

Reflections on the Ontology of Observing

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One of the fundamental notions offered by Humberto Maturana is that of the ontology of observing, in which the notion of (objectivity), or objectivity-in-parentheses is presented. This, in my view is not a singular notion, rather it is a matrix of coherent ideas that he often presents in a figure (Fig. 1) that he himself considers the equivalent, in the domain of his work, to the well known equation $E=MC^2$ in the domain of Einstein's work. In the sense that both are abbreviations that represent a collection of abstract concepts that are not fully understood by many who refer to them, this is indeed the case.

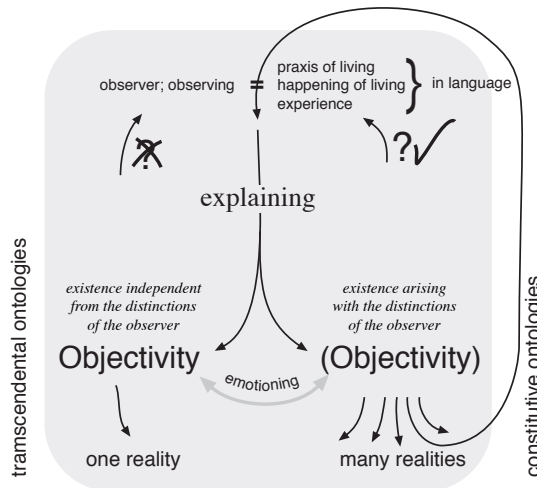


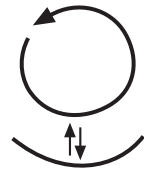
Figure 1: The Ontology of Observing as presented in seminars by Maturana. The author's rendition of this figure was reviewed and edited by him in Sept. 2004.

In the figure caption of a recent rendition of this diagram (Maturana & Poerksen, 2004) Maturana writes "if one knows how to read this diagram the understanding of how the observer arises as a biological entity unfolds."² How, then, should one read this diagram? In this paper I will present a path, a sequential path and a path of my own reflections, that pertain to this figure and my understanding of it, and some of what it implies. But first I will make a comment about the parallel between this figure and Einstein's famous equation.

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 2. I think the translators chose the word "unfolds" – in my experience Maturana avoids that word with the explanation that what is being referred to was not already present, in a folded up form, but rather comes to have existence through the dynamics entailed; he is more likely to say "arises."

I myself find the parallel with $E=MC^2$ more appropriate to make with Maturana's signature drawing (Fig. 2) of living system and medium. This figure has an elegant simplicity in which the most obvious features are the circularity of the self-generating living system (autopoiesis) and its reciprocal relationship with the medium. Implicit in this drawing are the notions of generative, relational, and arising domains, and thus the simultaneous and coordinated existence of a living system in both the physiological and behavioral domains, continuously conserving autopoiesis and adaptation. With the addition of the eye-of-the-observer these domains are revealed as different abstractions made by an observer according to his or her orientation in observing. This in turn reveals the look that entails the living system as a whole, and the look that includes the observer observing. With the addition of a sequence through time, this basic drawing also shows the relationship of structural coupling between organism and medium; and with further explanation offers a distinction between niche, environment and medium and supports an understanding of evolution as the ontogenic niche ontogenic phenotype relation. Thus, like Einstein's equation, this drawing abstracts the proper relationship between a group of related notions that have to do with dynamic relationships.

Figure 2. The relationship between organism and medium which indicates the continuous recursive autopoietic dynamic with the circular arrow, and the reciprocal relation of continuous adaptation between organism and medium with the double arrows.



