

Scheall on the Epistemic Limits of Policy

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O, these deliberate fools, when they do choose,
They have the wisdom by their wit to lose.

~Portia in *The Merchant of Venice*

Ignorance slays deliberation. This bold claim is the mustard seed from which grows the rest of Scott Scheall's argument in *F. A. Hayek and the Epistemology of Politics*. Scott has privately told me that his view might be expressed more "delicately" as, "Ignorance *constrains* deliberation." Be that as it may, Scheall's point is that "deliberation" requires, somehow and in some degree, adequate knowledge of what you deliberate on. I don't know who is in the senior class of Omaha's largest public high school, nor which public high school is the city's largest. I cannot, therefore, deliberate on which senior is most likely to succeed, which is the best athlete, and which is the most charming. If I were to open a medical practice, I could, perhaps, deliberate on therapies for my patients. But my ignorance of medical science would greatly constrain such deliberations.

This connection between ignorance and deliberation is the most important contribution Scheall's book makes to political epistemology. In the main, Scheall believes, this epistemological point has gone unrecognized in political philosophy, or at least been given too little weight. Scheall's central epistemological claim (that ignorance slays deliberation) fits nicely with his view that our knowledge is ultimately wholly empirical. Scheall even seems to suggest that his point *requires* empiricism. "If one insists," he says, "that there is a source of knowledge . . . other than the environment, then one cannot consistently argue that policymakers lack knowledge requisite to their peculiar tasks, because it can always be asserted that decision-makers can discover the missing knowledge *a priori* by inner reflection on the significance of their humanity" (pp. 111-112).

I said that for Scheall, knowledge is "ultimately" wholly empirical. The word "ultimately" is doing work by opening up the possibility that the experience shaping one's knowledge may be that of one's cultural and biological ancestors. One might think our knowledge of color is "a priori" because each of us individually is born with it. But that color knowledge was hammered out in evolutionary time by natural selection. It is, therefore, "ultimately" empirical. Scheall gives the similar example of "olfactory sense experience" (p. 122). In Scheall's interpretation, Hayek has a theory in which knowledge is "empirical" in just this way. When it comes to epistemology, therefore, he stands solidly beside Hayek and fully repudiates the apriorism of Hayek's great mentor, Ludwig von Mises.

Scheall applies his “political epistemology” to political philosophy in Chapters 5 and 6 of his book. His “epistemic-mechanistic approach to the problem of policymaker ignorance” is “meta-theoretic.” Thus, he is doing philosophy and not social science. He does not propose any particular epistemic mechanism, survey some list of epistemic mechanisms used in the past, or rank them on some normative scale such as justice or efficiency. He just points out the role of epistemic mechanisms. In his view, if we are to have large-scale cooperation, we must also have reasonably functional epistemic mechanisms. The question is, “How do people know what to do in large-scale societies?” They need, Scheall tells us, reliable signals of what to do. Good epistemic mechanisms create and distribute such signals. Emergent social rules, market prices and scientific citations are all paradigmatic mechanisms of this sort. If our actions are to be coordinated without commands, they must be coordinated by signals, and an epistemic mechanism generates and delivers such signals. Presumably, Scheall would say that a good epistemic mechanism does not generally deliver such signals randomly. Nor does it typically deliver all signals to everyone. For then there would be information overload. Thus, I think, Scheall would say that a good epistemic mechanism effects a serviceable distribution of signals across agents in the system.

Importantly, Scheall argues that democracy is often, perhaps generally, a poor epistemic mechanism. We should therefore have a written constitution that limits politicians to doing what they can, epistemically, do. Attempting to stay within the constraints of the critique of constitutional design by Devins et al. (2015), Scheall does not suggest a once-and-for-all re-writing of the Constitution to reflect policymakers’ existing epistemic capacities. Given that these capacities will continue to evolve, Scheall believes, so must any constitution that is drawn up on the basis of his constitutional approach.

A constitution drawn up on the lines Scheall recommends would give us a broadly liberal political economy. It would give us something along the lines of Adam Smith’s “obvious and simple system of natural liberty,” in which “the sovereign has only three duties.” The first duty, Smith tells us, is “the duty of protecting the society from the violence and invasion of other independent societies.” The second is “protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice.” And the third is, “erecting and maintaining certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain.” In this system, Smith tells us, “The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society.” (Smith 1776, pp. 184-185) Thus, Scheall is developing Smith’s point that governments trying to go beyond “the obvious and simple system of natural liberty” will attempt things for which “no human wisdom or knowledge could ever be sufficient.”

