
Kant's revolution¹

Why start a revolution

When he died at the age of eighty on the February 12, 1804, Kant was as forgetful as Ronald Reagan was at the end of his life.² To overcome this, he wrote everything down on a large sheet of paper, on which metaphysical reflections are mixed in with laundry bills. He was the melancholy parody of what Kant regarded as the highest principle of his own philosophy, namely that an "I think" must accompany every representation or that there is a single world for the self that perceives it, that takes account of it, that remembers it, and that determines it through the categories.

This is an idea that had done the rounds under various guises in philosophy before Kant, but he crucially transformed it. The reference to subjectivity did not conflict with objectivity, but rather made it possible inasmuch as the self is not just a disorderly bundle of sensations but a principle of order endowed with two pure forms of intuition—those of space and time—and with twelve categories—among which "substance" and "cause"—that constitute the real sources of what we call "objectivity." The Copernican revolution to which Kant nailed his philosophical colors thus runs as follows: "Instead of asking what things are like in themselves, we should ask how they must be if they are to be known by us."³

It is still worth asking why Kant should have undertaken so heroic and dangerous a task and why he, a docile subject of the enlightened despot the King of Prussia, to whom he had once even dedicated a poem,⁴ should have had to start a revolution. Unlike the causes that brought about the political revolutions of modern times, Kant's motives do not seem so very clear; yet, from a conceptual point of view, they turn out to be no less powerful and convincing.

Put simply, Kant too had no choice in the matter, given that philosophy as it was practiced at the time had reached a dead end, hanging

between a blind empiricism and an empty rationalism; so much so that one of Kant's most famous mottoes, "thoughts without content are empty, intuitions without concepts are blind,"⁵ for all that it is (as we shall see in nauseating detail) highly debatable as a theoretical stance, offers a very exact portrait of the historical situation for which Kant sought to supply a cure. Thus, we may begin trying to see which forces were in action on the philosophical scene in the second half of the eighteenth century.

The rationalists and the Library of Babel

The rationalists, many of whom were German professors, looked back to the great reconciler that was Gottfried Wilhelm Leibniz (1646–1716). Suffice it to say that Leibniz dedicated himself to bringing harmony between Catholics and Protestants, to distracting Louis XIV from taking aim at Germany in favor of Egypt,⁶ and even to bringing peace between the modern philosophy that began with Descartes (1596–1650) and the Scholasticism that drew inspiration from Aristotle. For this reason, rationalism can be identified in large part with the *Schulphilosophie* that brought medieval Scholasticism up to date with large doses of Cartesianism.

The rationalists' underlying idea was that we know through concepts. Knowing what an object is amounts to being able to list its features: soul is an unextended thing, body is an extended thing, a dog is a soulless domestic quadruped. In this spirit, the composition of a book of metaphysics is roughly the orderly formulation of definitions that are then combined in rational form so as to avoid contradictions. By the systematic aggregation of concepts, it becomes possible to realize the dream, first conceived in the Middle Ages by Raymond Lull (1232–1316) and then renewed in the Renaissance and in Descartes's time, of a "combinatorial art" that promised universal knowledge by means of the composition of concepts and, ultimately, of words.⁷

How was an art of this sort supposed to work? And, above all, did it work? Suppose we have to determine how many angels can dance on a pinhead. By definition, millions, given that, as we read in the dictionary, angels are pure spirits and have no body. Thus we have a ready answer: as many angels as you like can dance on a pinhead, just as there are infinitely many lines that pass through a point. If anyone objected that he had never seen an angel, the obvious answer would be that of course he hadn't because angels, being unextended, cannot be seen. This

would not be a quip or a manner of speaking. Leibniz had elaborated a theory according to which the actual world, the one in which Julius Caesar crossed the Rubicon and John Lennon was shot by a fan, is just one possibility among very many that has been brought about, so that a complete metaphysics should concern itself with all the possibilities that do not contain a contradiction.⁸

Kant loathed this way of doing metaphysics. He was curious about the sciences and about travel, even though he himself never left Königsberg and its immediate environs, and he did not believe that dictionaries add anything to our knowledge. Moreover, he inherited a hatred for intellectualism from his professor of philosophy, Martin Knutzen (1713–1751), an early critic of hyper-rationalism. This is the source of his accusation against the Leibnizians that they did nothing but spin and weave purely nominal definitions in such a way that their metaphysical works were, at best, dictionaries and, at worst, fantasies born out of the combinations of words.