The drawing (Fig. 1) in which Maturana abstracts the ontology of observing, in my view abstracts a change in fundamental premises and is thus of a different order of abstraction. Although in my experience Maturana evokes a sense of understanding in his listeners as he draws the figure and presents the matrix of notions that he intends to convey with it. I find that the figure itself does not convey that understanding. Even after someone has listened to Maturana's presentation, and has experienced illumination at the time, later reference to the figure does not appear to evoke that understanding. I often hear of (objectivity) being referred to as if it were merely a better kind of objectivity, or I find people adding parentheses to other words to imply that they mean that word "sort of, but not quite." Most often people assume that all that is involved is that one is adding the personal view of an observer, and that this must always be the case. I myself did not really grasp that the figure does not represent two alternative paths that can be offered as a choice until last year, when Maturana complained about the way I had drawn his figure and in trying to understand his complaint I not only revised it to his specifications (as per Fig.1) but grasped something I had not seen before as I will explain below. Of course, I do not know whether I yet understand properly or fully according to Maturana, but I have to proceed from where I am, and I think inviting discourse is appropriate.

What I will attempt to do now is to offer a path through Maturana's figure that may illuminate aspects of it for others. My general process will be to present his drawing sequentially, following as much as possible the sequence he generally follows

(though in the presentation it is not sequential, but recursive and interlaced with other explanations and evocations). At the same time I will, in parallel and to the right of his figure, present my own figure to which I can more readily speak, as it is the expression of my understanding. I hope the mapping between the two is adequate.

Maturana begins with the notion of explaining, and asks his listeners to consider how we human beings explain our experience (Fig. 3). If a person does not consider this question, that is takes it for granted that “we simply do our best to explain the world we live in,” then the question as posed is not accepted. He indicates this with a cross on the question mark – and the consequence is that the notion of the observer and observing, as he means it, never arises. Instead the person follows the premise that existence is independent from the distinctions made by the observer, and the result is Objectivity and the premise of a singular reality.

In my figure, I place the premise under which the question is listened to next to the question “how do we explain?” I point out that it is not that people don’t hear, and accept a question, but rather that the manner in which they hear it makes this a trivial question with an obvious answer. The answer to the question, as heard, is that one explains that which one experiences based on what is, based on the world “out there.” If existence is independent of the distinctions made by an observer, then making distinctions is what an observer does in order to discern reality. In other words, it is assumed that observing consists of operations of discovery on an approach to ultimate truth through which Reality¹ is incrementally revealed. It is interesting to note that in this view of Reality the observer is part of that selfsame reality as an entity capable of intelligence and self-consciousness. Furthermore, in this view a distinction is made between objectivity and subjectivity, Subjectivity is needed either as an explanation of the variance in observations due to individual fallibility (our sensory systems are imperfect), or as a way of acknowledging that people have mystical or delusory experiences that cannot be explained in Reality.

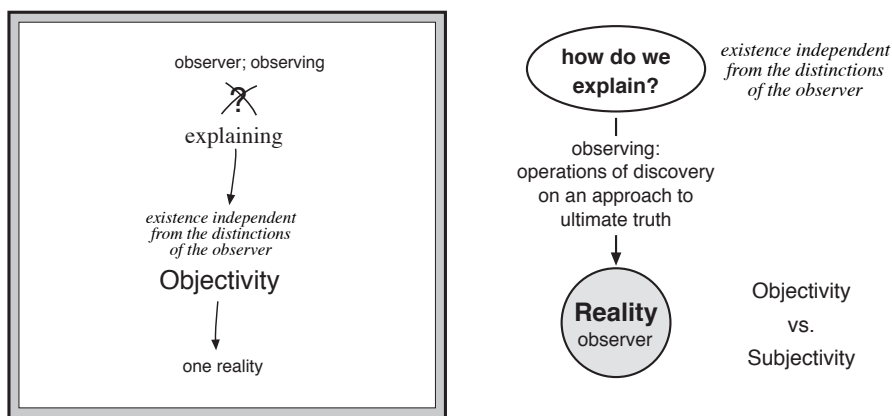


Figure 3. The usual path of Objectivity.

