

Sharing the World: Nativism, Embodiment, and Metaphysical Localization

Hendrick Sukardi

Cognitive Science, Psychology, and Philosophy
University of Toronto at St. George

1. Introduction

You and I share the world in a meaningful sense that exceeds the mere common denominator of a physical space; we can interact and communicate by understanding each other's intentions in a genuine manner. Curiously, we seem to have escaped the explicit chaos of Quine's radical translation, building a world brimming with interpersonal systems where collaborative efforts have enabled the work on science.

In this paper, I explore how it is that a person can meaningfully share the world with others, and how significant this phenomenon really is. It is my thesis that a person's native properties and nature of embodiment strongly participate in her relationship with reality by essentially carving out an aspectual side that forms her *perspective* of the world. Persons share similar perspectival views of the world by virtue of the similarity of their relationships with metaphysical reality.

The project is split into three movements; in the first I compose a metaphysical account of ontology and discuss how a person perceives objects and such by *abstracting* from within this metaphysical reality. I will attempt to demonstrate how this process of abstraction is essentially *framing*. The second portion of the paper focuses on what native properties and embodiment are, and how persons who possess them in likeness are metaphysically localized onto the same "band" of reality, allowing for meaningful interaction. The final segment will be an attempt to reframe the A.I. project as an attempt to create silicon brothers local to our metaphysical existence, and its implications will be carefully considered.

This could be construed as an ambitious project, and I may fail to give an adequate treatment of the subject. Time constraint and my technical inadequacy will restrict me to sketching my proposal in broad strokes, but it is no matter. My concern will be to convey a rough, original idea that is meaningful, potentially productive, and significant to our sense of existence.

2. Metaphysics & Ontology

This discussion focuses on the nature of reality as it is independent of perception, as well as how it participates in the process of being perceived. I will utilize some of Brian Cantwell Smith's (1996) established concepts and terminology to facilitate my arguments, since my metaphysical picture somewhat parallels that of Smith.

I feel compelled to give a justification as to why the dive into metaphysics. It has been a struggle for me to account for problems of language, reference, causality, and identity, which is the most haunting one. Like Smith, who faced an ontological wall, it is my belief that these deep lying problems have their roots in metaphysics.

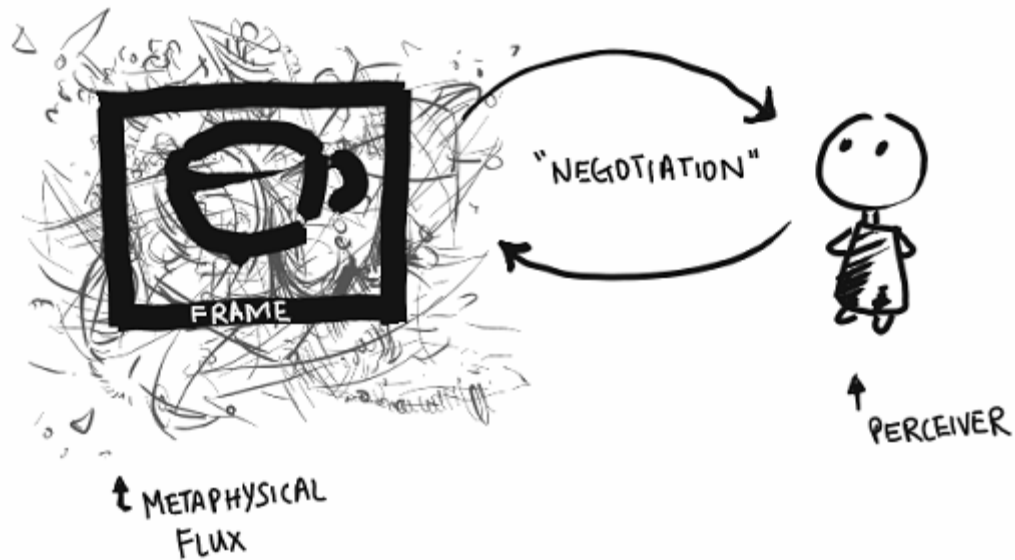
1.1 Metaphysical flux, abstraction and framing

Allow me to quickly brush aside the monsters of idealism and Matrix-esque theories. Reality does exist in an objective sense, although whether it possesses any significance without perception is not our concern. Smith conceives of reality, which includes all the objects we perceive, as metaphysical flux of which the person is a part of, and operates within. When she perceives an object, what is happening is an *abstraction* where a patch of flux is stabilized, and an aspectual side is retrieved. Smith thinks of the abstracting process as doing “violence” to the flux because the selective abstraction means its full nature is compromised, which I disagree and will talk about later.

The stink of metaphysics begins here, when I say that we cannot know the nature of the flux as-it-is. It is necessary the flux has form and is differentiated, for if the flux were homogenous, the perception of separate or distinct objects becomes a complete fabrication of the perceiver, effectively forcing us into an idealist model. So, while we can say that the flux has some sort of “form”, this particular form can *only* be disclosed when a person perceives it, which is a process of selective abstraction. This means that all we have access to are “partial”, organized and transformed representations of the flux. Attempts then, to describe or characterize the flux as “chaotic”, “rich” or “sloppy” are something of a mistake, often failing to contribute meaningfully except as a loose analogy or as an aesthetic marker.

