

Intuition, Science, and the Axiom of Action
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The Axiom of Action is not only a fundamental feature of the Austrian tradition in economics, it also serves as the distinguishing mark. It encapsulates, in the deductive structure which follows of necessity and the methodology founded on its principles, a field of knowledge concerning human *praxis*, termed by Mises *praxeology*. Otherwise known as the science of human action, in that it serves to provide an explanation of this social phenomena, praxeology would lack for all content without the Axiom of Action. The Axiom of Action and praxeology are for all intents mutually conjoined concepts, each implying the other.

The account of the Axiom of Action as espoused by Mises includes that it is fundamentally beyond empirical proof. This is meant to be an explanation for the adversity of Austrians to “empirical” forms of economics. For if a principle is meant to provide a description of how two variables are related in a world where the two variables so-described cannot ever be separated from all else that informs what is the case, then the principle cannot in principle be inducted from a set of phenomena, since what appears to conform and doesn’t appear to conform to an overly simplified interpretation of such a principle will, by the principle of *ceteris paribus*, always be subject to potentially unknowable events.

I will argue that the account of the Axiom of Action provided by Mises is wrong concerning its empirical confirmability. It is, rather, a kind of proposition known to be true by experience of the world. While the deductive structure still follows in the case of its truth, and indeed I will argue that the Axiom of Action *is* empirically confirmed, it is

yet *theoretically* open to negative verification in some possible world. I will show how, as an intuitively understood axiom, it is open to both empirical confirmation and disconfirmation regarding *whether it is the case in our world*.

To make my case, I will begin with the account of the Axiom of Action (hereafter abbreviated “AA”) as explained by Mises in *Human Action*. Then, I will examine the form of axiomatic propositions in general, especially in regards to how they are intuitively conceived *a priori* (metaphysical intuition) yet confirmable by experience *a posteriori* (epistemological intuition), pulling from Kant and using examples from geometry and physics. Following this, I will give an account of explanation using axioms of this kind and compare them to complex propositions, or propositions that are reducible in meaning to a conjunction of axioms. Drawing on this we shall see how the AA is, in its being truly an axiom, thus a proposition open to empirical confirmation or disconfirmation in some way. Finally, I will show how it is empirically verified, and consider what this does and doesn't change of the deductive structure and methodology suited towards explanation we find in the Austrian tradition of economics.

Mises on the Axiom of Action

The AA is an explanation of the purpose of human behavior, which is that all action undertaken by a human, insofar as it can be considered essentially *human* (as opposed to merely reactive, e.g. the heart beating), undertakes what is understood by one to be means effective to some given end that they understand to be a preferable state of affairs than what they would otherwise have. That which is *essentially* human is understood by Mises to diverge from the action of inanimate bodies and animals in that

the purpose of action is self-consciously aimed at a preferred end.¹ However, it is not to explain psychological phenomena, but only behavior that is essentially human.

Whatever is the motivation of some particular action, whether that be carnal pleasure, vengeance, contrition, asceticism, and so on, is beyond the purview of praxeology; it is simply the case that all human action is aimed at a state of affairs considered preferable.²

It is because “*human action* [...] can be *meaningfully interpreted* by other men, for it is governed by a certain *purpose* that the actor has in view” that the structure of praxeology can be deduced from this principle.³ For what follows by logical agreement with this principle, founded on its truth, must by necessity also be true, and whatever is logically incompatible by necessity must be false.

Mises identifies three prerequisites to human action:

- 1) the understanding of some state of affairs as superior to the present
- 2) some felt uneasiness and the wish to alleviate this uneasiness
- 3) the expectation that there is an effective means to alleviating this felt uneasiness⁴

Mises contrasts teleology with causality, meaning by teleology that something is purposive and by causality that something is mechanistically caused by another. To put it in Aristotelean terms, teleology is final cause while causality is efficient cause. His purpose for contrasting the two is to show how the praxeologist, or studier of human action, is always concerned with this teleological account inasmuch as they are a praxeologist. Once he stops taking into account the teleological grounding of human

¹ von Mises, Ludwig. *Human Action: A Treatise on Economics Scholar's Edition*. p. 49. Hereafter HA.

² HA p. 49.

