this to the typical creationist argument: if evolution happened, where have all the intermediate forms gone? No evidence for evolution, so the theory must be false? But in the case of the fossil record, the likelihood of finding the missing fossils is low with respect to evolutionary theory because of the conditions that lead to fossilization. In this case the absence of evidence is really *not* evidence of absence (cf. Boudry et al. 2015). How about Iraq and weapons of mass destruction? Should we compare the case to the one of Vulcan (no evidence for WMD so no WMD), or to the one of evolutionary theory, where the absence of evidence is not evidence of absence? The issue is still a matter of some curiosity (in 2016), although the verdict is more on the side of the *validity* of absent evidence reasoning (some evidence for WMD was expected to be found; so, no evidence …).

4.

According to Inan (2012: 137), under *normal* circumstances curiosity is satisfied when one is able to convert an inostensible term into an ostensible one. Yet the conditions for the satisfaction of curiosity are sometimes even less straightforward and relative than he is prepared to admit. According to Sextus Empiricos, the Ancient skeptics were the only ones who genuinely inquired. Their curiosity led them into extensive investigations into things until they found that they could always come up with a suitably plausible alternative hypothesis. Their inquiry ended in suspension of judgement. The Pyrrhonists, who described themselves as investigators ("skeptikôs"), were some of the most curious human beings in our intellectual history. Yet they were not looking for objectual knowledge; their investigations repeatedly and predictably led them to suspension of judgment as the final stage of their curiosity.

Well, Phyronnians are perhaps philosophical curiosities in themselves and not really *normal*. But are we not, as philosophers, often in the position so vividly described in Lem's novel? To be curious about something, you have to conceptualize it, but sometimes the proper conceptualization itself is the object of curiosity. When investigating a certain phenomenon, philosophers exhibit meta-curiosity: they are curious about how to formulate the questions, what representations and what terms to use. I was puzzled by the following remark on epistemology by Inan:

> If an epistemologist does not have any precise definite description to express his curiosity when he asks "what is knowledge?", then we should take him to be confused about what question he is trying to answer and, more importantly, what he is curious about, if anything. (Inan 2012: 65)

It is precisely meta-curiosity that is the important part of *philosophical* curiosity about knowledge: the question of how to approach the subject, and what definite descriptions to use to express our curiosity. Should we look at the epistemic quality of the subject's beliefs (reliable source? luck-excluding properties?), or should we begin with the subject herself and assess her epistemic virtues and vices? Should we approach the problem *apriori*, from the philosopher's armchair, or should we situate epistemology within the natural sciences and cognitive psychology in particular? Before we introduce precise inostensible terms as our fish-hooks, and then try to catch something, we are genuinely curious, in the same way as the scientists in Lem's novel, about what concepts to introduce in the first place.

In the end one has to agree with Inan on the importance of conceptualizations and precise descriptions for curiosity. I have argued for a relatively modest proposal. It is not true that for *every* question asked out of curiosity there is a corresponding term that is inostensible for the asker that has the function of uniquely identifying an object. I have tried to draw attention to certain kinds of curiosity which are left out or at least not sufficiently explored by Inan—our search for explanation and understanding and meta-curiosity. Both are perhaps the deepest, "grand-scale" types of curiosity surpassing the level of simple objectual knowledge. Can we speak about uniquely identified objects picked out by inostensible terms when it comes to the quest for understanding—when we look for general patterns, inter-connections and unifications and when the final "state of comprehension" might even be about the nonpropositional structures of reality?

Object level curiosity about X is based on our ability to conceptualize X, to introduce inostensible terms ("the X?") and look for their referents. Meta-curiosity is curiosity about these very representations: how to conceptualize the problem? What descriptions to use? What inostensible terms to introduce? Again, one could always introduce inostensible terms, such as "the conceptualization of this problem." Here, also, the inostensible reference seems to be just a different name for the problem. True, meta-curiosity is on the brink of confusion, but this is sometimes just a different name for a philosophical puzzlement.

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