Scheall’s book is a work in philosophy by a philosopher. And he is careful to stay in his lane. In particular, Scheall does not try to decide just how much politicians can do without exceeding their epistemic bounds. He does not attempt to hide his broadly liberal point of view. The centrality of F. A. Hayek to Scheall’s argument does not strictly *imply* that he takes a liberal posture, of course, but it is suggestive. True to his empiricism, however, Scheall seems to leave it as an empirical matter how far deliberation can take us in political decision making. And it is for others, especially social scientists, to study where those epistemic limits might be.

I surely share Scheall’s enthusiasm for Hayek’s epistemology. I think he is right to say that Hayek has an idea of knowledge quite different from “justified true belief,” which might still predominate among Anglo-American philosophy professors specializing in epistemology. It is generally recognized, Scheall avers, that Gettier (1963) problems have revealed the need for “supplementation” of the standard definition. No “consensus,” however, has emerged on how to do that (p. 132, n. 15). Thus, it seems, we should consider Hayek’s epistemology non-standard. In particular, Scheall notes several passages in Hayek in which, seemingly, “knowledge” need not be “true.” And Scheall quotes Hayek calmly speaking of “contradictory knowledge”

(Hayek [1945] 2014, p. 93 as quoted in Scheall 2020, p. 116). It is my understanding as well that Hayekian “knowledge” need not be “true” and that one bit of Hayekian “knowledge” may contradict another.

I also appreciate the general thrust of Scheall’s argument, although he seems less skeptical of written constitutions than I am. I think Adam Smith was right to warn against the “innumerable delusions” governments may fall into when they attempt to do things requiring more “wisdom or knowledge” than human beings are capable of. In other words, I think Scheall is right to say that limits to our knowledge imply limits to our political ambitions. Such limits of knowledge were essential to the “Austrian” position in the socialist calculation debate, as Scheall notes. Essentially, without a functioning stock market, socialist planners won’t be able to compute opportunity costs and the system will be flying blind (Lachmann 1969, p. 161). I added the qualifier “functioning” because in a controlled system there may be a stock market that does not perform its essential function of price formation. “Under the Nazis,” Temin (1991, p. 580) has explained, “the stock market largely lost the ability to direct resources into alternative uses” because prices were controlled by the state. For example, the “interest rate was stabilized at 4.5 per cent and dividends were limited to 6 per cent.” It looked like a stock market, but it didn’t walk like a stock market or quack like a stock market.

Overall, then, I support the general proposition that limits of knowledge imply limits to what we should ask governments to do. And yet I must confess to some perplexities about Scheall’s central point.

Part of my difficulty concerns the words “deliberate” and “deliberation.” Recall Scott’s gracious treatment of my summary statement, “Ignorance slays deliberation.” Scott’s very mild reply was to substitute “constrains” for “slays.” But the word “deliberation” appears only once in his book (on p. 133) in an end-note briefly characterizing some of Helmholtz’s views. In substance, it is not the word he used in his book. And rightly so, I think. Aristotle says that “deliberating” is “investigating and calculating” (*Nichomachean Ethics* 6.9.2 & 6.9.3, Bekker page 1142b). He says, “deliberation takes a long time” (*Nichomachean Ethics* 6.9.2, Bekker page 1142b). If “deliberation” means “thinking it through carefully,” then we may deliberate *more* when our ignorance is greater. Some people who buy lottery tickets, for example, agonize over what numbers to choose. They take a long time and weigh many considerations precisely because they are conscious of their ignorance. They often hope to seize upon some consideration that will reveal itself to be relevant and definitive. “Why, it’s my cousin’s birthday today! But should I pick month then day or day then month?” And thus, endlessly pirouettes the peroration.

I don’t think Scheall meant to say that ignorance constrains “deliberation” in that sense. I think he meant to say that ignorance prevents us from doing something “deliberately,” that is intentionally or on purpose. He opens the introductory chapter with the words, “The present work is a plea for inquiry into an important, but heretofore largely neglected, problem. The *problem of policymaker ignorance* is the simple fact that the success of purposeful political action is necessarily limited by the nature and extent of policymakers’ ignorance and their capacities to learn. We cannot *deliberately* realize policy objectives beyond the ken and control of our political representatives” (p. 1). It might seem a straightforward principle that we cannot do deliberately what we know not of. And yet I feel perplexed.

Scheall says, “[B]y definition, *deliberately can* just means *knows enough to*” (p. 3). If that sentence defines “deliberately,” then “deliberately” would seem to mean “knows how.” But what would “knows how” mean? Since Scheall accepts and, indeed, emphasizes that knowledge may be tacit (pp. 15, 107, 123, 125, 128) and since he favorably cites Ryle’s (1946) “knowledge how” (p. 123), it would seem that Scheall’s “knows how” means “is able to.” Scheall says of the socialist planner seeking agreement, “In particular, they must know how, that is, they must possess the ability, to mollify those who resist the plan without simply murdering or otherwise coercing them into quiescence” (p. 53). Thus, it seems fair to say, “knows enough to” means “is able to.” Thus, Scheall’s position seems to be that, by definition, “deliberately can” just means “is able to.” But then Scheall’s political epistemology is reduced to the proposition that politicians are not able to do what they are not able to do.

