

## Remarks about the Fragmentary Nature of Psychology

From *Bob Dylan's Dream*:

As easy it was to tell black from white  
It was all that easy to tell wrong from right  
An' our choices they was few so the thoughts never hit  
That the one road we traveled would ever shatter or split.

Someone asked about the fragmentary nature of psychology. This question implies that psychology is incomplete or disconnected. Perhaps the request is for an explanation why psychology is incomplete or disconnected. I am not sure. Perhaps I am incomplete and disconnected.

Suppose we agree for the sake of this discussion that psychology is the disciplined investigation of human thought and behavior. The aim of psychology is to provide a general account of the processes that underlie observable behavior and reported thought processes. As is true in other scientific enterprises, the desired general account will consist of causal factors and underlying mechanisms that explain what has been observed and reported and that predict what is likely to be observed and reported.

Where shall we start? Perhaps we should begin with a familiar phenomenon, such as confusing the names of two people. Suppose this phenomenon is common to all – it represents the one road we are now all traveling. Suppose further that we are all able to easily recognize this phenomenon and know when we have in fact confused one person's name with that of another person – it is easy to tell black from white – at least at the outset.

Someone said that in the beginning there was chaos and confusion. Or was it chaos and the void? In any event, this beginning is not like that other one that happened a long time ago.

Now, we are underway. The journey has begun. Let us begin by collecting explanations for this phenomenon. One person says that he confuses X's name with that of Y because X resembles Y. Another person says that she confuses the names of X and Y because she met them both at the same time. Still another claims that the cause for mixing up the names is that the situations in which each person was first encountered were remarkably similar, although X and Y were met separately at different times and in different parts of the world by that person.

We already have three different accounts and we have barely begun. One explanation focuses on physical resemblance and implies a recall mechanism that assumes a search for an association between two kinds of mental representations – one textual (the name) and one visual (the person). Another explanation focuses on storage and retrieval cues, implying that the circumstances in which a person's name is first learned are stored along with that person's name and then used at least sometimes in recalling that person's name. The third explanation also

focuses on storage and retrieval mechanisms and also implies links between a retrieval cue (one kind of mental object) and a name (another kind of mental object).

Just as these three different explanations were beginning to coalesce, along comes another person who says that he confuses two people because he likes them both a lot and both remind him of another person. Oh, so emotions may also play a role in cognition, at least on some occasions for some people – namely those with emotions. I am heartless and unable to understand this person, so I continue on my way.

Just as I realized that fact about myself, along came yet another person who said that she confuses X and Y because their names are syntactically similar. Oh, I forgot about the possible mediating influence of language. What tales these twisted tongues tell.

Then a person driving a convertible drove up and stopped and told me that the reason that I confused those two names was that I was in love with them both. Or perhaps I was in love with my deceased mother. Or perhaps with someone else's deceased father. Or just lusting after them for no particular reason. Beware people driving convertibles.

Next there came along a large truck – a moving van, in fact. The driver stopped next to me, unloaded a couch, and invited me to sit down and tell her my troubles. I began to cry realizing that there were just too many possible explanations for this apparently simple phenomenon. She consoled me and gave me a lollipop.

What a strange beginning, I thought. When I looked around after the convertible and truck had driven off, I found myself all alone. Those with whom I had begun this quest were no longer in sight. I suppose they had followed a different bend in the road. Perhaps they escaped to Canada.

Then I began to think about that other beginning, the one involving chaos and confusion. I concluded that not much had changed in all those intervening years.

Is it no wonder that psychology is incomplete and disconnected? Humans are complex creatures. Consciousness is especially complex. In the *Tractatus Logico-Philosophicus* Wittgenstein said that we picture facts to ourselves. Is it not remarkable that we are able to do that and then to talk about those pictures with others? There follows much silence at this point.

## Recognizing Patterns

One of the most remarkable statements I have encountered is also one of the simplest. It is this: “Wir machen uns Bilder der Tatsachen,” which has been translated from the German as “We picture facts to ourselves” (Wittgenstein, 1961). Is this not a remarkable statement? Is it not a remarkable ability? To highlight why this is so remarkable, perhaps a short philosophical sojourn is in order. Such a sojourn is consistent with my conception of *philosophy as thought in slow motion*.