1. I will consistently capitalize Reality when I mean a singular reality

The next steps in Maturana’s presentation of the figure vary according to the circumstances; depending on what else has already been said, who the listeners are, etc. He considers what may lead to the question being seen and accepted, such that one becomes aware that existence arises with the distinctions made by an observer (Fig. 4.) In my presentation of this, I enumerate what I consider are Maturana’s seminal observations, or at least the points that I like to make in order to develop the notion that existence indeed arises with the distinctions of an observer. These points do not arise in a linear sequence, but rather as considerations that may follow in any order as a coherent constellation of ideas and observations. In a presentation I too support these statements with further statements, explanations, examples, stories, and experiential exercises (particularly concerning the nature of living in language) that are beyond the scope of this paper. The result is that the listener accepts, at least tentatively for consideration, that a valid path for explaining our experience inescapably follows. The premise that synthesizes all these reflections is that existence arises with the distinctions of the observer.

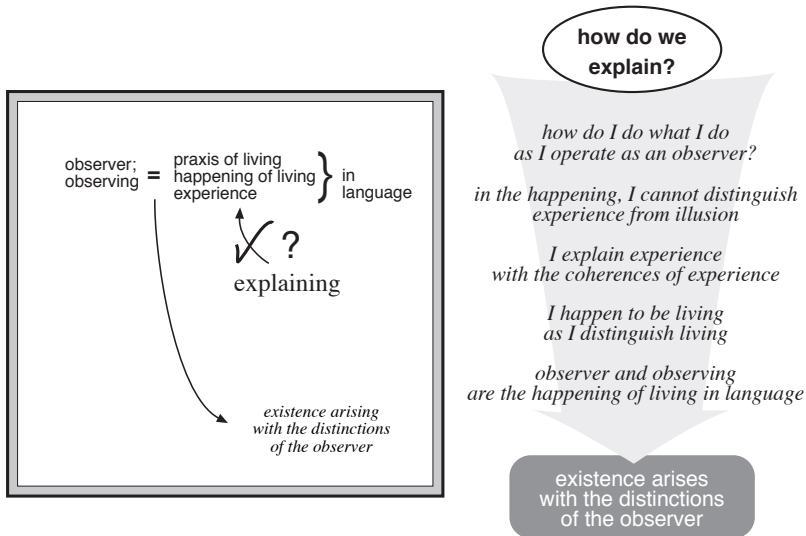


Figure 4. A path of coming to an understanding that the biology of cognition, including perception and languaging are implicit in the distinction of experience and existence.

One of the points in Maturana’s figure which left me somewhat baffled until a recent presentation (UK Systems Society, Sept. 2004) was the line with the equal sign and the right bracket. In this line Maturana is literally equating one way of specifying something with another, in the same way that one would offer a mathematical equation (Fig. 5.) In this case he is noting that his abstraction of an observer and observing is equivalent to the praxis of living, the happening of living, and experience—all in language. This indicates that the observer and observing is something that happens (and happens only) in the living of a languaging being. These

notions, which are presented in many of Maturana's papers are further developed in his recent paper "The Origin and Conservation of Self Consciousness" (Maturana, in press).

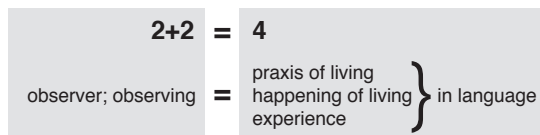


Figure 5. The equation which indicates an understanding that human experience takes place in the praxis of living in language, and that this is implicit in the distinction of an observer observing.

When someone realizes the nature of observing, as a happening in language, s/he very quickly realizes that different worlds, or different realities, may arise through this (Fig. 6). I see these as lineages of distinctions in language that generate internally coherent domains of explanations. An explanation is accepted based on criteria determined by the listener, and this is also true for lineages of explanations. One criterion which is consistently present is that of coherence with prior experiences and observations. Thus lineages of explanations grow in a manner that, besides being internally consistent, remains coherent with experiences. At the same time, the particular coherent network of explanations that has been accepted determines what further experiences are distinguished as happening. Thus a lineage of explanations arises recursively with a lineage of experiences. These lineages of explanations are not arbitrary. We as languaging beings are already embedded in a history of interacting systems which has given both our biology and our medium a structure in which some happenings may take place and others cannot. As Maturana puts it, in the form of a systemic law¹:

The course of the history of interacting systems is determined by the configuration of relations between them that is conserved while the interacting systems change around the conservation of relations that define them. (Maturana, 1999, personal communication)

Maturana and Yáñez (2005²) also write that we distinguish these worlds in conversational networks that come to exist based on the form of the coherences in various domains of doings. The result is an endlessly extending panoply of domains, as any domain that we human beings can live and distinguish in our living may become a world that we experience and explain.

