The View from my Armchair

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1 Note to the reader

The following is a layman's work and mostly a personal exercise. Serious inquiries regarding the topics discussed herein should be nourished with writings by professionals (peer-reviewed articles, for example).

I must write my thoughts with the knowledge that they are inextricably bound to the subject no matter how they yearn for universality across the human experience. Seek as I may to identify my secret assumptions (perhaps I am scarred without hope of repairing the Western tint on my looking glass), I am condemned to accept insurmountable ignorance. Although there are limits, the endeavor is not divested of value by them. The value lies in the effort to unmask the hidden beasts rather than surrender. I search out of an intellectual stubbornness and I write to explore a self I'm[1] not convinced exists in any colloquial sense and in case another subject may find, if not benefit, at least entertainment.

2 Genesis

As I conclude my doctoral studies[2] (in mathematics—which I record here to dissuade any hope on part of the reader that the author is a learned philosopher) and continue to acquaint myself more with my fortress of ignorance,

[1] what farce!

[2] which I have since completed

I turn to write some of my thoughts. I hope to address some aspects of epistemology with some level of coherence. Some express that mathematics (in particular, the objects under consideration from the 21^{st} century perspective) has an *otherness* or that its objects are somehow mysterious. I'll speculate on this.

Firstly, I must set the playing field. My unattainable beginning is when the sentient (human, all too human) subject is thrust into the stream of experience. I shall attempt to suspend any more ontological attitudes from here forward.

There exists a stream of sensations. (1)

So here we have an 'I' which probably hasn't even constructed a notion of subjective identity (or I-ness) confronted with a mysterious ocean of sensations. In this early stage, perhaps, our subject hasn't begun to differentiate objects. Experience is still just a seemingly continuous and undifferentiated influx of sensation. Surely there comes a point where the subject begins to create meaning from the various sense data. Air has a certain quality but is characterized mostly by its lack of imposition. One may even claim it is some invisible background upon which the more solid existents situate themselves. Hence, by our touching and seeing (and otherwise experiencing), we now begin to distinguish objects.

There exist differentiated objects. (2)

Moreover, (2) seems to be necessary for our functioning in the world in the way that we do.

The fact that there are different objects suggests the abstraction of *wholeness* or *unity*. For example, the apple on my table is one apple and not many. (Counting is surely indispensable for economic considerations). But before we embark on a journey in which we incorporate this notion of unity, one must first address the role of language. In particular, by the

time the subject has begun to differentiate separate objects in its experience, the subject may not have developed any linguistic framework. For example, many other animate existents exhibit behavior suggestive of their perception that there are separate objects. They don't generally run into things and can usually distinguish food from non-food using their array of senses. What they fail to exhibit (at least at the level that humans seem to, which may just suggest a fundamental ignorance on our part) is elaborate language. For instance, a dog probably doesn't couch their beliefs in propositions, if capturing anything with language at all. Language doesn't seem to become useful until one being wants to communicate something to another. Rudimentary language, as with birds, can assist particular members of a group to signal immanent danger to other members but we have a language with which we can discuss less immediate topics such as the Self, Meaning, and even Mathematics. Hence, although the subject may not be able to articulate (1) and (2) in any language yet, this doesn't exclude the possibility of the subject having assented to them in a language-less way.

As I am neither a linguist nor a cognitive scientist (especially not one that studies the ways other animals communicate), I'm not prepared to address the questions here about how a particular language choice (or lack thereof) can affect our experience. With this said, I will continue with the subject after it has somehow acquired a sophisticated enough linguistic framework to form propositional beliefs, the kind of which can be written down or otherwise communicated to others.