Now let us consider what *framing* is: an organized salience distribution window, where said level of salience is determined by an algorithmic process as to how relevant the particular entity or information is to the intention or task. A frame is necessarily an aspectual retrieval of the particular target content. While it may at first seem that abstraction does not share the same mental component, it is necessarily motivated by intentionality and a particular *direction* of thought. That is, when we abstract objects, we are *projecting* onto it. In this sense we can see how abstraction can be reasonably equated to framing, although most academic usage of framing is applied on a phenomenal level and not a metaphysical one. Regardless, I will term the perception of an object from metaphysical reality as an act of framing the flux.

We must be careful to avoid thinking that perceiving objects is solely dependent on the perceiver’s framing. In fact, it is a result of, in the words of Jun Luo, a *negotiation* between the flux and the perceiver. The form of a particular patch of flux is instrumental in the perceiver’s framing of it, although it has no intrinsic meaning or intention. We can think of the flux form as *pointing* the perceiver to one frame rather than another – in a way, it “constrains” the range of possible frames for the perceiver. An analogy would perhaps help communicating this point.



When I read a book, I can interpret its content in a multitude of ways but the syntactic arrangement of its words directly affect how I can interpret the book. For example, I could frame the killing of an antagonist as an act of vigilant justice but it would be difficult for me to think of it as a symbolic expression of boredom. In this case, syntax participates in semantic interpretation by simultaneously guiding and constraining possible frames, just as how the form of the flux participates in its being framed. It must be noted that the nature of the reader also affects the possible semantic interpretations, and an insistent or paranoid reader pick outs some specific semantic in *anything*. Underdetermination kicks in, and suddenly the Smurfs are a symbol of communism.

In framing the flux, the resulting perspective is then a culmination of an interaction between the form of the flux and the properties of the perceiver. That is, we can think of the perspective as being *anchored* to the flux and the perceiver.

1.2 Framing, violence and reason

The aspectual retrieval of framing means that only a particular perspective is presented. Alternate perspectives are neglected, and because a frame is a salience distribution window, some portions of the frame are accentuated and others ignored. Smith refers to this as doing *violence*, and while this is true in the technical sense of the word, I disagree with the possible implicit notion of a leakage or a loss of information. To me, framing the flux is more than just a process of limitation – it *gives* perceptual form to the flux and *realizes* them into objects in phenomenal reality.

The partial, organizational nature of the frame is simultaneously the *limit* and the *reason* for perception. In the happier days of my first year, a fellow student claimed that we were “limited” by our body because its physiological form restricted us from flying. While that is true in some sense, we cannot say that our bodies are *mere* limitations. The removal of a mere limitation would allow success in the desired task, like how removing a roadblock would allow access. However, taking away the body does *not* allow us to fly, and instead results in a complete disabling of physical functions. By virtue of its form, a human body *enables* movement as much as it *restricts* it.

In the same way, the nature of framing is such that a limited abstraction allows for the perception of figure and form from the flux. We have already noted in 1.1 that the form of the flux can only be disclosed through framing, and as such framing is not truly violent in the vulgar sense. It is of a much more holistic, balanced nature, for it takes and gives simultaneously. I do my best to avoid tautologies, but I think this one takes on a deeper meaning now: A frame is what it is by virtue of what it is not.

1.3 Physical and psychological framing

I am going to make a distinction between two aspects of framing; the physical and the psychological. Luo is critical of this division, and with good reason, but I will tread on carefully. I will say now that these two aspects of framing are *not* two types of framing, nor are they separate or independent from each other.

I differentiate the two aspects of framing by their target content and *character*. That is, the physical side of framing (which I will call “o-framing” for “object-framing”) is characterized by the carving of physical objects from metaphysical flux. On the other hand, psychological framing (which I will call “s-framing” for “semantic-framing”) is characterized by the semantic framing of abstract mental content. It must be noted that framing necessarily carries a mental component, since the very act of forming a salience distribution field, even if only for physical objects, involves the mental act of the sorting of relevancy. To frame something is to establish a semantic relationship with it.

Using (or maybe abusing) Smith’s terminology for a simple summation of the two aspects of framing, I would say that o-framing is linked with *matter*, while s-framing is linked with *what matters*. They differ also quite significantly in their malleability, or their possible frame range. I have noted that o-framing has the form of the flux as one of its anchors, effectively constraining and guiding possible frames, and so o-framing is usually relatively stable. We do not usually have the capacity to adopt two o-frames of everyday objects like watches. This does not mean that the anchor cannot be dislodged; the influence of alcohol and psychotropic drugs can strongly alter the perceptual and mental faculties of a person, wildly affecting the o-framing process.

On the other hand, s-framing seems to naturally easily possess a larger frame range, *ceteris paribus*. That is, mental content can be s-framed in a multitude of ways without the influence of substances (although they do bear influence upon consumption) and this is due to underdetermination. A single event can be s-framed in a plethora of ways, more than one of which could constitute a reasonable account.

That said, it seems that the anchors involved in s-framing are much “looser” than that of o-framing. In abstracting objects out of flux, o-framing is anchored in the flux patch and the perceiver’s properties, both of which are relatively stable most of the time. S-framing, in contrast, is anchored to “fuzzier” properties of the perceiver, which are the more fundamental computational processes of the mental capacity to remember and process as well as the framing tools of language, knowledge and experience.

1.4 Complete metaphysical significance

While entities experience phenomenal worlds that are essentially abstractions of the metaphysical flux, their interaction with the flux remains *wholesome*. Smith demonstrated this point brilliantly in UTISM 2006, noting that when you drink a bottle of water, you don’t drink merely what you *know* of it (your frame of the water) but *all* of it. Despite only having access to only an aspectual side of the flux, the entities remain fully and intimately connected

to the flux. The entity's metaphysical *significance* is in no way diminished just because of limited retrieval. She remains an integral part of the whole that constitutes reality.