In his famous short story “The Library of Babel,”⁹ Jorge-Luís Borges (1899–1986) illustrates the perverse brew that can come out of mixing the idea that the real is only one of the ways that possibility can manifest itself¹⁰ with the dream of a combinatorial art doomed to speculate on the supposed advantages for knowledge gathering promised by the purely formal assemblage of the infinite resources of what is mere possibility. In that endless library, which contains all the combinations of the letters of the alphabet, there is, mixed in with all the infinite senseless books, everything, including the things we don't know (such as precisely what Caesar was thinking as he crossed the Rubicon and how many people there were in Rome that day), which is all to the good. But there is also the opposite of everything: a Caesar who does not cross the Rubicon, Rome defeated by Carthage, Caesar as Alexander the Great's grandfather, Hitler the philanthropist. Because we have no way of telling the true from the false, the library is useless; indeed, it would be better if it didn't exist, because most readers never had the luck to read a single passage that made full sense.¹¹

Given that we are not stuck in the library of Babel, Kant—along with others who at the time began criticizing Leibniz¹²—could not draw inspiration from Borges. But the kernel of their dissatisfaction is this: how can we tell true from false unless we move from the world of mere possibility to that of actuality? And what is actuality unless it is primarily what we encounter in space and time or, as Hamlet had it, in heaven and earth? Kant observes¹³ that there is a great difference between mathemat-

ics and metaphysics, a gap that the Leibnizians underestimated. Using the combination of symbols (Kant speaks of “construction,” but the idea is the same¹⁴), I can reach fine results in mathematics. I can take a number at random, say 123, multiply it by another, 321, and get 39,483. The result is absolutely exact, and I’ll get it every time I do the sum.

The trouble, nevertheless, is that mathematics is *not knowledge*,¹⁵ because for Kant knowledge is formed from the encounter between concepts and the sensations that are produced by something that is physically real. Prior to that, one can *think*, which is a fine thing and can furnish some right answers, but it is different from knowing, as is easily demonstrated by considering the difference between thinking of a clock and looking at one in order to know what time it is. Thus, I have knowledge when I know, for instance, how many grains of wheat there are in a sack (say, 39,483), but not when I multiply 123 by 321. And the Leibnizians did not notice this difference because they were misled by the idea that there is no difference in kind between sensibility, which perceives things, and intellect, which thinks them, but only one of degree of clearness and distinctness.¹⁶ Thus the supporters of rationalism behave like mathematicians when they do metaphysics insofar as they regard everything that is not contradictory as true.

From the point of view of concept-formation, there is nothing implausible about thinking, say, that Henri Bergson read the adventures of Flash Gordon (perhaps there would be a contradiction in his being a fan of Dylan Dog). Except that it isn’t true or, more cautiously, we don’t know that it is. And we can’t build theories on the basis of such wild hypotheses, because mathematics seems clear and intuitive while the concepts are much less so, whether they refer to concrete objects¹⁷ or to abstract notions—about which we may be completely in the dark. For instance, what exactly are we referring to when we speak about “freedom?” Kant rightly notes that most people, if not all, do not know exactly what they are saying when they use so vague a word.¹⁸

So as not to let metaphysics run unbridled, the maxim of prudence will then be not to compare one concept with another but, *insofar as it is possible* (and it is obviously not possible in all cases), to compare concepts with objects. If this is the cure, it would seem that it was the empiricists who had pointed to the right path to take, and Kant credits the leading empiricist of the day, David Hume (1711–1776), with having woken him from the “dogmatic slumbers”¹⁹ into which he and a fair number of German professors had fallen.