3 The Curious Subject

With whichever language our subject has adopted, it can now have a belief couched in communicable language of the form

$$\text{I am.} \tag{3}$$

As would indubitably be apparent to the esteemed reader, at an early stage, the subject may not have (and may never have) any rigorous idea about its own I-ness. What/where is this I? What kinds of things encompass and constitute this I? Nevertheless, our subject maintains the notion that their *self* is some enduring/perduring substance and that they are not someone or something else. For example, I'm not the apple on my table or the pen in my hand. Obviously, the apple and pen are external to me and somehow not directly relevant to my experience and beliefs about myself (even if I incorporate the apple and/or pen into my ego through a strong emotional attachment). I am also somehow separate from my friend Sofia, no matter how emotionally close we may be to each other. I am vigorously and undeniably me and, joyful or painful as it may seem, I exist in this world.

In the most fundamental and language-less of ways, (3) seems to precede (2). But we will ignore the order in which these propositions are adopted since it won't have much bearing on the discussion hereafter.

Equipped with (3) and all of the corresponding experiences like thoughts and emotions, at some point, we infer that there are others.

There are other 'I's. (4)

I'm under the impression that some developmental psychologists begin to observe the adoption of (4) early on (before the age of 5, say). This suspicion probably arises when we realize that the behavior of beings with which we interact don't comply to our urges and actions. When I experience moving my arm (maybe I even experience that I[3] am the one moving that arm), I don't observe others also moving their arm. I can probably learn to stimulate this arm movement by a perceived act of will and, wishing to will the same behavior in another, will surely fail to produce the same results in their

[3]One might also wish to note that this experience of agency being somehow a force which can move the body might be the foundation for our notion of *soul*.

body. Moreover, I experience sensations in my body and I cannot have the same kind of sensations in the same way to sensory data occurring in other bodies. It would seem to me that other bodies are subservient to other forces than those governing my own. With this experience compounded in every interaction we have with other beings that somehow resemble us (I think any sentient being can usually determine if some other thing-in-the-world is a member of the same species), we find justification for believing that these other entities are truly external to us. They don't have to bend to our will the same way our body, in some capacities, does. But (4) claims something stronger than just that there exist other bodies separate from mine which appear to be of the same kind as mine. Particularly, (4) maintains that these other bodies are not just bodies, but subjects, like myself. They display behaviors similar to mine like reactions to pain and pleasure, they are able to communicate with me in a way that suggests to me that we experience the world and think in a somehow compatible way, and they seem to be the authors of some of their actions just as I experience myself to be an agent in my own joyride through existence. Once we have built up a sufficiently large body of observations of this kind, we suspect that these other humans are somehow fundamentally similar to us.

This sentience which we are blessed (cursed, perhaps) with necessitates our making of observations and, since our subject has language and thinks more or less in terms of this language, these observations lead us to general beliefs, usually couched in vague and, not always consciously present, propositions. This is the foundation of this treatise. One can observe the sensation of agency attached to lifting one's right arm. Maybe there is some initial doubt as to whether it is always the case that my arm moving follows this sensation of will but, after repeated trials, I convince myself that I, in fact, do have the power (in most cases) to initiate a motion of my body. At some point, I begin to suspect that these other creatures-in-the-world seem

to resemble me in some sort of way[4] and that they are external to me and, after a number of observations supporting this suspicion, I believe that there are other human agents in the world.

4 Causation

In Section 3, we discussed the experience of some ghost within us *causing* a motion in our physical body. Even daily, we experience more immediate physical causation like wind inspiring leaves in a tree to sway. By observing the behavior of other animals (crows or dogs, for instance), one can get a sense that they too may have experiences of causation. In the case of a trained domestic dog, they seem to learn that, in order that a certain desirable state B be obtained, action A must be executed. For example, one can train a dog to sit by giving positive feedback whenever they behave in the desired way and negative feedback otherwise. They then associate the particular stimulus (like perceiving a human utterance of the word "sit") with the desired action and, upon executing this action, a desirable state of praise. The same sort of conditioning seems to hold for humans. When I throw a brick at a window, the window usually breaks upon impact. When I sufficiently heat an egg, it turns opaque. When I hit a ball with a stick and enough force, the ball moves. Observing such events over and over again enforces my belief (via induction) that certain events follow other events; that physical causation is a fact of the world in which we exist.