1.5 A non-absurd metaphysics

And thus my metaphysical picture is fully sketched in its first draft. The formalist would not be too pleased with the fact that the nature of the flux is unknowable, and its disclosure is necessarily a limited retrieval. However, what I think is promising is that this metaphysical account seems to be nowhere near absurd or mystical. Instead, it appears to me as a sort of reality that, while elusive to full comprehension, is quite *close* to our perspective of it. In fact, my current hunch is that metaphysical reality is really *energy*, but that would be another paper altogether.

In saying that our perspective of reality is *close* to its nature, I mean that when we perceive a cup, it *really* is there in a significant sense that corresponds to flux. It *is* a patch of flux, and while at the metaphysical level one cannot claim that the cup is “in” the flux because it is meaningless to assert so, we can say something like the cup being a disclosable form of the flux. To formulate it in another manner: the flux possesses the potential frame of the object cup, and *is* for all practical reason *your* cup.

It is then with confidence, that I can say that what I am experiencing is a perspective of *the* world. There is only one world that we operate in, and while each person possesses her own unique perspective, they are all faces of the same die.

3. The Perceiver & Metaphysical Localization

Having discussed the flux, we will now move on to talk about the other *anchor* of the perspectival relationship: the perceiver and her properties. This perspectival relationship is also her “phenomenal” world, a theory or construct of the world, which is a sort of metaphysical localization to a plane of existence.

In this section I would like to talk about two important properties of a person that participate in her framing of the world: native properties and embodiment. Although this paper is restricted to these two, this is not to say that they are the only contributing factors from the perceiver. Her knowledge and experience, of which cultural influence and particular upbringing have an influence upon, also participate in the framing process.

3.1.1 Nativism

Nativism proposes that humans are born “hard-wired” with certain attributes, of which Chomsky has argued for an embedded universal grammar and Fodor for the innateness of concepts. Our discussion will explore two native properties in innate concepts and in-born perceptual mechanisms, and I hope to be able to convincingly posit a sort of nativism in native *principles*.

When we consider how essential certain native properties like linguistic nativism and innate concepts are to a human's phenomenal and social existence, the nativist position can be construed as painting a picture of an intrinsic connection between human beings and the world in all its physical, social and mental colors; as if the world were *meant* to be humanly perceived and operated in. And herein lies the importance of this segment, to observe and analyze how these innate properties *correspond* to reality, from then which we will

appropriate tie into the sketched metaphysical picture. Some doubt may be raised about my metaphysical conception from this discussion.

3.1.2 Innate concepts

What a “concept” is remains elusive to precise definition, although the common use of the word would probably be something like the “idea” (or mental representation) of a thing which includes its relational functions. One can have a concept of a “cat”, a “car”, a “book” and so forth. Note that some of these concepts correspond to *post-frame* objects that exist on a phenomenal and not metaphysical level.

For example, an adult human’s concept of a chair would include its functional property of “to-be-sat-on”, “furniture” and such. A child might conceive of the chair as an obstruction, or even as a private space as it sits in the hollows between the legs of the chair. These concepts are *layered*, of which the layers are not innate but built by the individual’s knowledge and experience. Questions are then posed: what is an innate concept, how is it innate, and is it possible that its relational functions are innate as well?

I will try to build a physical account of innate concepts. We know that humans are predisposed to being conditioned to easily fear snakes and spiders, but not flowers. This curious fact of innate stimulus discrimination suggests that humans are innately aware of the possible dangers that those creatures pose, and that information about snakes and spiders are physically transmitted from generation to generation. As such, it is plausible to suggest that the concept of a snake or spider is innate to humans in some way.

The phenomenon can perhaps be explained neurologically. Our primary visual cortex (striate cortex) possesses cortical cells that fire to certain shapes and sizes, of which fires in a certain pattern according to the particular object being perceived. That is, certain patterns of neuronal firing represent certain objects. It is not absurd then, to propose that a snake’s neuronal representation is hard-wired into humans and is innately connected to the firing of fear in the amygdala. If we take the neuronal pattern to be the *concept* of snake, then it could explain to some extent the generality of a concept, because the neuronal patterns respond in varying intensities to things that *look like* the object. The concept of a snake includes many sorts of snakes that share a family resemblance in physical appearance, and this similarity is enough to generate the firing of the same pattern, albeit in differing intensities. Point being, we don’t fear snakes per se but snake-like objects, which is why systematic desensitization for fear of snakes sometimes starts with plush snakes.

This physical account of concepts is somewhat unsatisfactory, because it becomes much harder to imagine a parallel case for abstract innate concepts like numbers (which I shall just presume is the case, and skip over the clogged debate). Abstract concepts do not have a physical form upon which the neuronal pattern can map onto. It is still conceivable that they *do* have a neuronal representation which fires whenever the concept is being thought of.

There is a possible alternative construal to which I think Fodorians will at least be more sympathetic. Fodor argues that relational functions of a concept are mere *concept-possessions*, which are different from the concept itself. So instead, we can conceive of the neuronal snake pattern as a mere “pointer” that facilitates one’s grasp of the concept for us to build upon. But then we still have to provide for a physical account of concept to remain materialists, which now becomes as mysterious as consciousness itself.

