

THE NATURE OF HUMAN KNOWLEDGE in Light of Empiricism After a Critique of Kantian Epistemology

BURAK ARICI

It is generally thought that humans, by nature, have a tendency to question and know. We never feel satisfied with the amount of knowledge we have, but rather, always seek more, wholeheartedly believing that knowledge is power. Although we think that knowledge is exceptionally valuable, do we really examine the nature or real source of this power? Discourse concerning the nature of knowledge has pervaded the history of philosophy. One of the conspicuous investigations of this inquiry is related to the origins of knowledge; how do we acquire, constitute, or reach knowledge? It can be said that there are two main epistemological approaches that try to give an answer to questions of how we really know: *rationalism and empiricism*. The former, essentially, claims that knowledge derives from reason and that through the use of reason, we can directly comprehend certain truths such as logic, mathematics, ethics, and metaphysics. The latter, in contrast, suggests that the source of knowledge is not reason, but sensory experience based on perceptual data. It is not difficult to realize that these two opposite philosophical doctrines pave the way for divergent worldviews stemming from the radical differences in each method's mechanism for the acquisition of knowledge. These approaches, on the grounds of their foundational attributes, are so influential that the divide between them persists in areas outside of their original philosophical domain. While a rationalist philosophy can attempt to explain logic, mathematics, or metaphysics through the existence of an ideal world

which is independent of the material world in which we live, an empiricist philosophy can try to do this by appealing only to sensory experience. However, how can we know which approach is true? Do we have to choose one of them?

§1 An Overview of Kantian Epistemology

Immanuel Kant attempts to solve the problems of knowledge through a synthesis of rationalism and empiricism. Rationalism, which neglects the importance of sensory data acquired by perceptual observation, gives rise to groundless metaphysical conceptions, and that mere empiricism, which underestimates the capacity of reason, prevents us from learning any necessary truths about experience. Put simply, he makes a distinction between that which we can know and that which we cannot know by positing two different realms: the realm of phenomena to which we have access, and the realm of noumena (the world of things-in-themselves) to which we do not. Along with that, he argues we can only have knowledge of what we can experience in the realm of phenomena. Our mind processes information acquired from the external world by dint of sensory experience, and this gives it order to provide us the skill of comprehension. In parallel, he proposes some general categories by which human understanding operates and makes judgments like quantity, quality, relation, and modality. While Kant repudiates the idea of obtaining knowledge from the noumenal world, “he [holds] that we *can* discover the essential categories that govern human understanding, which are the basis for any possible cognition of phenomena.”¹ Even though he agrees with empiricists that knowledge stems from experience, he champions the existence of *a priori* knowledge that can be reached without experience or sense data as opposed to *a posteriori* knowledge that requires experience to be known. Concerning Kant, H. J. Paton elucidates that “We can have [*a priori*] knowledge by means of the categories, only if the categories are due to the nature of the mind and are imposed by the mind on the objects which it knows.”² In other words, it is argued that the human mind has attributes that make *a priori* knowledge possible. In this vein Kant makes another distinction in the categorization of knowledge to show how different types of knowledge are revealed: the analytic-synthetic distinction.

According to Kant, propositions, similar to the difference between *a priori* and *a posteriori*, can be examined within the analytic-synthetic distinction on the linguistic-judgmental ground. While analytic propositions are true or not true only by virtue of meaning, synthetic propositions are true or not true in their meaning-relation to the world. For example, the statement that all bachelors are unmarried demonstrates an analytic proposition because we do not have to confirm, by observing the world, that it is the case. Instead, this is necessarily and universally true solely by virtue of the meaning of the concepts “bachelor” and “unmarried men.”

1 Amie Thomasson, “Categories”, The Stanford Encyclopedia of Philosophy (Summer 2019 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/sum2019/entries/categories/>>.

2 H. J. Paton, *Kant's Metaphysic of Experience*, (London: George Allen and Unwin, 1936), 258.

Quite the contrary, the statement that some bachelors are bald is a synthetic proposition since in order to test the veracity of this claim, we need to make some observations in the world and see if this is the case.