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1. Systemic laws are abstractions of the regularities of our operation as living systems that we distinguish as we explain our experiences with the coherences of our experiences.
 2. Based on a translation by the author of "Leyes sistémicas y meta-sistémicas" which is in revision along with the English version cited.

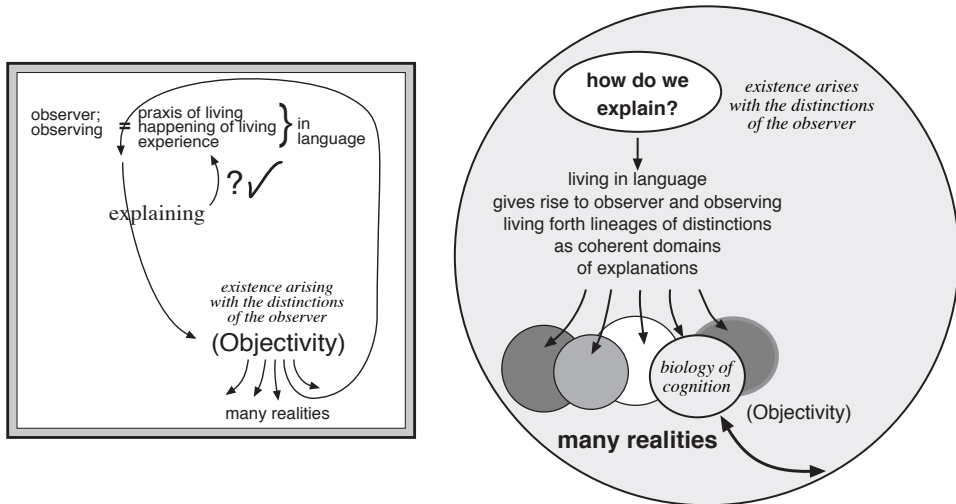


Figure 6. The awareness of how many realities arise through living in language. The recursive nature of one of these realities, through which the awareness of the dynamics of the arising of all of them arises, is indicated by the circularity (return arrow on the left) or self-reference (correspondence between context and element on the right).

Language, as the consensual coordination of consensual coordination is a recursion in which a new domain arises, namely the domain of objects. Since each of these domains arises in language, each arises as a world of objects. Objects in this sense are not limited to physical and conceptual entities, but also refer to those objects that arise as further coordinations of coordinations; for example the various elements of language that are classified as verbs, modifiers, conjunctions, etc.) It is the nature of languaging that makes it so that languaging beings live forth a world that arises as various kinds objects. Hence the notion of (objectivity), where the parentheses denote the reflection of being able to step out and see that the co-ordinations with objects that one takes for granted in daily life are indeed co-ordinations in language through which those selfsame objects arise, and are distinguished and named.

In its representation of multiple realities, my figure (the right side of Fig. 6) does not differ substantially from Maturana's. Where I do differ is in the manner in which I present the circularity that is inherent in this explication. Maturana shows one of the arrows that represents a particular domain of reality making a big circle and coming back through the equal sign and returning to the question of explaining and the consequence of how it is addressed. I show this recursions as a correspondence that is a self-reference; in other words one of the realities, that is the biology of cognition, is that reality in which the whole figure that distinguishes the multiple realities arises and is explained. This is not to say that other realities cannot arise also in an awareness of a constitutive ontology; indeed many traditions accept the legitimacy of other realities. What is unique about this particular reflexive view is that it is grounded in biology and in an emotional orientation that I will refer to below.