Of course, we don't only discover positive causal relations. Some events seem to lack causal connection. If I imagine the window before me spontaneously shattering, no matter how hard I imagine this, I cannot seem to provoke such shattering by mental prowess alone. I must initiate some physical process like striking the window with enough force that it breaks.

[4]They communicate with me in an intelligible way, have seemingly independent bodies from my will, and respond to certain stimuli.

Now, this indirect investigation of window shattering doesn't always have to produce negative results. There is the slight chance that some structural change can shatter the window while I'm looking at it and focusing my mental energy on it breaking. This lucky coincidence shouldn't convince me that I have telepathic powers, though. In all likelihood, upon further experiments, I should fail at producing these results. As my scientific sensitivities progress, I may note that the actual cause of the window breaking was not my mental energy but a structural change in the building itself.

This observation sheds light on our imperfect perception of the world around us. There are many factors and some are so subtle that it's difficult or impossible to account for all of them. Any introductory course in Newtonian mechanics would make this clear to anyone. At any rate, I don't wish to write a treatise on a scientific method so to speak as it seems to influence us in our daily lives. What I wish to take from this discussion is, again, that we, as language-endowed existents in the world, are presented with intuitive propositions about the world we reside in which we then verify or falsify over the course of repeated observations.

5 Intuition

When I begin to learn how to play guitar, I probably lack the fluency and familiarity with the instrument possessed by a trained guitarist. I put my fingers on the strings and have no idea what to expect when I strum the strings. But, after enough practice, I start to build a sense for what sounds certain finger patterns will produce. I can even imagine these things without having to verify them with an actual guitar. Past experiences shape our expectations and, the more robust our experience, the more robust our predictive apparatus.

This immersion in some area of human activity yields a host of expectations regarding what will happen if I initiate a sequence of actions in the

relevant sphere. This general sense is what I will call intuition. Having been immersed in a particular sphere of human activity, our intuition is somehow related to these expectations.

To someone (like myself) who knows nothing about cars, a certain kind of 'failure' to operate in the desired and expected way will bring me to question what is impeding this functionality but I will be clueless as to what that impediment is. A seasoned mechanic, on the other hand, with the particular symptoms in hand, could produce a reliable hypothesis and maybe even remedy the problem. This ability to figure out the root of a problem stems from a knowledge about how the mechanism works, a knowledge which can be cultivated through the tireless study of the mechanism.

In the same way, we reach intuition in mathematics. Sure, one can say that a topological group isn't an object in the world. How can I develop an intuition for things I can't go out and touch? My intuition arises out of being familiar with particular facts about topological groups and understanding those facts in some way. I know that the rational numbers are dense in the real line just as readily as I know my name is Chris or that throwing a brick at a window would break it, though this familiarity doesn't spring into mind just from reading such a statement in a textbook. We are confronted with formalism and, to internalize aspects of the theory, we must survey the panorama, as it were. The more examples we work out, the more statements we try to prove/disprove, the more nuanced our mental picture of the general situation.

The more 'empirical evidence' we collect[5], the more our intuition develops. We start to have opinions like "*blah-di-blah* should be true", vaguely directed (unconsciously, probably) by our underlying knowledge. What is crucial to note here is that this intuition isn't, in all cases, necessarily guided by proof sketches or anything similarly formal. They are oftentimes

[5]some form of "going out and touching"

'hunches' which can be born from misdirected soils (believing something for the wrong reasons) or arise from no soil at all (believing something without any identifiable justification).

Thus, thinking about mathematics doesn't seem characteristically dissimilar to other human activities.

6 Final Note

Although this entire treatise, once fully developed in some mysterious place I call my mind, seemed immediate, articulating it here was much more difficult than anticipated. This may suggest that ideas are somehow more primitive than the language we wish to frame them in (or that I have little to no ability to coherently articulate my ideas in a timely manner).