At this point, it becomes possible to address a conceptual scheme which consists of the concepts “a priori, a posteriori, analytic, and synthetic” by their combination in the expression of human knowledge. For Kant, propositions like “All bachelors are unmarried men” and “All squares have four equal sides” represent *analytic a priori* judgments, because we can know whether or not they are true before experience, and it is analytic on the grounds that they are true in virtue of their meanings instead of their truth-relations to the world. *Analytic a posteriori*, on the other hand, establishes an empty category. Analyticity is that which implies necessity and universality, and posteriority is that which depends on observation and that has the capacity to create different possibilities. Therefore, there is a contradiction between the two terms. *Synthetic a posteriori* refers to observational judgments that can also include different possibilities (e.g., the car is red, it is raining). Hence, this category, as the exact opposite of *analytic a priori*, represents the cluster of observations that are not necessary and universal. Lastly, *synthetic a priori* seems contradictory like *analytic a posteriori*, but in Kant’s account of knowledge, it remains a significant element. For him, mathematics and causality, for instance, show *synthetic a priori* knowledge. Consider “ $7+5=12$.” Kant briefly argues that we cannot regard this equation as analytic, since, as he writes in the *Prolegomena*, “[t]he concept of twelve is in no way already thought because I merely think to myself this unification of seven and five, and I may analyze my concept of such a possible sum for as long as may be, still I will not meet with twelve therein” [4:269]. That is, we cannot think of this proposition in the same manner as, say, “All bachelors are unmarried,” because those simply do not have the same logical structure in that the concept of bachelor is equivalent to the concept of unmarried in terms of meaning, whereas the concept of twelve is not equivalent to the concept of the sum of seven and five. Rather, we *infer* twelve from the sum of seven and five by our empirical intuitions. Other than that, this mathematical proposition is *a priori* for the reason that it is also possible to know the proposition independently of experience. Likewise, causality is *synthetic a priori* in that in order to comprehend this phenomenon, we need to first experience the cause and effect relation. Besides, it is *a priori* for the same reason — it is possible to know the proposition independently of experience. Inferring their truth and knowing these independently of experience may seem contradictory, but Kant expounds this issue by asserting that the human mind operates through categories in relation to perceptual data within space and time and makes judgments. These judgments about mathematics and causality, like any other judgments, are subject to the mind’s processes. In other words, the grounds or foundations of synthetic a priori knowledge reside in the principles and regulatory structure of the mind. “[T]he concept of cause is not empirical but rather a pure category of the understanding, required to make

sense of the relation of events within experience.”³ We put the mind into action through sensory data in the investigation of the knowledge of reality and in this way, we reach the necessary and universal knowledge of the phenomenal world and laws of nature. As Kant puts it in *Critique of Pure Reason*:

“Even laws of nature, if they are considered as principles of the empirical use of the understanding, at the same time carry with them an expression of necessity, thus at least the presumption of determination by grounds that are a priori and valid prior to all experience.”⁴

After all, in Kantian epistemology, the obvious synthesis of rationalism and empiricism becomes easier to discern by the clarification and combination of the concepts “a priori, a posteriori, analytic, and synthetic” and in this way, we can understand Kant’s suggestion as to how to acquire knowledge and know reality.

§2 Does Kantian epistemology really work?

It is no question that the Kantian conception of knowledge has attracted many philosophers. It has been thought that it provides a consistent and cogent solution to the shortcomings of rationalism and empiricism by allowing the existence of both “knowledge-before-experience” and “knowledge-after-experience” within a conceptualization of the analytic-synthetic dichotomy. Kant’s conception of *synthetic a priori* knowledge, particularly, deserves attention at this point, because he makes an extraordinary move in opposition to the classical conception of knowledge at his time by introducing synthetic a priority. Before Kant, David Hume, in *An Enquiry Concerning Human Understanding*, claimed that human knowledge consists of “relations of ideas” and “matters of fact.” To clarify, “recent Empiricists have formulated Hume’s challenge in the a priori–a posteriori, analytic–synthetic terminology. Their position, the modernized version to the extent that it is directly inspired by Hume’s doctrine, can be formulated in this way: *All knowable propositions are either analytic a priori or synthetic a posteriori.*”⁵

That is, Hume’s understanding of knowledge only consists of analytic a priori and synthetic a posteriori, and unlike Kant, excludes synthetic a priori. The reason that Kant’s introduction of synthetic a priori knowledge is of great importance is better comprehended through the difference between the ways Kant and Hume understand laws of nature. In simple terms, according to Kant, by means of observation (not being confined within meanings or in short, syntheticity), we can discover necessary

3 Antony Flew, *A Dictionary of philosophy*, (London: Macmillan, 1979), 102

4 Immanuel Kant, *Critique of Pure Reason* (Paul Guyer, Allen W. Wood, Trans.), (Cambridge, United Kingdom; New York, NY, USA: Cambridge University Press, 1999), [A159].