Regardless, it seems more than plausible that there are representations of things that are innate in humans. The importance lies in their *correspondence* to the world. While some concepts seem to be of those derived on a phenomenal level like snakes and spiders, the

concept of *numbers* is much more troubling. I currently consider abstract numbers as belonging to the metaphysical realm, and being embedded with innate *metaphysical* concepts seems almost like a betrayal of physicalism. Despite how unsatisfying this must be, I cannot go further into this discussion.

What we learn from innate concepts is an implication that humans are innately wired with the concepts of *framed* objects to some degree, which possibly reflects their shared evolutionary history. More surprisingly, it seems that there are also *possibly* innate concepts from the metaphysical realm. These are shared across members of the species, and I will argue for its significance in the latter segment on metaphysical localization.

3.1.3 Innate perceptual system

The human visual cortex possesses specialized cortical cells (also called feature detectors) that respond to different stimuli. The simple cells respond to stationary stimuli, while complex cells respond to moving bars.

At a phenomenal level, one experiences movement or non-movement, of which a book is likely to fall in the latter category. So we say that the book is stationary. But physics has informed us that *everything* is constantly in motion – molecules vibrate continuously and all the molecules that compose what one demarcates as the “book” are vibrating, although we honestly perceive otherwise.

This cannot be simply waved away using an emergentist argument by saying that the property of the whole differs from that of its composite parts, e.g. water is wet but H₂O molecules are not. Instead, this seems to me to be more of a problem of scope and perceptual limitation. From a distant raised cliff, I would perceive a faraway boat at a dock as being stationary but with closer inspection I would realize that it is constantly bobbing on the water, and no relevant reduction has taken place. In fact, cortical cells respond not to the world but to the electrical signals from the retina’s receptors. That is, light (energy) is directed from the eye’s lens upon the photoreceptors, which in turn respond to the photons (energy) to send signals to the visual cortex. The cortical cells, along with higher visual processing areas, then construct an o-frame out of these signals.

That most humans share the same in-born perceptual system allows the inference that the o-frames of human beings are at least similar. This means that, barring logical possibilities of inverted qualia and such, humans carve the world in significantly similar ways. An interesting empirical study by Marks (1974) showed that people associated lighter colors with higher pitches; red, white and yellow were rated higher and brighter in pitch than black and brown. Unfortunately, I could not find out more as to whether the group tested was a cross-culture sample, although it was likely not to be. This means that their aligned associations could be a result of culture – for example, red is auspicious for the Chinese but carries bloody connotations in Western culture. It is possible that a cross-culture sample could group the colors and sounds differently, although any within-culture alignment would remain supportive of my thesis of metaphysical localization.

3.1.4 Native principles / mechanisms

What I’d like to posit here is native principles, or native *mechanisms* that guide humans to frame situations and stimuli in the same sort of way. We can adopt a computational approach for this by thinking of native properties as coming together to form a complex algorithm that performs framing to organize and demarcate objects in the data set, physical or

mental, in a certain manner. That is, a similar set of native properties between people will encourage aligned framing of content.

This sort of claim seems unavoidably vague, and I will try to make clear my point. If we imagine framing as a sort of *filter*, then it is likely that native properties like the perceptual system contribute to the filter to o-frame a patch of flux. Given the same patch of flux, we can infer that similar native properties will frame the flux in similar ways. Scott Atran (1995) has noted how human beings across cultures have “similar folk-biological schema composed of essence-based species” which also ranked them into higher and lower order groups. He makes a further assertion that the further categorization within groups was representative of the “routine products of innate ‘habits of the mind’”. This is plausible evidence that indicates a native algorithm at work, although it can be undermined because our sorting mechanisms might be an external technique passed down through generations that has its origins in our history as primitive humans in Africa. Innate or not, the organizational mechanism for sorting animals seems to be similar.

The most powerful benefit that native mechanisms can offer is an explanation how humans can generate aligned concepts in face of novel stimuli. That is, when two humans are talking about “gavagai” to describe an unfamiliar creature, they are both likely to possess the concept of the entity as a whole rather than either of them having a misaligned concept of “gavagai” meaning “time-slice of said creature”.

Native mechanisms thus provides a reasonable view as to how new concepts are acquired, and why two entities of the same species will likely acquire the concept in similar ways, *ceteris paribus*. We have not taken culture and other s-framing factors into account. Regardless, this seems much more feasible than Fodor’s theory of innate concepts and his Platonic position of an embedded reality in the human mind, which means we only *discover* concepts, and not make new ones. It is one thing to think that the concept of snakes are innate, which can be reasonably accounted through our evolutionary history as creatures in the wild, but it is another to think that the concept of doors and knobs are innate.

This position need not, and it seems, *cannot* be mutually exclusive with innate concepts. There can be innate concepts *and* innate principles that build more concepts, possibly utilizing the native concepts whenever needed. I say that it cannot stand independent from innate concepts because the mechanism alone would have a very difficult time trying to explain abstract mental concepts like numbers. It is not impossible; we could still posit native mechanisms can learn metaphysical concepts but we may be increasingly far divorced from a productive, scientific conversation.

The main problem with positing native mechanisms would be empirical evidence. The two cases that I have specified, which are the color-sound experiment and the common categorization across cultures, are both explainable by culture as well. The intricacy of the current build of societies as well as our ancient shared heritage makes it difficult to produce specific pieces of evidence for native mechanisms. Fortunately, this paper only really needs the *alignment* in categorization, and is not too deeply concerned with its causal roots. This will be shown in *section 3.3*.

While native properties contribute to framing, it is conceivable that two people with identical innate properties frame identical stimuli differently because of different intentions, considerations and task at hand. As such, cultural influence can readily affect the basic motivations of s-framing. What we want to explore now is the role of embodiment in framing; in *section 3.1.2*, I talked about *layered* concepts that were built through personal experience, and a person’s embodiment is often inextricable from this.