³ Rothbard, Murray N. *Man, Economy, and State with Power and Market Scholar's Edition 2nd Edition*. p. 47.

⁴ HA p. 51

behavior, he is no longer doing praxeology and cannot produce propositions predicated on the AA.⁵

But how do we know that the AA describes humans, and that as such we can base the science of economics on the deductive structure of praxeology? Mises' argument can be summed up through this quotation: "Experience concerning human action differs from that concerning natural phenomena in that it requires and presupposes praxeological knowledge."⁶ In other words, the AA is an *a priori* principle that we do not discover in order to explain human behavior, but rather is a principle we explicate as a condition of our being able to interpret anything meaningful of human action at all. It is something intrinsically known by anyone because, being human, we are prepared to understand human behavior by our evolutionary descent in the same way that we have an intuitive grasp of logic and mathematics.⁷ Praxeology is thus beyond the remit of scientific methodology for confirmation or disconfirmation. It cannot be proved by observation, but likewise it cannot be disproved. This renders the whole of praxeology aprioristic, since if the axiom is in no way known by observations, then what follows of the axiom has the same quality.

The Postulation of Axioms: Metaphysical and Epistemological Intuition

How are we able to gain knowledge of the world? I will give an account adapted from Kant. After explaining this account, I will put Mises' argument in its terms, which will allow me to show the inadequacy of the account and how it can be improved.

⁵ HA p. 65

⁶ HA p. 76

⁷ HA p. 69

Regarding experience, there are two kinds of knowledge. There is knowledge that we have prior to any experience; this is called a *priori* knowledge, and it figures heavily in the Austrian tradition following Mises. There is also knowledge we have incurrent upon experience, which is called a *posteriori* knowledge. Those who would claim that all knowledge is a *posteriori* can be called radical empiricists, and in showing the shortcomings of this account we can see the necessity of a *priori* knowledge if there is to be knowledge at all.

A radical empiricist would point to our ability to form expectations or imaginings of the world and show how the content of our thought in these cases is reliant upon previous experience. I am able to imagine red because I have experience of red, I am able to imagine extension because I have experience of extension, and so on, combining the qualities of my experiences to produce novel arrangements, but not novel qualities. The content of knowledge in this way is simply what has been impressed upon us by the world and our senses.

However, this brooks a problem, namely how the radical empiricist is to deal with knowledge that appears to supersede experience. For instance, I have the idea of a Euclidean triangle, a 2-dimensional polygon composed of three perfectly straight lines whose interior angles sum to 180° . In fact, it is by this idea that I adjudge of my experiences whether and to what degree some shape is *like* a triangle. However, I have never, and will never, come in contact with such a triangle. There will always be imperfections in the straightness of the lines, for example, and we might not even live in a Euclidean world! Then where does my knowledge of this kind come from?

Either we can admit that such counts as a kind of knowledge, in which case, accepting the reality of such *a priori* knowledge we must bid farewell to radical empiricism, or else we can deny that such really counts as knowledge at all. This is the route taken by logical positivists. But in their case, it leaves us wondering how they knew such was a possibility, since it doesn't conform to any possible experience. In fact, the most comprehensive of the logical positivists end up accepting the existence of such *a priori* knowledge as we would call it.⁸

We are calling *a priori* knowledge here that which we know is possible, or impossible, of the world. Since there is an eminent paradox which follows if we wish to somehow make the content of our knowledge dependent upon experience, yet we have pre-experiential knowledge, we must accept that the content of our knowledge is also *a priori*. That is to say, the *whatness* of what we conceive is born not of experience, but is understood in virtue of being a mind, and this is how we are able to know of the world at all. We have, as Kant says, intuition.⁹ Intuition supplies us with the content of our concepts, so that we are able to know what is possible of our experience and what of our experience conforms to what actually being the case in the world. Intuition here does not mean some vulgar sort of hunch or gut feeling, but is strictly speaking a true form of knowledge we have before experience which provides for the form of experiences to be possible. It is the conceptual recognition of the possibility of certain possible states of affairs in the world formed, in principle, without basis in experience. Our idea of a triangle is in this case intuitive knowledge, i.e. we know that *this* is a triangle, not necessarily that it is.

⁸ Ayer, A.J. *Language, Truth, and Logic*.