5 Georges Dicker, *Hume’s Epistemology and Metaphysics: An Introduction*, (London; New York: Routledge, 1998), 41.

and universal phenomena of which we actually have knowledge before experience. Yet, Hume argues that it is impossible to reach necessary and universal knowledge of the world through experience, but rather, the only knowledge that we have through experience is *synthetic a posteriori* in that we observe the world (syntheticity) and reach probable knowledge that can be known after experience and that, in principle, has the chance to change in lieu of being necessary and universal knowledge. For instance, Kant would consider gravity to be *synthetic a priori* because unlike analytic truths, the knowledge of this phenomenon can, firstly, be learned through experience, and then, it can be discerned that gravitational attraction is necessary and universal on the grounds that “[gravity] cannot be viewed as simply an *[empirical fact]* about the true motions [...] for without this property we are unable to define the true motions in the first place”⁶ Hume, quite to the contrary, would regard gravity as simply an empirical fact. In other words, the reason that objects fall down to the ground cannot be explained through the law of gravitation, but rather, this phenomenon is synthetic a posteriori, and there is no rationale to claim that objects will fall down every single time necessarily and universally. What makes us think that objects will fall, in fact, is not the law of gravitation, but our *past experiences*: we make generalizations as to how nature works by relying upon our past empirical data and apply them to the future events. However, Kant, as a response to Hume, holds that it is not the case that we cannot reach necessary and universal laws of nature, but instead, we can have this knowledge by the active role of human mind in the formation of knowledge: as Kant, in the *Prolegomena*, says, “The understanding does not draw its (a priori) laws from nature, but prescribes them to it.”⁷ That is, we have laws of nature in our minds before experience, but in order to know or make sense of them, we need to experience or see how they work in nature. This reasoning, at first glance, may seem quite convincing today, as we have learned a lot through modern science about how human beings perceive and experience the world. We can consider this example: we see different colors via certain cells in the eyes that enable us to perceive them. When some light waves reflected from an object come to our eyes, we can see its color if this biological system works properly, and this shows, like gravity, a use of laws of nature and thus, indicates a priority, necessity, and universality in its epistemic possession. In Kantian terms, it could be paraphrased in such a way that even if we did not see any object, we would still come to know, owing to the related cells in the eyes, that we have the concept of color in our minds, but so as to understand or make sense of this concept, we need to see an object: understanding, say, redness becomes possible only after seeing a red object. Yet, the question is: how can we really know whether we have such a priori concepts, laws, categories, and so on in our minds without

6 Michael Friedman. “KANT ON SPACE, THE UNDERSTANDING, AND THE LAW OF GRAVITATION: ‘PROLEGOMENA’ §38.” *The Monist* 72, no. 2 (1989), 243.

7 Immanuel Kant, *Prolegomena to any future metaphysics that will be able to come forward as science: with selections from the Critique of pure reason* (Gary Hatfield, Trans.). (Cambridge, UK; New York: Cambridge University Press, 2004), [4:320]

assuming their presence? If our genes or physiological systems are different names for those, then this claim is absolutely true, but at this point, that which is implicated, in fact, is that we already have the knowledge of colors (or other a priori laws and principles), but we simply do not understand those before experience. A color-blind person cannot see some colors as a person who is not color-blind can see. Does it mean that color-blind people have the deficiency of some inherent concepts in their minds? The Kantian answer could be that they do not have such a deficiency, but nevertheless, they cannot comprehend or make sense of colors as non-color-blind people can do due to the fact that they do not possess adequate and propitious biological equipment that enables them to catch the required sensory data. The same question arises once again: what is the rationale behind assuming the pre-existence of such concepts? Our biological instruments, surely, play a significant role in what we understand and how we experience the world in accordance with our development and adaptation in the evolutionary history of humankind. In parallel, our genes can provide us the opportunity to know or experience certain kinds of things in the world as discussed in the example where we can see redness through particular cells, but does carrying certain genes mean that we have the knowledge of what these genes carry? What is knowledge, then? Our congenital tendency or capacity to walk, for instance, does not express that we have a priori knowledge of walking even before starting to walk, but rather, it only shows that our biology enables us to act in such a way. Thus, we can say that our genes or physiological systems are not concepts, categories, or knowledge, but our equipment to have knowledge, because knowing that we can walk or understanding redness is a conscious phenomenon of which we become aware through establishing beliefs about ourselves, or the world by means of observation. What Kant means here is the existence of such a framework consisting of *a priori* concepts, categories, and so on from the abstract and rationalist standpoint, but the proposal of such a framework, in fact, implies a groundless metaphysical assertion, since how can we claim, for example, that a color-blind person has the concept of redness, or that a healthy person who has been unconscious since his or her birth and who has no experience about the world has such a structure in the mind? Alternatively, claiming that making such abstractions and creating concepts or categories *after* experience is much more compatible with our knowledge about ourselves and the world, and seeing that becomes easier when we test the compatibility between so-called a priori knowledge and what we see when we look at the world.