3.2.1 Embodiment

The embodiment of an entity is its physical form; for humans it includes our height, body shape, hands, and fingers and how we can utilize them. Embodiment is a powerful determinant of how entities conceive the world – if it walks it conceives of landed spaces as areas it can traverse upon, if it flies its mobile potential space is conceived in an entirely different manner with vertical spaces being more salient. Entities are necessarily embodied, and their specific embodiment determines their physical interaction with the world, which in turn heavily influences s-framing.

An entity's embodiment is one of that which builds layered concepts. By having hands and fingers capable of clasping objects, we can conceive of “grip-able” as relational functions of objects we interact with. It must be noted that this relational function is dependent on the nature of the object as well, and the relationship becomes much more obvious in modern society where we *design* objects and places with specific functional relations in mind. For example, knives are designed with handles in mind for gripping. In a way, the “syntax” of everyday objects *significantly* points us to one sort of frame rather than the other. Our interaction with the objects, depending on our embodiment, then significantly affects its s-frame.

This is not to say that an entity can only form s-frames of objects that include direct relational functions to it. A handicapped person without hands can still hold a concept of door handles as a device to be gripped, because her interaction with it includes observations as to how others utilize it. While the handicapped person's concept of the door handle is more or less aligned with that of an average person, it is not the case that her *relationship* with the door handle is as similar. I have argued in *section 2.3* that to frame something is to have a semantic relationship with it. In this case, her semantic relationship, or s-frame of the door is quite different from that of others. The door handle *means* something different to her from the average person.

3.2.2 Micro-scale vs. macro-scale

I would like to further distinguish differences in embodiment at the micro and macro scale. In general, embodiment differences between-species are macro-scale differences, as is that between a rat and a human. Within-species differences are what I call micro-scale differences. I must note that these differences are in degrees; for the apes share much similarities with humans, as cats can be construed so with dogs. The terminology will remain useful in our discussion.

The micro-scale effects of embodiment permeate humans in our daily lives. Each individual's specific embodiment prompts different s-frames of the world; with the most obvious example being shopping for clothing. We look for those specific to our size, and those whose embodiment are significantly different often have to venture to specific places to purchase their clothing. Very tall people conceive of spaces differently as well, especially when they have to lower their heads when walking through doors, while smaller people might find weaving through crowds a simple task.

It is not the case that differences in framing are solely due to embodiment. As I have said, much of our everyday lives revolves around a *designed* world, tailored especially for the majority. As such, the differences in framing are *accentuated*. We need only consider how most of the world is created with right-handers and fully physically functional people in mind

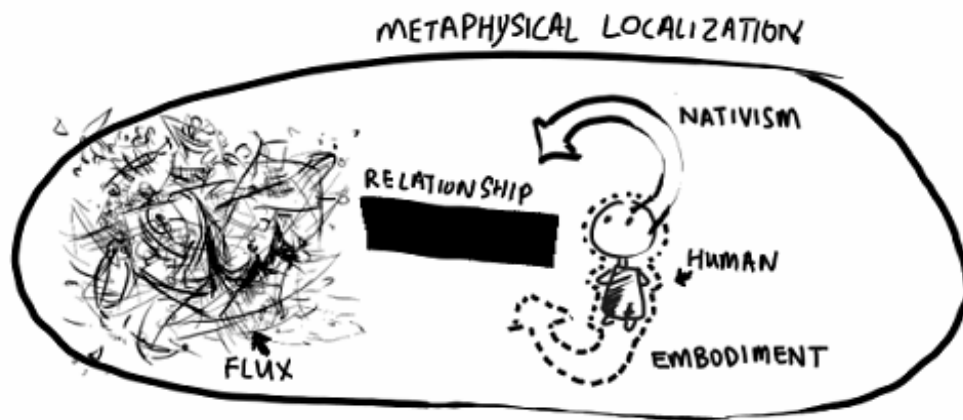
to know that. Left-handers trying to play the guitar will no doubt conceive of it differently, and the physically disabled will find traveling to certain places particularly challenging.

The macro-scale differences affect s-framing in a more fundamental way. For example, humans often find heights exceeding twice or thrice their physical height dangerous, but cats probably have no problem with that at all. If we could regenerate our limbs like starfish can, our s-frame and daily activities would probably change significantly. It must once again be noted that the participation of the environment is important in s-framing. Animals thrust into our designed world would find it incredibly frustrating with transparent glass walls and doors that need to be opened.

I conclude this segment by arguing that micro-scale differences shared between humans provide smaller s-framing differences than that of micro-scale differences. Humans share similar s-frames of the world by large. However, it must be noted that the design of our environment accentuates the micro-scale differences.

3.3.1 Metaphysical localization

The previous two sections on nativism and embodiment now culminate in their synthesis here. I will argue that the relationship between perceiver and flux, which both innate properties and embodiment participates in, carves out a phenomenal world for the perceiver which metaphysically localizes her to a “plane” of existence. This plane is shared between her and other entities that bear the same relationship with the flux, from which I will draw the conclusion that human beings as a species are metaphysically localized to the same sort of existence.



In the illustration above we have our familiar human figure, and I have denoted the thick black band as her relationship with the flux, which both the form of the flux and the perceiver’s properties participate in. The important addition is the ellipse I have drawn encapsulating all of it, representing the particular frame of world generated.