The empiricists and Funes the Memorious

The basic idea of the empiricists was that all of our knowledge is derived from the senses: in the world, I encounter sensations and not concepts. Hence we can happily do without the purely conceptual organization of the universe that metaphysics offers. For instance we have the concept of "cause," but if we hadn't seen, say, a window that, as it opens, makes a vase fall, we would never have conceived of anything as a cause and we would not have included it in our dictionary. Likewise, we suppose that space has three dimensions: length, breadth and depth; but if we were subject to sensory deprivation, we might well not come up with the concepts of length and breadth. To say nothing of depth, which is not obvious even when we are endowed with senses and which calls for some supplementary experience: the man whom we now see as big because close was a dot on the horizon, and if we hadn't approached him it might not have occurred to us that, in addition to wide and high there is also the far and the near, that is, depth.

The moral that the empiricists drew was that, not just from the point of view of concept formation (as Kant would admit), but absolutely speaking; that our knowledge does not derive from concepts but rather from the sensible experience that is laid down by habit and reasoning. And concepts are just one quick, and often deceptive, way in which to codify that experience. Substance does not exist, but is the mere conjecture of a substrate that could exist without its accidents.²⁰ A cause is not a principle, but arises only from the fact that we often see one event follow another, and we think that the first determines the second.²¹ The "I" is a mere bundle of sensations and not the unextended substance that Descartes thought it was.²² At least one spatial dimension, depth, derives from experience.²³

The empiricists, however, had trouble grasping that you can go some way without metaphysics, but not very far. And if we think of cause and substance, the self and space as mere upshots of our experiences, then philosophy, science, and morals are doomed to disappear, because the whole world crumbles in our hands. For a radical empiricist, everything is, in the long run, vain, and empiricism becomes the last stop before skepticism. After all, it is futile to inquire into the nature of things given that sooner or later they could change, and there is no deep difference between the laws of physics and the train timetable. These are the traditional and besetting problems of relativism, which does not necessarily

need a justification of this sort.²⁴ The three biggest problems for the empiricists of the seventeenth and eighteenth centuries were certainty, the move from particular sensations to general ideas, and the relation between ideas and the things to which they referred.

The problem of *certainty* was the most alarming. Based on past experience, a turkey can conclude that every time the farmer comes, it will eat; but the day will come when the farmer will wring its neck. Given that, for the empiricist, all our knowledge, both of big things and small, is inductive, we are all in the position of the turkey: the law that makes the bulb light every time I switch the switch is limited by the fact that in the end the bulb will blow. Following this line, we ought even to doubt that the Sun will rise tomorrow (which will happen sooner or later). In this state of things, astronomy is a science that is uncertain, or at best a bit more credible than astrology. And this is a not entirely unwelcome conclusion, given that the empiricists developed this line of thought with a subtly antiscientific aim, seeking a residual space for philosophy. But nor is it terribly comforting.

From the practical point of view, the problem of *general ideas* was less pressing, but it generated serious theoretical difficulties. The empiricists could hardly deny that we have, in addition to the sensible impression of this dog, also the idea of a dog, which is applied to various instances of small dogs, big dogs, quiet dogs, barking dogs, dogs walking, and dogs at rest. But how do we get from the impressions to the idea? One suggestion is that we get there by a sort of mixture that makes perception more vague—Hume would say “enfeebles”—and that combines it with others: from one dog I take the snout, from another the tail, and so on.²⁵ In the nineteenth century there was at least one photographer who,²⁶ following up this idea, set out to find general ideas by superimposing many negatives so as to find the average criminal or the average member of the royal family. It is clear nevertheless that anything can come out of these dissolutions: for sure a dog, but also a bear or a hippopotamus, the average Victorian or Jack the Ripper. Moreover, if someone had a particularly good memory, like that of Ireneo Funes, hero of another Borges tale,²⁷ he would never form general ideas, but would have a distinct idea for each individual impression, not just for this leaf at 11:05 but also for the same leaf at 11:06; he could recall each instant of the previous day, but to do so would take a whole day, and so on.