Kant's proposal of *synthetic a priori*, in this way, comes together with such criticisms in its reformulation of mathematical and scientific knowledge. Although the idea of *synthetic a priori* seems difficult to disprove, we can ultimately see that it fails. Besides mathematics and laws of nature, Kant holds that formal logic is also *a priori*,

that is, it has nothing to do with empirical data in its epistemic status and analysis.⁸ Considering that logical rules, laws, or principles are totally abstract, and that they, in a way, manifest the structure of our minds, it, at first sight, seems again plausible to hold such a view that our knowledge or possess concepts, laws, principles, and so on that are a priori, necessary, and universal, then what we expect, when we look at the world, is that we never make a mistake in our conception of a priori, or that we never understand a priori things differently in relation to the physical world, since they are necessarily and universally true; and known or possessed before experience. However, as science and technology develop, nature continues to surprise us. A groundbreaking discovery has shown that our a priori and certain logical rules that we think of as necessary can tell us a different story. It has been found, after the emergence of quantum logic, that one of the laws in formal logic, namely the distributive law, is not always true in quantum logic. “The distributive law is sometimes false in quantum logic because of the superposition principle (and the projection postulate) in quantum mechanics.”⁹ This situation has enormous implications as to the nature of human knowledge. While the aforementioned law works in the macro-cosmos in which we live, it does not on the quantum scale. The reason can obviously be propounded through the explanation that the universe works differently on different scales, but the actual question that we must ask in our inquiry is: why do we call such laws (and other forms of *a priori* knowledge) a priori, and along with that, necessary, and universal? The example of the distributive law, clearly, indicates that this is not the case. For, if these are *a priori* elements in our minds with such and such qualities, then how can we be mistaken even once? There should be a different explanation as to the nature or origin of logic and, in the broadest scope, of human knowledge, as we see the implausibility of the presence of a priori knowledge. All these points suggest that empiricism provides the only solution to the question of the origin of human knowledge.

§3 The real leading roles in epistemology: syntheticity and a posteriority

Once we intend to eliminate the possibility of a priori knowledge, we are left with, as expected, only a posteriori knowledge. Thus, it becomes natural to claim that knowledge, in fact, only stems from experience, and that it has nothing to do with any pre-given knowledge. Yet, it is still too early to arrive at this conclusion based on what we have covered so far, since there are other aspects in the defense of knowledge-before-experience that we should examine. Notwithstanding the problematality of a priori knowledge, some characteristics of human knowledge seem to show that there is a priority, but as we shall see, we can actually explain these through a posteriority.

8 Immanuel Kant, *Critique of Pure Reason*, (B170).

9 Gibbins, P. F. “*Why the Distributive Law Is Sometimes False.*” (Analysis 44, no. 2, 1984), 64.

In contemporary epistemology, one of the most controversial aspects is perhaps the presence of the analytic-synthetic dichotomy. The consensus has been that the distinction between analytic and synthetic knowledge is as obvious and natural as that of a priori and a posteriori. The latter distinction is totally understandable, because the origin of knowledge is either experience or mind, whereas in the former, learning becomes a matter of either observation or of appeal to language. The problem concerning a priori appears within the context of its relation to analytic propositions: if there is no *a priori*, how can we then explain analytic truths? Let's again consider the statement "All bachelors are unmarried men." Though it seems to be a matter of language, do we actually know *before experience* that this is the case? Do all these clear analytic descriptions or inferences not require the existence of a priority because of the fact that analyticity implies a priority or knowledge-before-experience?