⁹ Kant, Immanuel. *The Critique of Pure Reason*. I note that my use of intuition, while based on Kant, is very divergent from his own.

I would divide intuition into two kinds. The first kind is called *metaphysical intuition*. This is the understanding of what can be in the world. The second kind is called *epistemological intuition*. This is dependent on the first, and is the understanding of how what can be in the world is known to be the case.

These are best illustrated, and I will illustrate them with Euclidean geometry. Consider Euclid's fifth axiom, which is also known as the parallel postulate. It states that *two parallel lines extended to infinity never meet*. How do we recognize what this means, especially in light of our inability to ever be presented with such an experience? It is, very simply, a postulate we are able to *intuit* in virtue of our minds. Understanding the whatness of the parallel postulate is to have a metaphysical intuition.

However, how would we know whether the parallel postulate describes what is the case in our own world? After all, we are able to postulate other states of affairs that are intrinsically contradictory to the parallel postulate. A world with elliptical geometry, for instance, would not be described by the parallel postulate, as parallel lines would eventually intersect. So how could we know whether the parallel postulate is true for our world?

This requires an intuiting beyond metaphysical intuition. Like *a priori* knowledge in general, we cannot rely on experience to inform us, since the very question is what experience conforms to the truth of some metaphysically intuited postulate being the case. We require an intuiting of what sort of experience would confirm the truth (or falsity) of some axiom. This is *epistemological intuition*. It is epistemological intuition that would provide the details of what experience would serve to confirm the parallel postulate for our world.

Axiom and Explanation

With this account of metaphysical and epistemological intuition in place, we are prepared to analyze the idea of axioms in explaining the world around us. An axiom is a first-level postulate describing what can be the case in the world that is not built from other parts. They are the basic parts of our metaphysical intuition. Ideas, metaphysical intuitions, about the world that involve multiple axioms are complex propositions. We can say, in other words, that axioms are indivisible metaphysical intuitions. The content of an axiom is understood *a priori*.

Every natural science involves the postulation of axioms and requires epistemological intuition when it comes to understanding how those axioms are known through experience, typically by controlled experiment. In fact, every individual field or discipline in the sciences can be divided based on the nature of its fundamental axioms. Geometry, as I have been illustrating with, begins with those axioms concerned with description of extension in space. Physics would be based on axioms concerned with description of change in space and time. So on and so forth.

An axiom in the sciences is, however, chosen not just for its nature, but for how well it serves to describe the phenomena in question. Physicists choose one axiom over another because of its conformity to observable phenomena. Experimentation serves as a specialized means of testing by experience to see whether an axiom is the case in our world, and what sort of experience confirms what is known by epistemological intuition.

In the case that we find an axiom fits, whatever else follows of the axiom by its meaning (and often in conjunction with other axioms) must likewise fit. It is intrinsic to

the meaning of the axiom itself that whatever else is true by logical necessity must be also be true of the world. A truth about the world does not cease to be true merely because one has introduced another truth or because one restates the truth in a different way. While it would require a stretch of the imagination to find some useful restatement of certain axioms, it is most often in conjunction with other axioms (verified by experience) that one can produce useful structures of knowledge.

It is in this way that complex phenomena of the world comes to have a form of explanation. While a description of some basic phenomena is not itself an explanation, since an explanation must to some extent answer *why* it occurs as it does, these descriptions of basic phenomena can, where it comes to phenomena involving multiple such basic forces in the world, be explained as the composition of these basic forces. While it cannot be pretended that such a form of reductive explanation suffices for all meaningful enquiry, it is the case that reduction of complexity to the joints operating by their own described principles provides order to our picture of the world.

Scientific explanation can come in this form. The matter of the principle itself, or what operates per the nature of the thing, is a matter of philosophy and will not be touched upon by the science *per se*, including economics. A true description of some basic phenomena is sufficient to build up a deductive structure, whether that be physics or economics.