I don’t know whether my perplexities about Scheall’s central claim show he is to be criticized for obscurity and confusion or, what is more likely, that *I* am to be criticized for getting his plainly stated views

wrong. Perhaps neither of those things is true, but something else. In any event, I cannot pretend to have a definitive definition of “knowledge” that will somehow disperse all fogs of obscurity, ambiguity, and multiple meaning. I don’t think I know what knowing is.

I don’t know what knowing is, but it seems connected in some essential way to acting adaptively or appropriately. If you have been frozen into inactivity by unexpected events, you may later exclaim, “I didn’t know what to do!” The unexpected contingency did not call forth an action suited to your desires, purposes, and interests. A party guest has made an unexpectedly crude remark, grossly inappropriate to the situation. You might wish generously to relieve them of their embarrassment or, cruelly to draw attention to their error, or selfishly to suggest that you would never and could never utter such a crudity. Whether your impulses were generous, cruel, or selfish, you were, we imagined, frozen into inactivity. You were, therefore, unable to promote your (generous, cruel, or selfish) ends, unable to act appropriately to the situation.

In some cases, acting appropriately is saying or writing something. You know your multiplication tables if you can recite them. You know how to add if you can write down the right answer. You know the capital of Vermont if you chirp “Montpelier” at the right moment. You may also “know” what you cannot say. You may know when to hold ‘em and when to fold ‘em. You may know how to ride a bicycle or how to swim. You may know how put others at ease. In such cases we imagine your adaptive actions to have been enabled by some disposition, habit, skill, or internal state or condition. We imagine that you possess some enduring property that lets you to act appropriately in a variety of cases that may be more or less well defined or only vaguely apprehended. If we think that you do not “know” how to swim, we will describe your escape from drowning this morning as “lucky” or “a fluke.” If, however, you “know” how to swim, there was nothing surprising or unusual in the fact that you crossed the pond safely. Thus, you “know” only if you *reliably* act appropriately in some class of cases.

In appealing to the notion of reliability I have probably been influenced by Alvin Goldman (1986), who offered a “reliabilist” account of knowledge. And Goldman’s project of “veritistic social epistemology” has influenced my own efforts in *Expert Failure* and elsewhere. As far as I can tell, however, I am more epistemologically radical than Goldman in part because (like both Hayek and Scheall) I do not require “knowledge” to be a belief or to be in any way justified or even true.

I have come around to a tentative definition of “knowledge” as reliably acting appropriately in some class of cases. Humans are not the only entities that may reliably act appropriately in a class of cases. Your dog may know how to sit, roll over, or heel. Kaufmann says, “complex living systems must ‘know’ their worlds. Whether we consider *E. coli* swimming upstream in a glucose gradient, a tree manufacturing a toxin against a herbivore insect, or a hawk diving to catch a chick, organisms sense, classify, and act upon their worlds. In a phrase, organisms have internal models of their worlds which compress information and allow action” (Kauffman 1993, p. 232). Notice that even a tree knows something in this view of knowledge.

If knowledge is reliably acting appropriately to circumstance in a class of cases, then the knowing entity must *respond* to its environment. It must, therefore, sense its environment. Because its actions must respond to what it senses, it must classify what it senses. “In this environment, go up.” Or “In this environment, stop moving.” The knowing entity’s action must depend on which elements in its classification are activated by what it senses. The number of particulars in the environment that a knowing entity might respond to is very large. Its classification, therefore, will simplify, picking out only a relatively small number of environmental particulars. *E. coli*, swimming in its host’s intestine, responds to nutrient concentrations and little or nothing else. I am eliding some complexities. Beisel and Afroz (2016), for example note that *E. coli* have strong preferences among sugars. Micali et al. (2017) show that *E. coli* sensors can get overwhelmed when they swim toward food, leading to “tumbles” and other wiggly irregular movements. Nevertheless, in this and all other cases, the knowing entity will discriminate among only relatively broad classes of environmental states. *E. coli* don’t consider, for example, whether their host is standing or sitting, sleeping or awake. They do not discriminate among these environmental states.

The knowing entity’s classificatory system, its model of the environment, simplifies. In this sense, it compresses information. If it did not, the knowing entity’s model of the world would be as detailed and

complicated as the world. But then the knowing entity would not be *in* the world; it would *be* the world. One may think immediately of Borges' (1946) "On exactitude in science." But the point had been made more mirthfully by Lewis Carroll in *Sylvie and Bruno Concluded* (1898, p. 169):

Mein Herr looked so thoroughly bewildered that I thought it best to change the subject. "What a useful thing a pocket-map is!" I remarked.

