

# IGNORANCE AND HYPOTHESIS



E D I S O N M I Y A W A K I

If a creature were asked, “What’s your definition of science?” that intelligent being would do well to borrow Albert Einstein’s answer, from 1939, delivered at the Princeton Theological Seminary. Science, Einstein said, “is the attempt at the posterior reconstruction of existence by the process of conceptualization.” What creature really understands those words? It’s the kind of question that Noam Chomsky from the Massachusetts Institute of Technology asks in a short book that summarizes fifty years of his work in linguistics, brain and cognitive science, and political theory. Excluding notes and a thoughtful foreword by the philosopher Akeel Bilgrami from Columbia University, we get 127 pages in four chapters for twenty bucks. Is it a bargain?

Let’s put Chomsky’s title in the form of a multiple-choice question, then think about Einstein’s definition with some care, just to get to the pith of Chomsky’s discussion as I understand it. First, the pop quiz:

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**What Kind of Creatures Are We?** by Noam Chomsky (Columbia University Press, 167 pp., \$19.95)

Human beings are creatures who

- A. use language
- B. think, using language
- C. often don't think particularly well

Among the multiple choices, I don't include the possibility that human beings attempt at the posterior reconstruction of existence by the process of conceptualization. Yet options A through C all have to do with Einstein's definition of science, to the point where a person could wonder whether humans, alone among all creatures, are scientific. But one shouldn't presume that we, alone among creatures, reliably excel at science, because of option C.

I admire Einstein's definition, because it assumes very little. He doesn't say that our big human brains reconstruct existence. We attempt *at* rebuilding existing things – meaning, I think, that if I gaze out of my window at a daytime's clear sky, I'm “attempting at” the sky in a post hoc way. The sky I see isn't necessarily the sky, because I'm already late in the game, a guy looking out of a window at something blue, but maybe it has already changed. I don't come to know the sky at all because of another issue, which is Einstein's carefully worded “process of conceptualization.” He doesn't say that science is conceptualization, only that some process using concepts allows us to reconstruct existence after the fact. Einstein's “process” suggests that using concepts – and, by implication, reconstructing existence – doesn't happen just once in a wash of success. Not at all. We conceptualize and rebuild over and over – and once it's done, we do it again. Maybe Einstein's definition applies to what we roundly call thinking as much as it pertains to science. I admit that looking at the sky is no act of science until a person stops, perhaps, to gaze at it more intently.

All the above leads me without detour to pages 91–92 in the fourth chapter of *What Kind of Creatures Are We?* The chapter's title is “The Mysteries of Nature: How Deeply Hidden?” (By the way, every chapter title is a question: “What Is Language?”; “What Can We Understand?”; “What Is the Common Good?”; and chapter 4's, which I find the best of the lot.) Chapter 4 reproduces, essentially verbatim, a Chomsky article in *The Journal of Philosophy* from 2009. We might pause to think, with disappointment, that we have mere republication in front of us, not a late-career synthe-

sis. Still, ideas do matter, and maybe they bear much repeating – as well as duplication for the public in hardback at a modest price.

My quibble notwithstanding, on page 91, Chomsky discusses Galileo’s consternation in the sixteenth century that he couldn’t explain straightforward aspects of existence to his satisfaction – the rise and fall of tides, for example. Galileo sought a mechanism of tides, but tides couldn’t be reproduced by a device that a human could construct, so “the apparent inadequacies of mechanistic explanation led Galileo finally to reject ‘the vain presumption of understanding everything.’” Even Isaac Newton in the early eighteenth century, after conceptualizing gravitation, had intractable difficulty understanding why objects should attract each other at all. The cause of attraction was as obscure to Newton as the mechanism of tides was irreproducible for Galileo.

Now comes Chomsky at the break between pages 91 and 92. His whole book (I have to say in advance) is a web of allusions and references to authors, as this illustrates:

[Philosophical problems related to consciousness] . . . are effectively overcome by invoking the ignorance hypothesis – which for Galileo, Newton, Locke, Hume, and others was more than a hypothesis and extended far beyond the problem of consciousness, encompassing the truths of nature quite generally.

Unpack his sentence, and your twenty-buck purchase of Chomsky will have been worth it. Nor do you have to be vexed by problems of consciousness to bother yourself thinking about an “ignorance hypothesis.” We are understandably curious: what is that hypothesis?

Chomsky refers to a source more current than dead British empiricists or Galileo and Newton. He credits one Daniel Stoljar – an MIT philosophy doctorate, currently on faculty in Australia – whose *Ignorance and Imagination* (2006), Chomsky says, usefully articulates the ignorance hypothesis as part of a critique of theories about the human mind. If you like philosophy, especially logic or what seems like a positivism that only Ph.D.’s could love, then you, too, can acquire a copy of Stoljar’s book. But I think you might be better served by reading Chomsky’s sentence once or twice more, carefully, with examples in mind to aid your reflection.

Let's say that you have a philosophical problem related to your current state of consciousness. Like the poet of an ode, for example, you ask yourself whether you wake or sleep – and you really aren't sure which state you occupy. How is it possible that your problem or uncertainty is overcome by some hypothesis that extends “beyond” your uncertainty? Do you hypothesize your ignorance (whatever that might mean)? Or do Chomsky and Stoljar suggest that we ignore hypotheses?