The most well-known attack on the analytic-synthetic distinction, indubitably, comes from W.V.O. Quine. He attempts to show the nullity of this dichotomy through indicating that analyticity is circular. That is, to learn the veracity of synthetic statements, we make observations or look at facts without appealing to the statements themselves, but for analytic propositions, we show this through analyticity itself, even though we believe that those propositions are true solely in virtue of their meanings. Along with Quine's conclusion, it can be ascertained that analyticity, in fact, is fundamentally grounded upon syntheticity, and in this way, we come to the conclusion that the only way to have knowledge is foundationally syntheticity. This paves the way for a posteriori knowledge by revealing facts in the world by means of experience, that is, empiricism is the only successful philosophy compared to rationalism or Kantian epistemology, which combines empiricism and rationalism. To comprehend how analyticity fails and is rooted in syntheticity, we should briefly delineate Quine's argumentation.

To begin his argument, he makes a distinction between analytic propositions with regards to their ways of justification. He compartmentalizes analytic statements into two categories: the propositions that are logically true and the propositions that are true by synonymy. Consider this sentence: "No unmarried man is married." In this classical example, we can logically see the truth of this sentence without any consideration of the interpretations of "man" and "married" when "no", "un-" and "is" have their ordinary meaning.¹⁰ On the other hand, we need to dissect analytic statements from the perspective of synonymy when we encounter this sort of example: "No bachelor is married." Recalling that analytic propositions are true or not true only by virtue of meaning, the meanings of "bachelor" and "married" become important elements in this inquiry in a way that this sentence, by the synonymy between "bachelor" and "unmarried man," can turn into "No unmarried

10 W. V. Quine. "Main Trends in Recent Philosophy: Two Dogmas of Empiricism." (The Philosophical Review 60, no. 1, 1951), 23.

man is married.” Analyticity by synonymy is ultimately understood via analyticity by logic, but this transition, Quine points out, is problematic in that it is circular, and this will later show us how possible it is to surmount the difficulty of understanding analyticity on the grounds of syntheticity without falling into circularity.

A first strategy could be to use the definitions of “bachelor” and “unmarried man” in order to demonstrate how they are synonymous. Surely, a dictionary can help us find out their definitions, but because a dictionary only provides a *report* of the definition of a word which is already known, this method does not represent the synonymy between them. If so, what is the way then to know that they are synonymous and hence, constitute an analytic statement that is true only in virtue of meaning without requiring any empirical data? At this point, Quine tries to use *interchangeability* in their synonymy.¹¹ According to this conception, if two terms are interchangeable in all contexts without any change in their truth-value, they are synonymous. For example, “Bachelor’ has fewer than ten letters.” This statement gives a quality of “bachelor,” but it also indicates that “bachelor” and “unmarried man” are *not* interchangeable in this sentence, since obviously, we cannot say “unmarried man’ has fewer than ten letters.” Therefore, we have no reason to justify the analytic sentence “A bachelor is an unmarried man” under these circumstances. However, when we attempt to appeal to interchangeability for synonymy, that which we are really concerned with is not the formal structure of the words, but rather, Quine argues, *cognitive synonymy*, how we actually understand them. Yet, at this point, another issue arises. The problem is that we have to presuppose the knowledge of the meaning of analyticity to expound cognitive synonymy. To put it another way, it is simply asserted that we know the synonymy between “bachelor” and “unmarried man” by claiming that they are synonymous, or by referring again to their meanings: using analyticity. In contrast, Quine states, “What we need is an account of cognitive synonymy not presupposing analyticity.”¹² We can, hence, say that putting forward cognitive synonymy or proposing that we know the synonymy between the words simply in virtue of our cognitive ability to know their meanings without any further justification is another way to use analyticity.

As another attempt to resolve this problem, Quine suggests the use of “necessarily” in order to circumvent this situation. He argues that if we use such an adverb, it becomes possible to avoid using meanings, and thus, analyticity. Nonetheless, the same problem comes to the surface for the reason that the concept of necessity applies only to analytic propositions; justifying a sentence through including “necessarily” still presupposes analyticity. Consider the statement “Necessarily all and only bachelors are bachelors”. Since we hold that “bachelor” and “unmarried man” are interchangeable, this proposition turns into “Necessarily all and only bachelors

¹¹ *Ibid*, Pg. 27.