"That's another thing we've learned from your Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the largest map that would be really useful?"

"About six inches to the mile."

"Only six inches!" exclaimed Mein Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!"

"Have you used it much?" I enquired.

"It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well."

If a knowing entity were the world, it could not act appropriately to its circumstances because anything, everything, and nothing would be appropriate no matter the *state* of the world. The world cannot respond "appropriately" to itself. This point seems related to Wittgenstein's private-language argument (1958, pp. 89e-96e [§§244–271]). The phenomenon in both cases, knowledge or language, cannot exist without multiple interacting agents. If we divide agents from one another and narrow our focus *down* to one atomic unit, language disappears. If we merge agents into one another and expand our focus *up* to one all-encompassing unit, knowledge disappears. Recall that a language is "private" for Wittgenstein if it cannot be understood by others because it refers to supposedly private sensations. Such a "private language" is impossible, Wittgenstein maintained, in part because "I have no criterion of correctness" for the use of the language. He says, "One would like to say: whatever is going to seem right to me is right. And that only means that here we can't talk about 'right'" (1958, p. 92e [§258]). Similarly, there would seem to be no criterion of appropriateness or adaptivity for the "actions" of the world as a whole.

Presumably, "my" definition of knowledge as "reliably acting appropriately to circumstance in a class of cases," is wholly unoriginal. It seems to be no more than what Kauffman had in mind in the passage quoted above. It seems close to Hayek's (1978, p. 41) view that knowledge "consists in the action patterns" that "stimuli tend to evoke." Hayek, however, seems to have thought that only a "mind" can "know," whereas plants and, I think, machines can "know" under my definition.

I look forward to learning whether my definition of knowledge is agreeable to Scheall. This definition is meant to capture how we use the word knowledge in a broad class of cases. One may, I suppose, *stipulate* that knowledge is justified true belief. It may then be an open question, however, whether anyone ever "knew" anything in that stipulated sense. And, of course, such a stipulative definition is incomplete without a reasonable account of justification. Nor am I personally confident that I know what the word "belief" means in this context.

Similar questions could be raised of "my" definition as well. In particular, I have been pretty vague about what I mean by "a class of cases." If I am right to think that a definition of "knowledge" should not be imposed upon the reader, but emerge from practice, then it may be acceptable to be vague about the mean-

ing of “class of cases.” I might meditate, like Descartes in his closet, upon the true essence of “knowledge” and then capture that imagined essence in some deft verbal formulation. And perhaps that procedure would be appropriate and successful if knowledge were individual. But if knowledge is social, then it is probably impossible to meditate oneself to anything like its true essence. Such a Cartesian meditation is unlikely to achieve its end because the “true essence” of knowledge is a matter of social science and biology. But then our knowledge of what knowledge is must be in part a product of empirical studies in the social and biological sciences. And in that case, we cannot separate the question of what knowledge “is” from the question of how some relevant scholarly community might best *construe* the term. In this case as in so many others, it seems, “the meaning of a word is its use in the language” (Wittgenstein 1958, p. 20e [§43]). Debates over the meaning of “knowledge” become debates over how a potentially ill-defined community of scholars should use the word. Whether the “class of cases” is adequately identified within a scholarly community will depend on that community and may change as the community’s conversation unfolds. As Imre Lakatos’s *Proof and Refutations* (1976) illustrates, scholarly standards may evolve over time. If so, then it would be inappropriate for me to pretend to specify what, precisely, “a class of cases” means. It would be inappropriate for me to specify for an indefinite host of other scholars, present and future, what criteria they should apply in deciding whether someone’s articulation of a “class of cases” is definite enough to be useful for their scholarly purposes.

We imagine, I said above, that a knowing entity’s adaptive actions are “enabled by some disposition, habit, skill, or internal state or condition.” If that statement is correct and coherent, then it makes perfect sense to say, with Scheall, “the success of purposeful political action is necessarily limited by the nature and extent of policymakers’ ignorance and their capacities to learn” (p. 1). The “ignorant” policymaker has no disposition, habit, skill, or internal state or condition enabling them to reliably act appropriately to circumstance. If my perplexities about Scheall’s position were not mistaken in the first place, then perhaps they can be successfully answered by defining “knowledge” as “reliably acting appropriately to circumstance in a class of cases.”