In addressing your problem, the ignorance hypothesis does not ask whether all consciousness is a waking dream. A “general ignorance strategy” – a phrase I steal from Cornell's Karen Bennett, who has reviewed Stoljar's work – operates differently. Two questions are involved. First: Is it plausible that you don't know the difference between waking and sleep? Yes, such is the nature of your confusion. Second: If it is plausible to be so unsure, then is it also plausible that all consciousness is a waking dream? No, you can't talk about a waking dream, because you don't know (you are ignorant) about the difference between your wakefulness and your sleep. If the ignorance hypothesis is true – that you don't know the difference between waking and sleeping – then you save yourself the problem of thinking about consciousness as a waking dream. On the other hand, if you already knew the difference between wakefulness and sleep, you wouldn't have worried about a waking-dreaming confusion in the first place. The problem of consciousness is solved, as it were, because there is no problem – or, rather, we ignore the problem.

So far, so unhelpful – it seems. But now transpose to the case of Isaac Newton. Was it plausible to know how two objects attracted each other across vast and not-so-vast distances? No, it was not plausible for him – in fact, Sir Isaac wondered whether his gravitation was, using his word, absurd. Is it plausible, then, to conclude that any two objects attract each other across all distances? No, because Newton didn't know (he was ignorant) about the very conceptualization he advanced. The ignorance hypothesis was true (he did not know how two objects attract each other), and therefore Newton would ignore the problem of gravity even as he advanced an understanding of it.

Chomsky describes the historical fallout:

Even the skeptical Newtonian Voltaire argued that the ability of humans to “produce a movement” where there was none shows that “there is a God who gave movement” to matter, and “so far are we from conceiving what matter is” that we do not even know if there is any “solid matter in the universe.” Locke relinquished to divine hands “the gravitation of matter towards matter, by ways, inconceivable to me.” Kant rephrased the “hard problem,” arguing that to reach his conclusions, Newton was compelled to tacitly “assume that all matter exercises this motive force [of universal attraction] simply as matter and by its essential nature”; by rejecting the assumption, he was “at variance with himself,” caught in a contradiction. Newton therefore did not, as he claimed, really leave “the physicists full freedom to explain the possibility of such attraction as they might find good, without mixing up his propositions with their play of hypotheses.”

It’s partly irksome that, in the order of the appearance of the quotations, one reads Voltaire, Locke, and Kant (“hard problem,” however, is Chomsky’s phrase, not Kant’s) more than Chomsky. In reading the whole book, however, such annoyance wanes, then morphs into appreciation. *What Kind of Creatures Are We?* is not, thank you, Noam Chomsky on Chomsky. In other chapters, even when he discusses his own much-applauded and sometimes reviled notions, whether about the structure of language (grammar is innate, he maintains) or about political liberalism (based on his suspicion of all authority), one senses that he wants to show us what he’s read over more than a half-century – not to boast or proselytize, but to relearn for himself. The ignorance hypothesis offers, above all, the solace of dismissing many lesser hypotheses about brains, consciousness, science, and other stuff. Put in almost the same terms we examined earlier, the ignorance hypothesis states that science, like a great deal of human knowledge, is the *failed* attempt at the posterior reconstruction of existence . . . and so on . . . (from the 1939 definition). Note that a new emphasis is on failure, a word we don’t instinctively associate with either science or Albert Einstein.

After reading *What Kind of Creatures Are We?* I can’t say that I’m eager to consume all the other published Chomsky I can find –

there are over one hundred books by him, the jacket copy informs me. Truth be told, I found Chomsky's title in an airport bookstore where I was looking for anything to read on a longish plane ride. "You're lucky. It arrived today!" the salesperson said with dubious enthusiasm. I think now about the salesperson's remark (was it snide or sincere?), because, in an interview I encountered subsequently, Chomsky acknowledged that he was flat-out boring but he didn't care, because either his ideas mattered to his audience or they didn't.

To Chomsky's credit, the sentence straddling pages 91–92 has stuck in the brain, as Einstein's definition has: what is the real idea in those two remarks? The ignorance hypothesis, to repeat one last time, extends beyond the problem it intends to address in order to encompass truth generally. *Encompass* is the interesting verb: there's no capture per se. What Einstein called "process" is close to encompassing, a kind of interminable approximation or framing by conceptualization. Yes, but isn't hypothesis in science always a statement of early ignorance, later to be turned into knowledge after experiments? No, Chomsky assures me that the ignorance hypothesis is different; discovering that an ignorance hypothesis is true is more like an endpoint, achieved after racking one's brain.

I finished his book on my flight and put it aside. Then, some time later, I thought about science as I've taught it myself, not at any Chomskyan or Einsteinian stratosphere of understanding, and only after about twenty-five years, not fifty, of faculty existence. Trite to say, but a person can know a lot and yet not know much after decades. But ignorance has honest cognitive value; it's better than stupidity. Newton's own ignorance hypothesis had to do with gravity, which he considered absurd. Today, we think about gravity as a force of nature without much examination or reflection, as if we really knew what it was. I will never be a Newton, but, exactly like him, I have lectured to rather empty classrooms at my university. Wouldn't it be advantageous to have my own personal ignorance hypothesis? Maybe I should look for one, it occurred to me – and the process could start at any time, even at this late date. Without one, I'd be a teacher absent a genuine idea to teach, a parroter of the odd fact here and there.