Economics, which is that study concerned with the phenomena of trade and exchange between people, conforms to this same model regarding axiom and explanation. The axioms which are chosen as candidates for reductive explanation are metaphysically intuited, but that they are true for the world can only be known by

experience, since the possibility of multiple axioms renders the possibility of multiple experiences. The deductive structure which results of the chosen axioms must, in the case of the axioms' truth, be descriptive of the world as well. Which experience conforms to which axiom is epistemologically intuited, but nonetheless no axiom is, in being intuited thus, *intuited to be true*. This is what makes it an axiom; it is a possibility. It is possibly true, but possibility is not necessity.

Axiom, Intuition, and Truth

I just forwarded the controversial but important claim that *the truth of an axiom cannot be intuited*, though of course the truth conditions of the axiom can be intuited. In the structure of my argument, I believe that objections must come against this claim in particular, though I also believe that the claim I will defend is where most detractors of the Austrian tradition agree.

I do not want to argue that the truth can in no cases be intuited. Intuition is concerned with the substance of knowledge, and is knowledge that is not based in experience. Were the truth of nothing intuited, then the truth of nothing could be known, since we would have no truth with which to gain traction on reality, by which we could know that some implicit logical structure provides access to certain conclusions pending the truth of the premises. This is why I am very careful to separate my claims here, which I will explain here.

Propositions whose truth is, along with their substantial content, intuited I will call *first principles*. These are necessary truths which we must possess in the structure of our mind to be capable of any thinking and knowing about the world. I will not here

venture any description of first principles, I am only noting their term and what qualifies a proposition as such.

Axioms, on the other hand, are descriptions of possibilities. Where one intuits them, one also intuits their *possibility*. But as there is a substantial distinction between *possibility* and *actuality* we cannot move from *knowledge of the possible* to *knowledge of the actual* without the provision of some additional premises, which are provided by experience. The truth of an axiom, or whether it describes what is actually the case in the world, cannot be intuited for the simple reason that the intuition of the possibility of its actualization includes the intuition of the possibility of non-actualization. To recognize the possibility of the non-actuality is to submit that the axiomatic proposition in case is not necessarily true, and thus under the judgment of further states of affairs beyond its own conceptual content.

There is some relation between first principles and axioms. Axioms can be considered first principles insofar as one considers that their mere *possibility* is necessary. That is, for an axiom concerning x, “the possibility of x” can be taken as a first principle, though of course this doesn’t translate to “the actuality of x” of itself. The leap from intuiting the substantial content of an axiom to intuiting its truth cannot be done.

Intuition and the Axiom of Action

It is now that my critique of Mises can be made plain. I will throw his argument for the truth of the AA against my account of metaphysical and epistemological intuition, which will allow the inadequacy of his defense to be diagnosed. The inadequacy discovered, I will outline a means of completing his argument.

As already quoted above, Rothbard, channeling Mises, declares that it is because “*human action* [...] can be *meaningfully interpreted* by other men”¹⁰ that we know there is some axiom we recognize to describe it, allowing us to produce the deductive structure known as praxeology. This axiom is, of course, the AA. But this argument is insufficient, even circular. For how are we to know that we are *interpreting correctly* of the phenomena in the first place? We could only know and interpret of the phenomena by application of the AA, which means that the application of the AA becomes the means of confirming the AA. Anyone can grant that, provided some interpretative principle, one can derive some interpretation of a given phenomena; but if you don’t know whether that interpretative principle is sound to the phenomena, then you can’t know whether the interpretation is sound. Of itself, we can be left with a sort of fideism; we have this axiom, it provides meaningful interpretations, we can only have faith that it is sound.

However, for how otherwise rationalist the Austrian tradition is with Mises, this seems unsatisfying. All this, and we can only take it on faith that the AA is sound?

We have the metaphysical intuition of the AA. This is proved by the meaning it provides to us concerning human behavior. Mises is on firm ground when he points out that the AA is not discovered out in the world, being something we bring to the world, but it seems his attempt to distinguish economics from the other natural sciences leaves him without room to provide a satisfying demonstration of the truth of the AA. We cannot say that the truth of the AA is itself also intuited; if Mises were to grant that we intuit the truth *in reflection of our experience* then it concedes the issue, and economics is, to some degree not admitted by Mises, Rothbard, and the vast majority of the Austrian

¹⁰ HA p. 49.

tradition, reliant upon empiricism to some degree. After all, inasmuch as the AA is an axiom as I have described them, the argument that its truth is intuited is void. The intuiting of the axiom can include its substantial content and an understanding of its truth conditions (i.e. what experience confirms it to be the case). Yet the description of the AA does not include an account of the truth conditions by which we know it to be true, save the vacuous supposition by Mises that it works to interpret phenomena. That it interprets is beyond doubt, but again this leaves open the question of whether it forms a sound interpretative principle.