It must be noted that nativist properties and embodiment work hand-in-hand in the perceiver’s framing of the world. Their relationship is intricate; when one grips an object and interacts with them, native mechanisms kick in to build the layered concept and in consequence, the perceiver’s world-view. Human beings are, by virtue of their similarity as well as their designed environment, localized to a frame of the world different from that of other creatures. Make no mistake; there is only *one* world that humans, animals and objects share and operate in. But by framing the world in similar ways, humans share the world more *meaningfully*.

The shared properties between humans result in obvious behavioral similarities. Across cultures all humans take the care to protect themselves from damage, utilize objects as furniture and tools, interact and communicate with others and so forth. Within cultures the similarities are much more obvious, and the differences accentuated as well. While humans don't share the exact same perspective of the world, it seems to be the general case that the more similar the perspectives are, the more meaningfully humans can share the world.

This is particularly significant because I do think that sharing the same frame of reality greatly facilitates meaningful communication between humans without always falling to the pits of radical translation. When two people talk about someone, say, Paul Churchland, they both know that they are referring to the entity and not anything else (unless you are John Vervaeke). Of course, there is no *guarantee* that they are referring to the same object since the bridges of similarity provide only that of increased communicatory success probability. Even hyper-micro-scale differences lead to failures in communication, especially when arguments get *very* particular and one's inaccessibility of the other person's frame leads to misunderstanding.

The sort of misunderstanding arising from micro-scale differences, though, seems to be a feature made possible from macro-scale similarities. That is, the miscommunication is still conducted more or less in the same "plane" of existence. We can still talk past each other, like the proverbial battle between the walrus and the elephant that never meet on the same ground, but having someone miss your point is significantly different from having say, a *cow* miss your point.

I will also say that culture and upbringing play a critical role in metaphysical localization, because they are major factors in determining one's s-frame. This is why people of different "classes" or "niche" in society find themselves quite removed from each other. A working class middle-aged male would find the young hippie quite an alien. It is possible, that given enough differences in s-framing, two people can find themselves localized in significantly different frames of the world. As a side note, it seems that this difference often breeds hostility when the s-frame is particularly rigid.

3.3.2 Understanding developmental windows

In the context of metaphysical localization, it becomes interesting to examine the developmental windows of human beings. For one, native properties usually have critical periods in which they have to be developed, or its function will be severely impaired. Binocular sight is one such example, and language is another one. Our embodiment is also affected by maturation, and puberty can be conceived as its developmental window. In arguing that nativism and embodiment are influential participants in one's relationship with the flux, and that the resulting frame is a metaphysical localization, these critical periods can then be construed as a sort of metaphysical "tuning" process. Sharing the world meaningfully means to be metaphysically in tune.

Metaphysical tuning does not only happen during critical periods because constant changes in the perceiver's properties, whether physically or mentally, mean that she is constantly being tuned to some specific frame or another. However, the critical periods are particularly important in that the tuning rate is much faster than other periods in life, and more importantly that improper neglect during these periods will lead to a severe impairment of the particular function. This often completely destroys the opportunity to tune to that window, and significantly affects metaphysical localization.

The idea of tuning also brings us back to our discussion on anchors in *section 2.3*. The critical windows of physical development happen intensely often in early life, while mental development does not necessarily follow such a rigid pattern (save linguistic nativism and other possible basic functions). My assertion that s-framing relies on “fuzzy” anchors is reflected in the fact that mental development and change occurs throughout one’s life with a varying possibility of intensities that physical development does not possess. Although our common folk theory is that people have relatively “settled” beliefs and ideologies by forty, it does not seem to be necessary, whereas physical development cannot say the same.

So now we can perhaps think of ourselves as string instruments, strung and innately tuned to the same general frequency to compose the symphony of human reality. Just like real orchestras, we tune differently according to the acoustics of the particular hall that we practice in, and when we play in private with individuals we seek to tune to a common frequency whereupon music can be built. This, I think, is more than a romantic analogy. When we are in the familiar presence of a friend, we shift into a particular sort of behavior and frame that we are accustomed to. In getting to know someone, we put the effort to find common ground to get a conversation going.

3.3.3 *Metaphysical localization & fixation*

This final segment on localization concerns itself with such – *over*-sharing the world, if that even makes sense. By this I mean to explore the payoff relationship between the extent of sharing a frame and the framing effect of fixation.

If two people were metaphysically localized to a frame of incredible similarity, I imagine their interaction could be very pleasing and each might think of the other as a soul-mate. But this is not without a cost – it is unlikely that either of them will learn anything *new* or different. That is, they become fixated in a frame and stagnate.

That is, creativity and new ideas to solve problems are features of framing differences. As a Zen saying goes: “Only when the chain is broken, can you let in new light.” It is necessary that humans share different particular frames of reality, so we can continually learn and progress from others. But a balancing game must be played; significant differences in frame might lead to a communication breakdown, while significant similarities could lead to stagnation and dead-ends.