*We picture facts to ourselves.* Or, more literally, we make for ourselves pictures of actualities. Making such internal pictures is not at all like drawing a sketch of something. We can observe a person making a sketch. Many people have drawn sketches while sitting in philosophy classes listening to boring lectures on epistemology. Some sketches are made more or less thoughtlessly, but many are constructed intentionally to represent something. Sketches are typically created on flat surfaces in one or more colors. They may or may not bear some resemblance to an object in the surroundings of the person making the sketch. So, we make sketches – that is not so remarkable, although drawing is a skill that can take years to master. This other ability, though, is something else. We make pictures to ourselves. Where is the hand that draws the picture? Oh, no hand is involved. Where is the flat surface on which the image is drawn? Oh, there is no such surface. Where is the crowd that gathers to watch the image being drawn? Oh, no one can observe this process, not even the person making the internal picture. Oh.

Is this statement a metaphorical remark, then? What can it mean? It seems to be a critical claim in Wittgenstein’s *Tractatus Logico-Philosophicus*, and it is closely related to concepts fundamental to cognitive science. It does seem worth exploring a bit more, especially since most people seem to accept it as obvious and non-problematic. Only the odd beast – the philosopher – draws attention to such apparently simple claims. Somehow or other we seem to build up an understanding of our surroundings, including other people and unusual phenomena we encounter. Moreover, we have a nearly irresistible urge to talk about our experiences and our surroundings, especially odd people and unusual phenomena. How is this possible?

Apparently, humans excel at recognizing particular images and patterns. Infants seem to realize the significance of faces and quickly learn to recognize the faces of their mothers, for example. Applying a simple pattern matching algorithm to this ability only makes the ability seem more mysterious. How a face appears changes for many reasons, including changes in mood, hair styling, lighting and more. Moreover, the person may be moving, and the angle at which a face is viewed is rarely the same. How does an infant come to recognize a particular face as the same one viewed on previous occasions? Indeed, how do we come to recognize things at all? Something more than a physical perceptual mechanism must be involved. Memory is surely involved. There must also be something – some kind of process – that fills in missing parts of an image or suggests that an image is sufficiently similar to one that is recalled to regard it as representing the same thing. This process suggests a kind of pattern matching logic. *We picture facts to ourselves.* Babies create internal representations of their mothers.

The logic of this process can quickly escape our control. We start with one external reality (a mother's face) and one internal reality (a baby's internally constructed image of that face). When considering how the infant recognizes that face as its mother, a third reality intrudes – a recalled image. When making the judgment that this external reality is one's mother, one produces an internal image, recalls prior images one associates with one's mother, decides that the internally constructed image is sufficiently similar to the accepted mother-images to be part of that collection, and finally concludes that the external reality is indeed one's mother – presumably it is also sufficiently similar to the internally constructed image. Whew. All that pattern matching is enough to make one cry.

It is a good thing that babies are not logical– they would never recognize their mothers if they were. Consider this. For X (the internally constructed image of mother) to be judged as *truly representative* of Y (the mother), there must exist a third thing Z (a previously constructed and stored internal representation of mother) that is *truly representative* of Y. But how did the infant come to the conclusion that Z was truly representative of mother? Hmmm. Presumably, on a prior encounter with the mother (Y, which we are allowing to be the same Y for the sake of simplicity), the infant constructed an internal image (Z, which we are allowing to be the same as the one recalled earlier for the sake of simplicity), compared it with another stored image (let's call it W – why ever not?) of mother that had been previously accepted as truly representative, realized that this one was sufficiently similar to belong to that collection, and thereby concluded that it was also truly representative of mother. Well, this *third mother regress* cannot be infinite since the baby was born at some point and only then started collecting images.

Infinite regress arguments seem to lead nowhere, which is where we were headed with that analysis. It is somewhat reminiscent of Aristotle's unmoved mover problem. The problem with causal sequences is getting them started. *That* problem. All events have causes. Event Z is caused by Y which was caused by X which was caused by ... and so on back much prior to event situation A to an endless sequence of prior events and causes. The imagination handles that logic about as well as the pattern matching regress and usually concludes that there was a big bang or some other bursting out party to get things going. Happy birthday.

So, how does the baby come to recognize mother? The ability to recognize faces takes some reflection – or at least may at one time have taken some time for reflection and comparison and recall. In any case, understanding how we recognize faces requires some serious reflection on various human abilities, characteristics and tendencies.