¹² *Ibid*, Pg. 28.

are unmarried men.” We try to explain this interchangeability through an appeal to necessity as an alternative to the use of meaning and avoid analyticity, but indeed, what is done here is to change the site of analyticity from the synonymy between the words “bachelor” and “unmarried man” to “necessarily.” Analyticity, in this situation, is used by means of necessity, because “[t]o suppose that [necessity makes sense] is to suppose that we have already made satisfactory sense of ‘analytic.’”¹³ Therefore, only the acceptance of analyticity can establish synonymy, and in fact, propositions like this, theoretically, show no difference from statements that are logically true in terms of their justifications.

Quine argues for the circularity of analyticity to explicate the impossibility of analyticity. We can conclude, therefore, that the fundamental logic behind analyticity is that analytic statements are true, because they are true. However, there is still a question: if there is no analyticity, how do we still know “All bachelors are unmarried men” or “All squares have four equal sides” before experience? Perhaps, the real question should be: do we *really* know them before experience? This question is difficult to answer if they are a priori self-evident knowledge that require no further justification to be held. In other words, what if they are self-evidently true in virtue of necessary and universal a priori knowledge as manifestations of our a priori logical reasoning that has nothing to do with our presuppositions or the way we use language?

Language is a way to express our thoughts or beliefs in accordance with some logical structures in our minds, and especially in analytic propositions, it is crucial that true statements are the ones that comply with our logic. That is the reason that Quine states that when we use analyticity, we indeed turn statements that are true by synonymy into statements that are logically true. Thus, along with his argument that analyticity is circular, the major takeaway from his argument is that analyticity depends on the idea of a priori logic. This allows us to claim that “All bachelors are unmarried men” is true because it is logically true and requires no further justification. However, when it comes to the original way we know them, the dispute between rationalism and empiricism arises: is it something we know before experience, or are there really such a priori concepts or categories that shape our judgments, etc.? In this case, what is in question is the origin of logic since, as we have shown, analyticity is fundamentally grounded upon logic.

Yet, in our discussion of the distributive law, we saw that the idea of a priori logic could be wrong. So, does this totally eliminate the presence of a priori logic in the context of analyticity? After all, we can roughly express that the purest form of analyticity is “X is X” or “X=X” Therefore, the question turns into “How is ‘X is X’ or ‘X=X’ true?” and in fact, other than how synonymy occurs, this is the fundamental

¹³ *Ibid*, Pg. 29

goal of analyticity. Is “X is X” or “X=X” known before experience? The answer is that it is indeed known *after* experience even though this appears counter-intuitive. In order to create a proper conception of X in our minds and argue that it is identical with itself or the same as something else, we need to experience X in relation to other things. Similarly, to understand “A bachelor is a bachelor” or “An unmarried man is an unmarried man,” we first need to understand the meanings of bachelor and unmarried man. Consider the first example. If this statement were an analytic proposition in a way that it is argued, then we would only comprehend this sentence by reading it. Yet, what guarantees that the former bachelor and the latter bachelor are the same? The former could mean an unmarried man, whereas the latter could mean a person who holds a first degree from a university. So as to establish the sense of analyticity in the form of “X is X,” we need to ensure that they have the same meaning, but we can only do that empirically.

Thus, we leave the realm of analyticity and enter syntheticity, and this brings about the emergence of a posteriori knowledge. This situation may not happen for “An unmarried man is an unmarried man,” since the meaning of “unmarried man” is understood more precisely unlike “bachelor.” Considering, however, that the meanings of words in a language depends on the context or language in which they are being used, this could apply to *any* word, and that shows the empirical aspect of language and the necessity to appeal to the external world to verify its true meaning. Hence, it is not surprising to see that we can understand “All bachelors are bachelors” after experiencing and creating a suitable conceptualization of what is being experienced. We can claim, therefore, that analyticity lies on the ground of *syntheticity*, and that the knowledge acquired from so-called analytic statements like “All bachelors are unmarried men” or “X is X” is indeed *synthetic a posteriori* because we need to check the veracity of these statements, according to the way they are being used, through observation, and this *syntheticity* gives rise to a posteriori knowledge rather than necessary and universal a priori knowledge.