Even without being Funes, the empiricists remain open to the attack, which has often and rightly been launched,²⁸ on the relation between ideas and things. In their view, we only ever have to do with

ideas, because individual sensations immediately become something feebler and more general. Thus we are never in relation with, say, a brooch, but only with the *idea* of a brooch. But what has the idea in common with the brooch? For instance, and it is not negligible, the idea of a brooch cannot prick you, just as you can't use the idea of a telephone to make a call.

Having set out to be more down to earth than the rationalists, the empiricists end up in danger of finding themselves with their hands full of dust, or rather full of ideas of dust.

Refounding metaphysics by overturning the point of view

Against this rather depressing background, made all the more puzzling by the greatness of the philosophers positioned on each side, the physicists, which is to say scientists who no longer recognized themselves as philosophers, proceeded unabashed to dismantle the beliefs that had held since antiquity and whose destruction undermined the standing of metaphysics in the public eye. Here we find the detonator of Kant's revolution. Many commentators have insisted, despite everything, on the excessively formalist and hence rationalist nature of his outlook;²⁹ others have been keen to find in him a German approach to empiricism.³⁰ Nevertheless, we have to deal with neither the one thing nor the other, but rather with a rehabilitation of metaphysics by way of physics, of a sort that neither the rationalists nor the empiricists had envisaged. We may swiftly show how this is so.

A generation earlier than Kant, Voltaire (1694–1778) expressed a commonsense satire of the learned metaphysicians, folk who believed that they lived in the best of all possible worlds, that nothing was without its sufficient reason and that Chinese and Mexican were once the same language. Folk, in short, who, like Don Ferrante in Manzoni's *The Betrothed*, finding that the contagion is neither substance nor accident, duly die of the plague cursing the stars like a hero in an opera by Metastasio. Voltaire's satire came naturally because, in the meantime, Galileo Galilei (1564–1642) and Isaac Newton (1642–1727) had set out the true principles of a natural philosophy with a winning combination of conceptual hypotheses and empirical observations, bringing together what put rationalism and empiricism asunder. Voltaire's conclusion, however, was that metaphysics was more or less a form of soothsaying, a superstition to be left behind.

Kant was much softer, not only on the world (as Hegel would reproach him) but also, and above all, on metaphysics. Indeed, he had compared what he called the “dreams of metaphysics” with the dreams of his contemporary spirit seer Emanuel Swedenborg (1688–1772) and concluded that concomitant illusions were in play.³¹ And, as I noted earlier, Kant went so far as to credit Hume with having woken him from those dreams. But he did not believe, and for very strong reasons, that we can do without metaphysics. Many questions can be answered by experience: if I want to know the taste of grapefruit, all I have to do is try one. Others can be resolved by science, such as the cause of the tide or of allergies. Others cannot. Trivially, there is no single scientific experiment that can decide whether the collapse of the Twin Towers was one event or two;³² or, what is more serious, whether we are free or not. The effects in each case are not themselves trivial, for if the collapse was a double event, the insurers must pay twice the amount, and if we are not free, then punishing and rewarding people will seem at the very least odd.

On the issue of freedom, as on those of the existence of the soul or of God, Kant does not arrive at a decision, or rather he says that we have to believe in them in order to make human life make sense. On the question of physical objects, on the other hand, his strategy involves taking up a different point of view. Where the naive onlooker sees the Sun set and concludes that it turns around the Earth, the expert (the post-Copernican physicist) knows that it is the Earth that rotates around the Sun. Whether he is a rationalist or an empiricist, the naive spectator looks at the world and believes he sees things as they are; the expert (the transcendental philosopher) knows that he is seeing things as they appear to us.