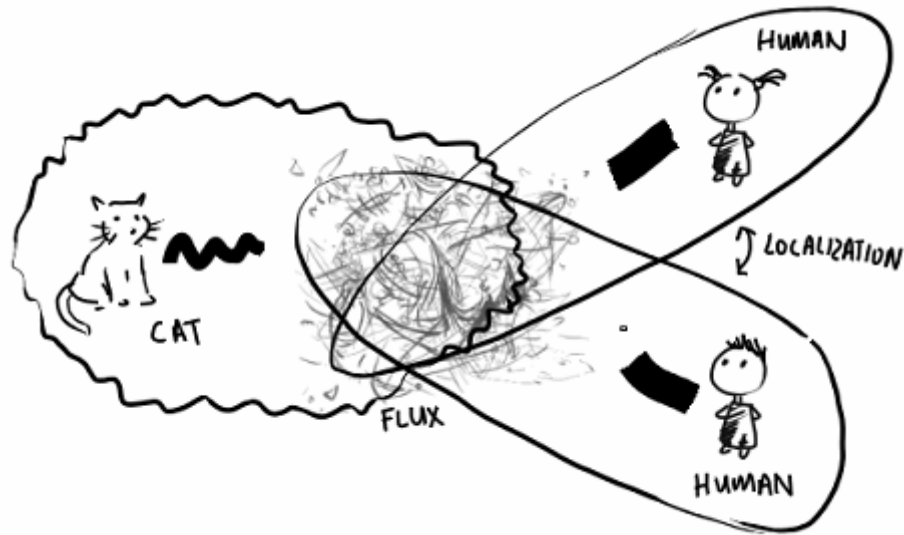
4. Sharing Worlds and A.I.

This final section will intimately combine the metaphysics and its localizations, and use it in particular to reframe the project of Artificial Intelligence. I have, outside this paper, thought of the project of creating a conscious A.I. as really a project of A.H. (Artificial Humans), where what we are trying is to implement human beings into silicon chips. After all, why are we trying so hard to make an entity embodied into our same physical form, or one that can pass the Turing test (or its “Total variation)?)

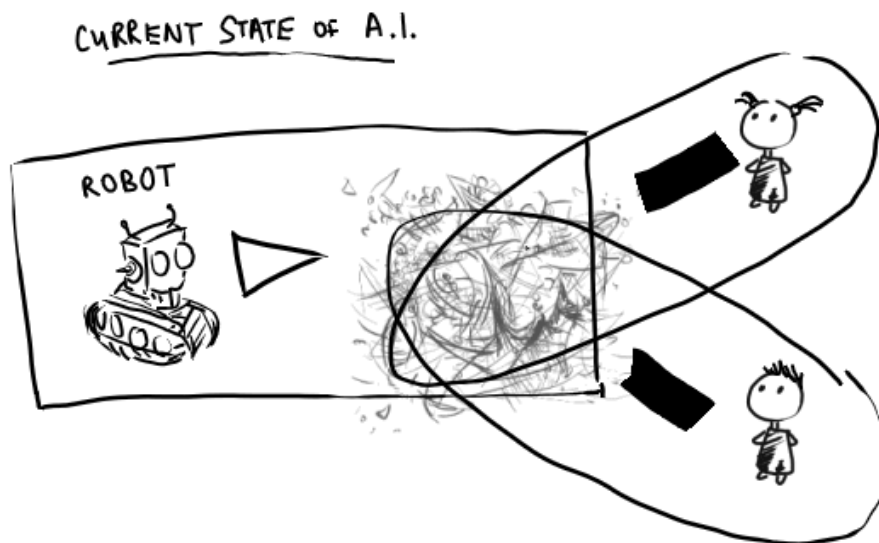
The writing of this paper has made me realize that A.I. is more than that. What we are really trying to do, is to create entities that are metaphysically localized to the same frame of the world that we are. Only through that can we find them meaningful and relevant, as they share an intelligible frame of the world that we can understand. A.I., is about reaching out to make entities share the world, the same way.

4.1 To share

The illustration below demonstrates the similarities and differences in frame between entities. I have put in a cat that has a wavy band constituting its relationship with the flux instead, generating a jaggy frame. The two humans, in contrast, share very similar frames of the world, and this occurrence metaphysically localizes them to the same plane of existence.



The crux of the issue with A.I. then, lies with what frame of the world we are allowing them to have. I have to note a possible sore point before continuing. One might think that we have to generate conscious robots before embedding them with framing capacities, but Smith thinks otherwise. For him, the very definition of being conscious *is* to have a phenomenal perspective of the world. That is, to be able to frame is to be conscious. This is fairly controversial, although I am somewhat partial to Smith's view. Regardless, the consciousness issue has to be waved aside for me to continue.

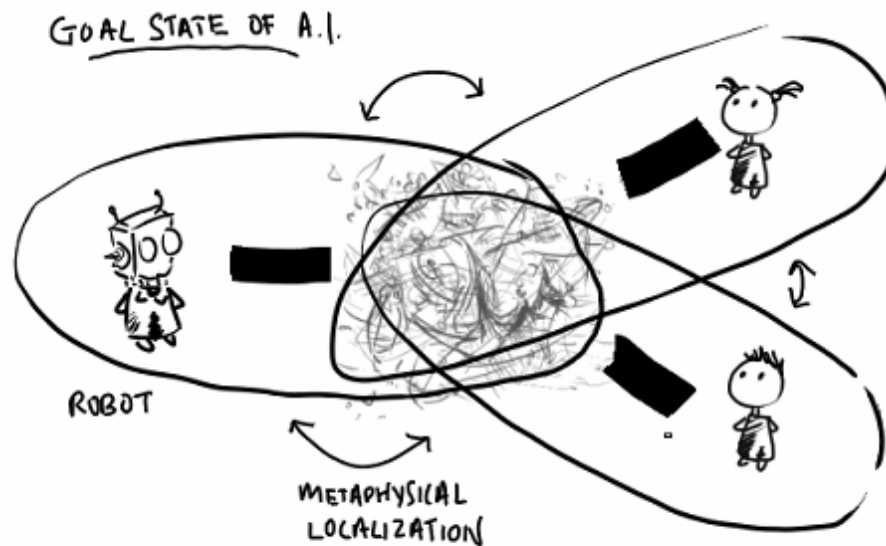


The current state of A.I. is still far from achieving anything remotely capable of s-framing, although o-framing has been achieved to a minor degree. That is, the lack of a semantic relationship with the world means that the robots of modern day share only superficial relationship with the flux. GOFAI and its formalistic symbolic manipulation also results in rigidity in the robot's incomplete frame of the world.