The same process occurs on the grounds of not only language, but also our conceptualizations in the sense of understanding the existence of ourselves and the world. For example, when we state, “All squares have four equal sides,” we describe an abstraction based on experience in the sense that after seeing squares with the same property—four equal sides—we conceptualize this shape and claim to know, in an *analytic a priori* manner, that “All squares have four equal sides.” This demonstrates how we come to know the world through generalizations. As we have seen, empirical generalizations, according to Hume, are synthetic a posteriori and cannot be considered to be necessary or universal. Therefore we cannot reach any certain knowledge of the world like laws of nature, and unlike his idea of “relations of ideas”, or in modern version analytic a priori it can be said that these sorts of propositions, laws of nature or logical principles, can be known in a synthetic a posteriori way by

rejecting analyticity and a priori through unfalsifiable scientific generalizations of our experience of reality.

For instance, we have discussed the distributive law and suggested that since it does not work under the conditions of quantum mechanics, it cannot have a necessary and universal property, and hence, we cannot regard it as *a priori*. Instead, as we do for every phenomenon, we can think of this law as *synthetic a posteriori* knowledge, but this does not mean that it cannot be generalized and count as certain or universal. Before quantum logic emerged, this law had worked perfectly, and nobody questioned the truth of it. However, once quantum physics changed this, its truth, necessity, or universality started to be questioned. Does this suggest that we should abandon this law while speaking of human knowledge? The answer, of course, should be no. Just because the law does not always work on the quantum scale does not mean that it is wrong in every situation. Likewise, Newton came up with several laws in order to describe how the universe works, but it was said that Newtonian physics is wrong after Einstein. Yet, it is still used in science and technology. If it is wrong, why is it used? The reason is obviously that it does work particularly in machine parts, fluids, planets, spacecrafts, and so on, but it does not within the context of Einsteinian physics or quantum mechanics. Furthermore, we still call Newtonian laws laws. If these are wrong, how can they be called laws?

To conceive what is really happening here, we should understand how laws, principles, axioms, logical rules, etc. come into existence on the grounds of unfalsifiable scientific generalizations. When we say, for example, that the sum of the interior angles of a triangle is 180 degrees, through the scientific method, it is ultimately concluded that this is true and represents a law, rule, or principle. A law then is something that is unfalsifiable. This is indeed how we know facts about the world and our logic.

Similarly, logic is an extension of the external world in the sense that after making observations and generalizing facts, we conceptualize what we see in the world and state some certain rules or principles. However, as science and technology develop, we gain a broader understanding of how the universe works and start questioning what we think of as certain. We found out that the laws of Newtonian physics or some logical laws like the distributive law do not work in all cases. Yet, these still work well in the conditions that we most often encounter. After Einstein and quantum physics, it was understood that Newtonian physics is wrong, but it still describes the world that we experience by common-sense with high precision. This shows that those are unfalsifiable in *this* world, because their veracities were tested in *this* world, and along with that, they have become laws in *this* world. Yet, when we discover other areas of the universe, new laws, rules, or principles concerning the different mechanisms of these areas emerge.

Thus, we can eventually see that our whole knowledge of the world and logic can be expressed via syntheticity and a posteriority, since all these facts require experience to be known and lack necessity and universality in the broadest scope. The distributive law, for example, can count as a law when it is observed only in the world where it is unfalsifiable, but in quantum mechanics, it cannot. It is synthetic, because we need to look at the world or the specific conditions where it is being used in order to see if it is true, and it is a posteriori, since we come to know it only after experience through unfalsifiable generalizations under certain conditions. This endorses the idea that human knowledge stems only from our empirical observations, not from a priori phenomena. This argument, therefore, strongly supports the repudiation of knowledge-before-experience, and thus rationalism. Notwithstanding all those points, there are two aspects of the issue to be explained such as the knowledge of the things about which unfalsifiability is not always used and as a more fundamental subject, the knowledge of the self.

§4 The Knowledge of the Self and the External World

When we see a chair, for instance, we think we know that there is a chair. We do not think there is a need to rely upon the cumulative knowledge of humanity to make sure that our knowledge about the presence of the chair is unfalsifiable. Moreover, what guarantees that this holistic and shared knowledge of humanity is true? How can we be sure that what we are seeing is true? What if there is no chair, and we live in a delusion? Surely, this can only bring us to Cartesian skepticism. If only empiricism can explain the nature of human knowledge, and if the world where we live might be a delusion, then how can we really experience and know the world or trust empiricism at all? At this point, the only knowledge we can have, it could be argued, is our individual existence. We can only say, “I think, therefore, I am.” However, is this not known independently of experience? What we have seen so far champions the view that knowledge independent of experience is impossible, but can we argue that the knowledge of the self is the only a priori knowledge, and thus, empiricism ultimately fails?