I have elsewhere (Koppl 2018) argued that knowledge is in the main “synecological, evolutionary, exosomatic, constitutive, and tacit.” Briefly, knowledge is “synecological” if the knowing unit is not an individual, but a collection of interacting individuals. It is “evolutionary” if it emerges from an undirected or largely undirected process of variation, selection, and retention. It is exosomatic if it is somehow embodied in an object or set of objects such as a book or egg timer. It is constitutive if it constitutes a part of the phenomenon. The “knowledge” of Roman augurs studying bird flights was constitutive because it influenced events such as when or whether an enemy was attacked. And, finally, knowledge is tacit if it is not “discursively effable.” I have suggested the acronym SELECT as a memory aid. The “L” in SELECT is meant to represent the L in “evolutionary.” Thus, knowledge is Synecological, EvoLutionary, Exosomatic, Constitutive, and Tacit.

Garzarelli and Infantino (2019) seem to say that my “SELECT knowledge” is but a repackaging of Vernon Smith’s (2009) “ecological rationality.” Perhaps. Whether my view is or is not identical to Smith’s, we both draw heavily on Hayek, as does Scheall. As far as I can tell, my discussion of “SELECT knowledge” is consistent with the meaning of “knowledge” that I have given above. And it may be, perhaps, helpful in working out the epistemic limits of political actors in social systems.

Peter Boettke’s (2018) articulation of Hayek’s “epistemic institutionalism” is helpful as well, I think, both in clarifying the general nature of the “Austrian” project in political economy and in driving that project forward. I value especially Boettke’s analysis of the “epistemic limits of democracy” (2018, pp. 246–251). I value highly the radical epistemic egalitarianism of Boettke’s analysis. Scheall cites Boettke’s book, but expresses disappointment over its failure to engage epistemology proper more deeply. In an apparent reference to Hayek’s famous work in theoretical psychology, *The Sensory Order*, Scheall says that it is “problematic” that “Boettke neglects Hayek’s theoretical psychology and epistemology” (n. 4, p. 131). I confess that Scheall’s criticism seems misplaced to me. Boettke was doing political economy and not philosophy. It is probably true that, like Scheall, I place greater weight on Hayek’s *The Sensory Order* (1952) than Boettke.

Rather than cursing the supposed omission, however, it might be better to supply the missing complementary arguments.

I was also disappointed in Scheall's attack on Mises' methodology, which I have defended in the past (2002). More recently, Zanotti and Cachanosky (2015) have interpreted Mises' methodology in more or less the way I do. As I will explain presently, I think Scheall's misunderstanding (as I view it) may be rooted in a failure to distinguish different time scales in biology.

Scheall says,

As an evolutionary epistemologist, Hayek was open to the possibility that some knowledge might be either naturally selected or passed along to future generations as a kind of genetic inheritance, but he argued that, in the last analysis, all knowledge is due to the organism's or its ancestors' encounters with the environment. On the other hand, Mises ([1933] 2003, [1949] 1998, 1962) insisted on the possibility of rationalistic *a priori* knowledge, that is, knowledge that the organism somehow possesses in advance of its first encounters with the environment, prior to its first experiences, and can discover via internal self-reflection, merely in virtue of being the kind of organism that it is (p. 110).

Scheall is moving the goal posts when he turns from Hayek to Mises in this passage. With Hayek, we are told, an organism's knowledge "is due to" its individual experience or the experience of its *ancestors*. Scheall then complains that for Mises, "the organism" has knowledge "in advance of its first encounters with the environment." Scheall considers evolutionary shaping to be relevant experience when discussing Hayek, while excluding it from consideration when discussing Mises. But, as I develop below, Mises also recognized the role of evolutionary shaping in forming the knowledge of the human organism.

For both Mises and Hayek, all organisms have what Scheall describes as, "knowledge that the organism somehow possesses in advance of its first encounters with the environment." In his introduction to *The Sensory Order*, Heinrich Klüver makes the point. "[T]here is, on every level, a part of our knowledge which, although it is the result of experience, cannot be controlled by experience because it constitutes the ordering principle" (p. xxi). In developing his "central contention" that memory precedes sensation (1952, p. 53), Hayek explicitly rejects a central tenet of empiricism as traditionally understood. "John Locke's famous fundamental maxim of empiricism that *nihil est in intellectu quod non antea fuerit in sensu* is therefore not correct if meant to refer to conscious sense experience. And it does not justify the conclusion that all we know (*quod est in intellectu*) must be subject to confirmation or contradiction by sense experience" (p. 167). Instead, he says, "there will exist certain general principles to which all sensory experiences must conform (such as that two distinct colours cannot be in the same place) – relations between the parts of such experiences which must be true" (p. 167). Hayek emphasized that his rejection of some of the views "traditionally associated with empiricism" did not come from an "opposite point of view, but on the contrary, by a more consistent and radical application of its basic idea. Precisely because all our knowledge . . . is due to experience, it must contain elements which cannot be contradicted by experience" (p. 172).