Current forms of robots also remain rather primitive in their form of embodiment, and by that I mean embodiment in a real, fluid, functional sense rather than just decorative make-up. We could shell a poor A.I. in a supreme human body replica, but it is just not embedded to its form for us to think of it as having any significance. The level of control current robots have over their body parts are still rather limited, and the information they can retrieve from its interaction with the world is also very meager.

To this day, no computer has satisfactorily passed the Turing test, although "parrot" models like ELIZA may achieve initial success for the layman judge. But it is curious that the Turing test remains a benchmark test for many A.I. engineers. It measures only specific linguistic competence of the judged, and more importantly, it is measured *relative* to the judge. The layman and the philosopher as a judge of the same Turing test will have quite different criteria. The beauty of the Turing test lies in its elegance as a threshold test, where as long as behavior is indistinguishable from a human subject, it is considered to be intelligent. And yet this is not quite true, because one of many major flaws in current A.I. is the inability to catch jokes. While we frame this as an error or deficiency for robots, we often see this as a trait for human beings.

So, our goal is roughly that of building a robot which possesses a relationship to the world similar to that of a regular person's. What we want are robots that are fellows on the same metaphysical plane.



4.2 Implications: Epistemic Boundedness & Multiple Embodiment

There are two important implications in framing A.I. as a project of metaphysical localization, and it is deeply related to epistemic boundedness.

The attempt to create entities local to our frame presents something of a worry – are we possibly rejecting viable, alternate forms of intelligence? Or can I really say that at all, since the only intelligence that I can understand is that of human beings. The issue is that it is both logically, and metaphysically possible that entities can frame the flux vastly differently from humans, and display behavior humans might conceive as entirely non-intelligent despite possessing a meaningful relationship with the flux.

However, if what is “meaningful” is not out there as an intrinsic property of the world, but rather the product of my semantic relationship in framing the world, then I can judge what is meaningful *only* through the frame that I have access to. This brings us back to the *necessarily* aspectual retrieval of framing, and our being localized to this frame allows for meaningful communication with similar frames which gets increasingly less meaningful as the differences become exaggerated.

It seems then, that epistemic boundedness is a necessary feature of framing. This does not necessarily spell doom, because if intelligence is an intrinsic feature of the world, then we might be able to discover the general “principles” of intelligence. Honestly, I have no idea what that means or entails, but *my* cognitive limit does not rule out its possibility. However, it seems that while talking about the *possibility* of alternate intelligence can be purposeful, talking about the possible *forms* they might take on is really not a productive venture for now.

Another concern is that of multiple embodiment. The intricate link between nativism, embodiment and metaphysical localization could possibly limit the range of possible structures of minds. It is not clear whether a silicon based robot will operate as we do in the environment, because its parts are so replaceable. Our evolutionary history has decreed both the “survival instinct” and sexual desires as very basic motivators to our behavior. Our robots would have to possess both of these to possess similar frames of the world as we do, but we currently conceive of robots being replaceable and replicable, and sexual robots would be, to say the least, rather interesting. As a result, it seems possible that only humanoids will be meaningful or intelligent to us.

This appears quite absurd *prima facie*, because it seems quite possible to design giant spider robots that behave intelligently in our environment. The key is whether the nature of their embodiment would allow them to conceive the world in a way that allows humans to have meaningful interaction with them. Numerous crazy possibilities now present themselves; perhaps we could “incubate” baby A.I.s into humanoids as their development window to form a humanly semantic frame, and then later port them into spider robots. I shall not continue, despite it being quite entertaining.

We learn two things from this, and both result from the nature of framing. What we can make out as intelligible is limited to our frame, and what we can make as intelligible to us is possibly limited in their form as well. Unless the general principles of intelligence are discovered, our frame presents limited future possibilities.

5. Final Words: Sharing the World

As one deeply concerned with the meta-pictures of reality and meaning, I cannot help if my concluding words are more than a little romantic. What then, does it mean to share the world in a meaningful sense? It really is about seeing the world in similar ways, *and* being able to communicate and interact with others through this similarity. A loose parallel presents itself in Antoine Saint de Exupery’s words: “Life has taught us that love does not consist in

gazing at each other but in looking outward in the same direction.” But let us make no mistake; the fact that our particular perspective is unique means that one will never find another exactly like oneself. And more often than not, we are thrown into a sea of differing perspectives, of which simultaneously moves and disgusts us.

There will always be an unbridgeable existential gap, but only the deluded look for a perfect mirror image of themselves. And in that way, they seek only to have someone possess the *same* world as they do. The beauty of communication is a genuine, honest transfer of intentions between unique beings. And that, is what constitutes *sharing the world*.

References

- Fodor, J.A. (1998) *Concepts: Where Cognitive Science went Wrong*. Oxford University Press, USA (April 9, 1998), pg 3
- Marks, L.E. (1974). “On associations of light and sound: The mediation of brightness, pitch and loudness.” *American Journal of Psychology*, 87, 173-188.
- Smith, B.C. (1996) *On the Origins of Objects*. The MIT Press (October 11, 1996)