What advantage is there in being an expert? On the one hand, he doesn't pronounce as readily as the rationalists on matters that fall outside our experience; on the other, he is less evasive (and ultimately rudderless) than the empiricists about things we need to know. It seems obvious that we put something of ourselves into knowledge, insofar as it is up to the objects to conform themselves to us to some degree: we do not hear dog whistles and we do not see in infrared. Hence, we may allow a certain number of principles that are independent of experience and antecedent to it. As already hinted and as we shall see in more detail in the next chapter, there are basically five such principles: Self, Cause, Substance, Space, and Time. Contrary to what the rationalists thought, this does not mean that merely *thinking* something lets us know it. Content drawn from experience is needed. This is the meaning of

the Copernican revolution,³³ a silent rebellion that is no more than an *overturning* of point of view, which Kant achieved in about 1770 at the relatively advanced age of forty-six.

The full elaboration of the critical philosophy would come even later with the *Critique of Pure Reason* (1781), the *Critique of Practical Reason* (1788), and the *Critique of Judgment* (1790). What exactly Kant was aiming to do no one has understood, and he probably didn't fully know himself. In particular, it is not clear whether he was meaning to reform metaphysics or bury it forever, and whether the three *Critiques* are freestanding treatises, as he sometimes asserts,³⁴ or mere introductory studies to a complete system that would be carried out at a later date either by Kant himself or by others.³⁵

As the English philosopher J. L. Austin (1911–1960) once observed of Aristotle, in every great philosopher there are passages where he says it and passages where he takes it back,³⁶ and this is probably a consequence of the very queer proceeding that is philosophy. What is for sure is that in his lessons, Kant never discussed the critical philosophy, as expounded or introduced in the three *Critiques*, and that those books present themselves as aiming to answer three questions: What can I know?, What can I hope for?, and What ought I to do? (to which we might add, in the *Pragmatic Anthropology*, What is man?³⁷).

This attempt was made by means of an examination of the three faculties that, for Kant, are fundamental to human beings: that of knowledge (*Critique of Pure Reason*); that of desire, namely, to do or not do something (*Critique of Practical Reason*); and that of pleasure and displeasure, or of the enjoyment or otherwise, as passive subjects, of an object or idea (*Critique of Judgment*). In each of these faculties we find, in various mixtures and combinations, each of the basic resources of human beings: sensibility, intellect, and reason, to which Kant sometimes adds imagination to form a bridge between sensibility and intellect. Roughly speaking, this is the grand subdivision of philosophical psychology handed down from Aristotle: sensibility receives external stimuli, imagination conserves them, intellect elaborates them, and reason (which corresponds to some degree to the active intellect of Aristotelian psychology) determines the ends of our behavior. It is above all reason that sets human beings apart insofar as it is the capacity to set ends for oneself, to respond to questions that vary from "What shall we do this evening?" to "What is it right for me to do?"; and Kant defines philosophy as the "teleology of human reason," by which he means the identification of ultimate ends. In line with this outlook, Kant was much preoccupied with the faculty

of desire, that is, with the reply to how we should act in this life and whether it makes sense to expect rewards and punishments in another; this was why he also wrote a *Critique of Practical Reason*. The *Critique of Judgment*, on the other hand, has exercised a powerful but strange influence on the emergence of philosophical aesthetics in view of the fact that it is not a philosophy of art.³⁸ But by far the most influential of his works, not only because it was the first and made most fully explicit the Copernican revolution, remains the *Critique of Pure Reason*, which is my reason for giving it pride of place, or rather for focusing on the part of it that seems to me the most important, in this little book.

Given that our main subject is the Copernican revolution, my proposal is, in the next chapter, to isolate Kant's most fundamental claims and then, in Chapter 3, to show what he inherits from the tradition; in Chapter 4, to show what he invents; and, in Chapter 5, to show where he goes wrong. Chapters 6 through 8 set out the fundamental claims in detail, without comparing them directly with alternative theories, but taking literally Kant's idea that there are principles that hold good not just for science, but also for experience. Chapter 9 seeks to dismantle the sophisticated mechanism that stands behind the doctrines, while Chapter 10 presents Kant's evolution after the first *Critique*, and Chapter 11 aims at a reckoning with the revolution: its immediate effects and its legacy, its merits and its martyrs. Some of the chapters develop the main line of thought, while others integrate it with theoretical reflections and historical observations; to warn the reader in a hurry, these chapters bear the title annotation "Examination."