Hayek infers the principle of methodological dualism from his heavily qualified or, rather, *more radical* form of empiricism. The insight that not all of an organism's knowledge is subject to empirical control leads Hayek, by a kind of Cantorian diagonal logic (1952, pp. 184-190) to conclude that we cannot hope for a "complete 'unification' of all sciences" that reduces all scientific propositions to physical language (p. 191). (See Koppl 2010. Note also Hayek's explicit reference to Cantor in 1967, p. 61, n.49.) Hayek explains, "In the study of human action, in particular, our starting point will always have to be our direct knowledge of the different kinds of mental events, which to us must remain irreducible entities" (p. 191). Hayek speaks favorably of "introspective" knowledge, which lets us "understand" others. This is "introspective psychology" takes "our direct knowledge of the human mind for its starting point" (p. 192). He even uses the term "*verstehende* psychology" (*ibid*) as if to leave us in no doubt that he is invoking the "understanding" tradition of Wilhelm Dilthey, Max Weber and others, upon which Mises built.

Mises also attributes the a priori biological evolution. “The problem whether there are or are not a priori elements of thought,” Mises insists, “must not be confused with the genetic problem of how man acquired his characteristically human mental ability” (1949, p. 33). He goes on to attribute this acquisition to biological evolution, noting that humans are “descended from nonhuman ancestors.” The human mind, therefore, is “an adaptation of man to the conditions of his environment.” As if to squash all doubt on these points, he says, “Reason, intellect, and logic are historical phenomena” (p. 33). And, “Reason and mind . . . are embedded in the continuous flow of zoological events. They are neither eternal nor unchangeable. They are transitory” (p. 34).

Scheall notes Mises’ evolutionary account of the categories, but rather mysteriously dismisses it. He says it is, “sketchy and manifestly inconsistent with other passages that surround it in the relevant texts, which seem to deny experience a role in the construction of a priori knowledge and appear to double-down on rationalist apriorism, that it is difficult to take seriously” (p. 135, n. 38). Scheall provides no argument or evidence for the supposed inconsistency between Mises’ comments on the evolution of human cognition and his methodological apriorism. Scheall shares only his dismissive judgment that it is so. Does the “experience” of our biological ancestors count? When discussing Hayek, Scheall says that it does. When discussing Mises, Scheall says that it does not. In my view, we can and should construe Mises methodology to be self-consistent. I think we should seamlessly integrate his “methodological apriorism” with his evolutionary account of the emergence of human rationality. This reading seems to be correct and straightforward. Scheall, instead, simply dismisses Mises’ evolutionary account, which frees him to then criticize Mises for neglecting the role of evolution in shaping human knowledge.

Scheall includes prehuman experience with Hayek, but excludes it with Mises. I think a greater attention of the role of time in evolutionary theories might have helped to avoid this unwitting shifting of standards when moving from Hayek to Mises. In his classic article, “Time in Biology,” J. B. S. Haldane (1956, p. 398) said, “It is clear that the different time scales used in biology require different types of thought. Further, our knowledge about the events on these scales is based on different sets of facts.” He illustrated this principle by providing very distinct answers to the question “Why does the male chaffinch sing in spring as he does?” (Haldane 1956, p. 388). He gives five very different answers, each appropriate for a different timescale. In the shortest timescale, the answer is that certain “muscles contract as the result of transformations of adenosine triphosphate and other substances.” At one of the intermediate timescales the answer is that “longer spring days” have “produced hormones which act on his brain.” And on the evolutionary time scale, it is because it yields an evolutionary advantage “that small birds should sing . . . to repel other males.” When we consider the role of experience in regulating and shaping an organism’s knowledge, we must not neglect the different time scales Haldane points us to. The knowledge a human may acquire through personal experience may change quickly. The human knowledge hammered out in evolutionary time may be impossible to change in the span of one person’s life or, indeed, in several generations. The experience of the individual organism cannot regulate such knowledge even though it is subject to revision in evolutionary time.

Hayek and Mises both say that a part of the evolved structure of the human mind is immutable and beyond control or regulation by experience because, in Klüver’s words, “it constitutes the ordering principle” (p. xxi). This idea we have seen in Hayek’s *The Sensory Order*. It is in Mises’ *Human Action* as well. “Man acquired . . . the logical structure of his mind,” Mises says, “in the course of his evolution from an amoeba to his present state. But these tools are logically prior to any experience” (1949, p. 35). He then explains in what sense he is an apriorist. “The fact that man does not have the creative power to imagine categories at variance with the fundamental logical relations and with the principles of causality and teleology enjoins upon us what may be called *methodological apriorism*” (1949, p. 35, emphasis in original).