Truth Conditions of the Axiom of Action

What is not in doubt is whether the AA has metaphysically intuited substantial content. It is conceivable, and does work to provide a meaningful interpretation of human action. What is unknown is whether it is true, such that it would form a sound interpretative principle of the phenomena of human action in the first place.

For what I have detailed as an inadequacy in Mises' account of the AA, this inadequacy can be overcome by first describing the truth conditions as they are epistemologically intuited and then comparing to our experience of the world. I will make a case for the truth conditions of the AA and then argue that it is so confirmed by our experience of human action.

The AA is, above all, a statement concerning the ends of human action. Without getting bogged down in the discussion concerning teleology, the question is whether every *essentially* human action has as its end what is recognized as a preferable state of affairs by the individual to be achieved by means understood effective to that end;

that is, that essentially human action has as its essence behavior self-consciously directed to preferred ends, or in other words that for all essentially human action it is purposive. We can lay to the side certain “human actions” that are mere reflex or instinct, such as the beating of the heart or the preference for pleasure over pain. What is not under inspection are the preferences people have; we are seeking to describe a general principle of the *exercise* of preferences, where the preferences are mere matter.

I think we face an immediate difficulty of interpretation. By what principle do we distinguish between those actions which are essentially human, i.e. those actions we mean to describe by praxeology, as opposed to those which are incidental to the human? That is, it seems that the principle becomes not just an account of those essentially human actions, but is the very principle by which something is recognized as an essentially human action in the first place. This leads us into a vicious circularity. The beating of the heart is, we should like to say, not in the province of our concern, but do we say it is not in the province of our concern because it doesn't conform to the AA, or is there another principle by which we distinguish between essence and accident?

I would make the distinction in this way. When we are concerned with describing that which makes a thing of the kind that it is (for the AA is a description of kinds in this case, i.e. the human kind), we make note of certain incidental qualities as being those which are shared with other kinds of things but yet it is not on account of *those* qualities that we distinguish the kind from others. For instance, a rock has few other qualities than falling to the ground. A dog also falls to the ground, but it is not on account of its falling to the ground that we consider it a dog; we consider it a dog because it is a specific individual that exercises certain qualities we call *animation* and *life*.

Likewise so do we distinguish man from other kinds in the world. Man falls to the ground, to be sure, and he is also alive and animated, but unlike all the other animals (that we know of), he is also *rational*. He exercises an intuitive understanding of the world, and is as such aware of his own preferences in a self-conscious manner, and picks out his ends by this self-consciousness. Whereas creatures like dogs and fish might be considered to pursue their ends by instinct, without any self-explicable awareness of why they do so, man holds in his mind an awareness of the ends he prefers and how they shall be achieved. Man is, in other words, a *rational animal*.

Whatever does not come of a human person that has not to do with his rationality is a quality that can be considered incidental. It is in this way that we can understand how a principle formulated to describe this aspect of essentially human action can do so in a non-circular manner. We are able to, by independent means, recognize that we distinguish man from other creatures not by the fact of his falling to the ground (like any other material body) or having a heartbeat (like any other animal), but by his rational nature, and can so attribute those actions of his which he alone is uniquely capable of.

In being able to distinguish it, we must also be able to remark upon it and so come to understand its distinguishing marks which an axiom like the AA could describe.

Now we come to the question of what experience would confirm the truth of the AA. We can break down the AA to its component parts as described above; the postulation that essentially human action is behavior self-consciously directed to a preferred end. It will be even easier to understand what sort of experience confirms the AA if we can detect the logical interconnection of the parts. That is, if we can see what kinds of phenomena we should be focused upon, that will narrow the range of

experience we must consider. Furthermore, if some parts can be logically derived from others, then we should only need to confirm the phenomena relating to those parts that found the others.