A moment of reflection:

*And indeed there will be time  
For the yellow smoke that slides along the street,  
Rubbing its back upon the window-panes;  
There will be time, there will be time  
To prepare a face to meet the faces that you meet;  
There will be time to murder and create,  
And time for all the works and days of hands*

*That lift and drop a question on your plate;  
Time for you and time for me,  
And time yet for a hundred indecisions,  
And for a hundred visions and revisions,  
Before the taking of a toast and tea.*

From T. S. Eliot's "The Love Song of J. Alfred Prufrock"

What was that question dropped on our plate? What was it that we were trying to understand? How we are able to recognize faces. Well, visual cues typically come bundled with other perceptual cues. Perhaps babies also smell their mothers; the reverse is certainly the case. There is the famous biblical story of Jacob and Rebecca deceiving the blind Isaac using the *smell* of Esau's clothes and the *feeling* of an arm disguised using goat skin to feel hairy and rough, like Esau's. While we might use several senses together to identify objects, we can nonetheless be misled. Descartes makes much of this possibility in his *Mediations on First Philosophy* – never trust a source that has misled you even once. If we followed such advice, we would suffer the same fate as those babies who never learn to recognize their mothers due to the third mother regress. Perhaps fewer politicians would get re-elected, though. Always a silver lining ...

Well, it seems there is a need for some kind of explanation with regard to how we manage to build up an understanding of our surroundings and experiences out of these internal representations we construct. *We picture facts to ourselves*. Is it not remarkable that we are able to make sense of these pictures? Even more remarkable is how quickly an infant is able to automatically recognize a face, even one of those early-morning-after-a-very-late-night faces. Perhaps it takes an infant two or three times to develop an association of a face, and perhaps also a smell and a touch, with mother, milk and such. Quickly the recognition process becomes highly automated and only a momentary glimpse is required. Once the pattern recognition process is established, it is highly resilient. What might this suggest about human reasoning?

The notion that we create internal representations to make sense of our experiences and surroundings is a fundamental tenet of a naturalistic epistemology that has roots in the philosophical works of David Hume and Immanuel Kant. In the 20<sup>th</sup> century, naturalistic epistemology became the basis for socio-constructivist approaches to education, although there is much confused discourse pertaining to constructivism in learning and instruction. As a tenet within naturalistic epistemology, the claim that we picture facts to ourselves is not a prescriptive claim – it does not tell the baby that it *should* create an internal picture of that face to see if it is mother and likely to bring comfort. We simply do, it seems, create internal representations of things. We do so naturally and without any prompting or guidance. We cannot stop creating these internal representations, and many will argue that the process continues even while we are sleeping. Ah, "to sleep, perchance to dream" ... pass the rubbing alcohol ... all this talk about epistemology is making my brain muscles ache.

*Half of the people can be part right all of the time,  
Some of the people can be all right part of the time.  
But all the people can't be all right all the time  
I think Abraham Lincoln said that.*

*“I’ll let you be in my dreams if I can be in yours,”  
I said that.*

From Bob Dylan’s “Talking World War III Blues”

We create internal representations to make sense of our experiences, and then we use these representations to guide our actions and to structure our discussions with others. We realize that on occasion others may be viewing the same situation and engaging in a similar process of creating representations and sense making. What about these others? Might some of them be constructing internal representations that are sufficiently similar to mine to guide them to similar actions and conclusions? Half of them might say and do things similar to those that I would say or do. Hmm. I suppose we need another distinction – that between internal and external representations. *We picture facts to ourselves.* These internal pictures are private and cannot be directly inspected or shared. We also create external representations of these internal pictures that are public and can be shared. These artifacts become part of the observable world and might also be worthy of investigation and consideration.

Ouch. Occam’s razor just got stuck in my beard. Am I multiplying entities beyond necessity? We began with external realities (mothers) and internal representations (constructed internal images of mothers). We added more internal things - things stored in and recalled from memory. Now we are adding more external things – human constructed representations to be used in talking about other external things as well as about those non-shareable, unobservable internal representations. Okay, it is a lot to keep up with, but perhaps it will explain how it is that we are able to build up an understanding of our experiences and surroundings and share that understanding with others. Perhaps.