The pragmatic character to Mises’ supposed “apriorism” clarifies, I think, an otherwise ambiguous statement I have purposefully skipped over until now. While commenting on the evolution of the human mind, Mises says, “Hence the empiricist concludes that the fundamental principles of reasoning are an outcome of experience and represent an adaptation of man to the conditions of his environment” (p. 33). The

sentence seems to take distance from empiricism. But the rest of Mises' commentary in this part of *Human Action* is unambiguously favorable to a broadly Darwinian understanding of the biological evolution of humans. Was the quoted passage, then favorable or unfavorable to the view that "the fundamental principles of reasoning" are adaptations shaped by experience in evolutionary time? I think we can now see that Mises is in agreement with the idea that "reason" is a biological adaptation but wishes to distance himself from the mistaken inference that nothing is beyond regulation by the individual organism's experience. Indeed, Hayek and Mises both seem to be saying that it is precisely the evolutionary shaping of the mind that puts some core principles of its operation beyond the control of experience for the organism, as opposed to the species, genus, family, order, class, phylum, kingdom, or domain.

Mises also seems to have objected to the way in which the word "experience" is being used by "the empiricist." In *The Ultimate Foundations of Economic Science* he again puts forward the "hypothesis" that the categories evolve. "However," Mises warns us sternly, "reference to this interpretation of the origin of the a priori categories does not entitle us to call them a precipitate of experience, of a prehuman and prelogical experience as it were" (1962, p. 15). Mises restricted the word "experience" to mean "a mental act on the part of thinking and acting men" (Ibid). While I would prefer to give the word a wider meaning, it must be admitted that dictionary definitions often seem to link experience to conscious human knowledge. In any event, a stipulation that only biologically modern humans have "experience" would prevent one from saying, with "the empiricist," that "the fundamental principles of reasoning are an outcome of experience." One would be prohibited from saying so even if one agreed with the substance of the claim that the "experience" of our biological ancestors has shaped our reason.

Mises' stakes out the same basic methodological position in *Ultimate Foundations* and *Human Action*. But there seem to be differences between them. It seems to me that Mises position in *Ultimate Foundations* is less subtle, although I am not prepared to properly defend that impression. His position on "the reality of the external world," for example, seems less nuanced in *Ultimate Foundations*. As far as I can tell, however, these differences don't matter for this essay. If I am mistaken on that point and they do matter, then I will stipulate that it is Mises' earlier position that I am defending against Scheall's criticism. Such a stipulation may be reasonable given that Scheall does not distinguish between Mises' earlier and later methodological positions.

I think it will surprise many readers to be told that Mises' much derided apriorism was a pragmatic methodological contrivance thrust upon us only by our want of "creative power to imagine" a mind functioning much differently than the human minds we are familiar with, our own and others'. It will surprise readers to be told that Mises' "methodological dualism" does not necessarily proscribe philosophical empiricism. And yet no less a figure than John Stuart Mill was both a philosophical empiricist and methodological apriorist, as Mises notes. Mises points out that Senior, Mill, Cairnes, and Weiser all had methodological views "not, in fact, very far" from his views (Mises 1933, p. 18). Mill rejected any "supposed mode of philosophizing, which does not profess to be founded upon experience at all" (1877, p. 143). But this philosophical position did not prevent Mill from recognizing both "induction" and "ratiocination" in science. Mill's "method *à priori*" is "reasoning from an assumed hypothesis," which he took to be "a mixed method of induction and ratiocination." The "method *à posteriori* . . . requires, as the basis of its conclusions, not experience merely, but specific experience" (p. 143). With Mill's "method *à priori*," the empirical element in "the science of Political Economy" comes in the application of its conclusions. Says Mill, "To verify the hypothesis itself *à posteriori*, that is, to examine whether the facts of any actual case are in accordance with it, is no part of the business of science at all, but of the *application* of science" (p. 143, emphasis in original). Mises makes a similar, if not identical, claim when he says, "All theorems of economics are necessarily valid in every instance in which all the assumptions presupposed are given" (1949, p. 66). For example, "The theorems referring to indirect exchange are not applicable to conditions where there is no indirect exchange. But this does not impair their validity" (pp. 66-67).

Hayek rejected the view that consciousness is self-transparent. By the "diagonal" logic we noted above, Hayek was led to the conclusion that "mental activity must always be guided by some rules which we are

in principle not able to specify” (1967, p. 60). Mises, too, averred that the mind’s workings are not always, in Scheall’s words, “discursively effable.” Mises distinguished between “conception” and “understanding.” Mises says, “Conception seeks to grasp the meaning of action through discursive reasoning. Understanding seeks the meaning of action in empathic intuition of a whole” (1933, p. 133). Thus, “understanding” is not (in Scheall’s words) “discursively effable.”