There is an argument given by Hoppe as a kind of “proof” of the aprioristically *true* nature of the AA, which amounts to the claim that “[the Axiom of Action’s] truth cannot be denied, since the denial would itself have to be categorized as an action.”¹¹ If this argument were successful, then certainly everything I’m arguing here is for naught. However, were an Austrian to truly rest his laurels on this sort of argument, he is still inevitably conceding to some degree of reflection on experience as proof of the AA, and so it would not be true *a priori*. Moreover, this argument is itself problematic, because it universalizes illicitly from a particular. Any opponent who understands the AA through and through could grant that, yes, this particular action of his happens to be purposive, but the claim of the AA is not merely that *some* essentially human action is purposive, but that *all* human action is purposive. One can then deny the AA without committing some self-contradiction, because while they should have to concede that at least some human action is purposive (i.e. their own behavior in this case that has the purpose of refuting the AA), it is not proven by this single instance of purposive behavior that all human behavior is purposive, and as such falls under the province of the AA. Remember, the AA is a statement not about just *some* human action, but all human action-qua-human action.

This sort of argument structure is simply not going to work for us here. We are not looking to prove on the behalf of the AA that some essentially human action is

¹¹ Hoppe, Hans-Hermann. *The Economics and Ethics of Private Property: Studies in Political Economy and Philosophy 2nd Edition*. p. 183. I note that this sort of argument is given by Hoppe in many other places and seems popular throughout the Austrian economics community.

purposive, but that *all* of it is. But if we cannot proceed some given particular instance of purposive behavior, how do we obtain confirmation of the universal? There is some use to Hoppe's argument, at least in showing that purposive behavior is possible in people. However, proving purposive behavior to be possible is far short of proving it to be essential to human action.

In order to begin, we must begin by reducing purposive behavior. If we can show how parts of the AA can be derived from some other part within it, then this will go a long way in providing a demonstration, since a simpler proposition is likewise simpler to prove. *Behavior self-consciously directed to preferred ends*. This is how I have been defining human action as *purposive*. The reduction of parts can be done if only we analyze these parts.

What is an end? An end is something towards which a thing operates. It becomes the principle of action in a thing, so that the impetus to move towards this end is engendered by the lack of being in such an end state. If for some thing it has an end state *x*, then it's being in not-*x* implies it operates in some way to *x*. Leaving aside the question of whether it is correct to ascribe such *telos* inanimate objects, it is apparent that operation towards a future end state is implied by behavior which is *directed*, since direction just means that it is towards some given thing. A self-conscious being, such as a human, which has a given understanding of the environment about itself, thus makes choices, and choices are assent of operation towards some given end. Direction is thus subsumed by end, and end is subsumed by being self-conscious. In other words, the very ascription of self-consciousness to a being implies that it acts for ends, so it is

sufficient to point to a being and, knowing that it is self-conscious, we know also that it is self-consciously directed to ends.

But what of the matter of preference? Again, this is subsumed in the matter of choice. *Preferred* is descriptively synonymous with *chosen*, and as *choice* is inherent to self-consciousness, it follows that “self-conscious action” is the same as “self-consciously exercising preference.” This is easily seen when one tries to conceive what it would be for a being to “self-consciously choose non-preferred ends,” as it results in contradiction. Chosen just is preferred in this context. Therefore, we need only be able to say that a being is self-conscious to prove that the being operates according to behavior self-consciously directed to preferred ends. If we prove that some given being for which that behavior of it which is essentially unique to itself, i.e. for a human, being “essentially human action,” it would follow that one has also proved that the AA is true of it.

Can we prove that humans are self-conscious? This is a substantively simpler task. To prove that the AA is true for humans, we need only prove that essentially human action is self-conscious. Self-consciousness, as opposed to incidental behaviors like a beating heart, is of course that trait which people associate with the essence of being human.

But how is this known? We know that we are self-conscious creatures in the same way that we know we exist. It is a reflection on experience, viz. *I think therefore I am*. In this case, I think therefore I am self-conscious, and further therefore my behavior is described by the AA. Essentially human action is self-conscious, by which we can say it is purposive. The proof of the AA, for all this, is ultimately very simple, intuitive, and

irrefutable. Following this (inductive, empirical, a posteriori) proof of the AA being true of humans, the deductive structure of praxeology as developed by Mises et al. follows necessarily.