Descartes makes a strong case when he argues, “I think, therefore, I am.” It is, most of the time, held that he proves his existence independently of the external world by doubting everything. At the most fundamental level, he, in fact, knows nothing, but his a priori existence. He knows it, because it is *self-evident* to him, and this situation requires no further justification. This is a crucial point in any inquiry of human knowledge, since after considering skeptical arguments (particularly, the Agrippan problem) that cast a shadow over the possibility of human knowledge and argue that epistemic justification is impossible, we can more easily establish the importance of having self-evident truths upon which the rest of human knowledge. That is to say, we need self-evident knowledge, at least at the fundamental level, to speak of the

possession of knowledge. If so, what is this basic and self-evident knowledge, and is it a priori?

At this point, seemingly, we agree with Descartes with regards to the existence of self-evident knowledge, but when it comes to its origin or how it is found, there is an apparent difference. We will focus on the idea of the self-evident existence of the self which, in this argumentation, is independent of the external world, and this independence, indeed, is the element that causes a problem here. In order to conceive this issue, we should first comprehend how we come to know ourselves. The process of knowing the self only occurs in relation to things that we perceive in the external world. In other words, this knowledge becomes a process of self-perception only after the perceiver perceives himself or herself, and becomes aware of his or her existence. However, once we try to isolate ourselves by focusing on our own distinct self as though it is totally independent of the external world in a way that Descartes does, we find ourselves in a delusion in respect of the origin of the self by thinking that it can be known even in the absence of experience. Descartes argues that we can know that we exist without experiencing anything, but the knowledge of the self only arises *after* experience, since self-realization occurs after understanding that we are the perceiver. Even if we think that the only thing we know is our a priori existence, the properties or nature of this existence will be limited to what we have experienced so far. It can be proposed, therefore, that the knowledge of the self is not analytic or a priori, but rather, more precisely, synthetic a posteriori in that it requires experience every time by realizing the distinction between the perceiver and what is being perceived, and it cannot be known before experience.

After all, although the knowledge of the self arises as a result of experience, we can still argue that it is self-evident, since regardless of its origin this knowledge ultimately appears to our consciousness in a way that it is known directly or self-evidently. When it comes to the knowledge of objects in the external world we can say that their existence is also self-evident because of the fact that, regarding our relationship with the external world in terms of the emergence of our self-awareness, it can be inferred that their existence is a main requisite to realize our own existence that emerges as a part of the physical reality, and thus, similar to how we self-evidently know the self, their existence appears to us as self-evident. Moreover, this direct shift in our comprehension of existence allows us to look at reality in a much more comprehensive manner in the sense that we can no longer grasp reality from the internal perspective in which we can only know our own existence, but only from the external perspective in which we can look at ourselves as a part of the external world. However, we know that we are living beings that consist of physiological systems that could have malfunctions or that could cause illusions, etc. That is to say, we could sometimes be wrong in our judgments, but under normal circumstances of our biology, when our body works without any problem, we will not be mistaken

very often. When one is drunk, one could argue that there are two chairs in the room actually when there is one, or there could be an illusion for a sober person, but if more people independent of each other test this claim several times, then it will eventually be confirmed that there is one chair in the room. This perfectly describes the scientific method with the notion of unfalsifiability. This is how certain facts, laws, or principles are established within the synthetic a posteriori framework. Yet, as we have said, this is valid for the world we examine. When electrons and protons are considered, on this scale, there will be no chair, only particles. Does it, however, mean that what we see, in fact, is a delusion? After considering that the existence of the chair in the room is self-evident to us, we can conclude that the world we experience is not a delusion, but it represents reality to which we have a direct access, and that at the same time, it is not the ultimate reality. We cannot know the ultimate reality due to the fact that our experience and knowledge are limited. This situation does not necessarily mean that we are wrong as to our judgments of reality, but instead, as we develop new instruments that broaden our horizon by making more empirical data visible to us, expanding our knowledge about reality in various aspects becomes possible.