To be sure, Mises’ understanding of “understanding” differs from Hayek’s to at least some extent. Whereas Hayek comes to it through a rigorous scientific argument about how mind emerges from matter, Mises appeals to the philosophy of Henri Bergson. To explain his phrase “empathetic intuition,” Mises favorably quotes Bergson’s definition of “intuition,” as “the sympathy by which one is transported into the interior of an object in order to coincide with what there is unique and consequently inexpressible” (Bergson 1946, p. 190). While I’ve given the quote in English, Mises quoted the original French. It reads, “la sympathie par laquelle on se transporte à l’intérieur d’un objet pour coïncider avec ce qu’il a d’unique et par conséquent d’inexprimable” (Bergson 1934, p. 205 as quoted in Mises 1949, p. 49). It seems unlikely that Hayek would have endorsed this characterization of intuition. This difference does not change the fact, however, Hayek and Mises alike recognized that not all of our knowledge is “discursively effable.”

And yet I would not wish to exaggerate the difference between Hayek’s and Mises’ understandings of understanding. It seems worth noting in this connection what Hayek said in the 1920 manuscript that *The Sensory Order* was based on. “It is worth noting that H. Bergson reached very similar results by a very different approach and also rejected this atomistic conception most vigorously” (Hayek 1920). Elsewhere, Hayek links the self-opacity of mental function to “Verstehen,” citing precisely Mises’ distinction between “conception” and “understanding” (1967, pp. 58-60). In connection with “understanding” or “Verstehen,” Hayek and Mises both quote Empedocles saying, “Knowledge is of like by like.” (Many years ago, both Sudha Shenoy and Richard Ebeling kindly translated for me the Greek original – γνώσις του ομοίου τω ομοίω – used by both Mises and Hayek.) And Hayek reports that he “owes the quotation from Empedocles” to Mises’ (1933) use of it in “Conception and Understanding.” (In Koppl 2010 I discussed these issues in the context of then-recent developments in cognitive science.)

Mises’ “apriorism” is methodological. And, like Hayek’s “pragmatic dualism,” which Scheall extolls, his “methodological apriorism” is rooted in a model of experience shaping, in evolutionary time, the governing principles and categories of the human mind. And for both Hayek and Mises, this evolutionary shaping of consciousness implies that the human mind is not fully self-transparent. I must, therefore, disagree with Scheall when he says Mises, unlike Hayek, did not recognize that some parts or aspects of our knowledge is “1) due to the species’ confrontations with the environment and therefore modifiable in virtue of new confrontations with the environment and 2) often known only unconsciously or tacitly; that is, they are often only implicit in the organism’s actions and not discursively effable” (p. 123).

I also disagree with Scheall’s harsh judgment that “Mises’ rationalist epistemology must be counted among the worst and more incoherent ideas in the history of economic thought” (p. 7). This judgment seems to be based on a misunderstanding of Mises’ views. It also seems inappropriate to rank Mises’ methodological ideas, which are close to those of J. S. Mill and F. A. Hayek alike, so low when other more wretched candidates can be found. Within the methodology of economics, Othmar Spann’s “universalism” provides an example that may be relatively non-controversial today. In Mises’ day, Spann was an important professor at the University of Vienna. He defended “universalism” against individualism. He taught that society is “based on an objective spiritual reality, upon something which must be conceived as an aggregate of a peculiar kind on a higher plane than the individual and therefore super-individual” (1930, p. 59). This is the view that “the mental or spiritual associative tie between individuals exists as an independent entity; that it is super-individual and primary, whereas the individual is derivative and secondary” (Spann 1930, p. 60). Whatever defects Mises’ “methodological apriorism” may have, it seems in a different category from Spann’s “universalism” and any number of other miserable ideas that have slithered their way into the economics literature over time.

I have been roused to leap once again to the defense of Mises' apriorism. But we read the works of other scholars to learn and not to snipe or, certainly, condemn. And, as I hope to have conveyed earlier in this paper, Scheall has something to teach us. His insistence on the centrality of political epistemology to political philosophy is right, I think. And it should rouse many scholars to develop the point in multiple directions. Following Cazzola Gatti et al. (2020) I would value studies of the evolutionary and biological dimensions of political epistemology. Work in Boettke's "epistemic institutionalism" could be enriched by Scheall's penetrating analysis. And so on. There is much work to do, many questions to answer, and many questions to ask. Scheall has made an important contribution to the collective work of learning how the production and distribution of knowledge in society shapes the politically possible.¹

NOTES

- 1 I thank Scott Scheall for a helpful email exchange on his book. I wish I could blame him for any errors I may have made. Regrettably, however, they are all on me.

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