The next step in the presentation of the ontology of observing consists of regarding two paths of explanation in parallel (Fig. 7). In this step Maturana shows that two different sorts of worlds arise according to whether one accepts the premise of existence arising with the distinctions of the observer, or the premise that existence is independent of the distinctions of the observer. The former are the transcendental ontologies, and the latter are the constitutive ontologies. In my presentation I prefer to name the transcendental ontologies as “essential ontologies” as they rely on the premise that things are as they essentially are. I have learned to shy away from the use of “transcendental” as that word is used in many lineages of conversation and culture where the meaning comes in conflict with what is intended in this explication. Transcendental not only means surpassing ordinary experience, or supernatural, it is also used to emphasize the a priori condition of an unknowable ultimate reality, and to refer to a spiritual primacy over empirical reality. Furthermore, in some traditions transcending refers to the loss of the sense of separation between a personal self and all existence. Given this, I have found that the choice of name has led to misunderstandings.

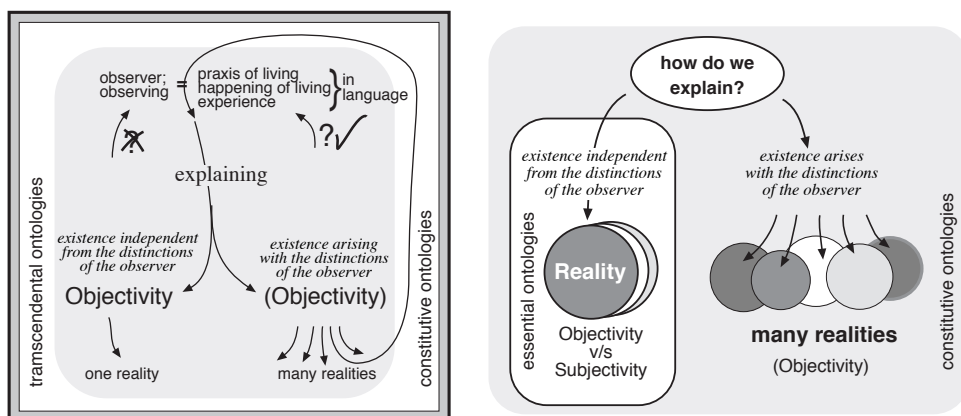


Figure 7. Awareness that one of the many realities follows an alternate path of premises in which the emergent reality is taken as singular, and differences are considered subjective interpretations, mistakes or delusions. Not represented in this figure is the significance of emotion in determining which path is followed—as shown in Fig. 1.

What I had not understood prior to the conversation on this topic that I had with Maturana last fall is that the next step, in which both halves of the figure appear (Fig. 7), is indeed not possible to understand until one has seen the circularity of how the biology of cognition reveals the parallel ontologies. Up till this point the whole figure would appear as if it were a choice to be made in the usual way, in which one chooses either a singular reality or a more accepting “reality of multiple realities” that is rationalized through a biological explanation. If one is offered this choice, with the explanation that Reality is a compelling argument that leads to such intense disagreements as war, then one is in essence compelled to accept objectivity-in-parentheses as the more ethical alternative. If, on the other hand, one has fully

understood the equation that the observer and observing happens in the praxis of living in language, then the commonly held Reality arises as one particular reality of the many realities that can be constituted as different lineages of living and languaging. This is to say that the same sets of observations can be explained either based in the premise of essences, or based in the premise of arising as distinctions, as represented in the dark grey circle in Figure 8.

In either ontological path different realities do in fact arise, as we do live different lineages of language in different lineages of culture in which the world arises differently. There are enough commonalities among these worlds that we are able to collaborate and to translate between languages. There are enough differences that many concepts are not common, and many (if not most) words have subtly or significantly different boundaries of distinction and different entailments of connections. Hence, in practice we live many realities.

The difference between essential and constitutive ontologies is in how other realities are treated. In the essential ontologies, other realities are denied or tolerated. In the constitutive ontologies they are not only accepted as valid but as inevitable consequences of evolution. As expressed in the paper by Cecchi et al (this volume) evolution or natural drift is a systemic historical process guided by a manner of living. In this process, I claim that explanations, and hence realities, not only drift and “speciate,” but also act to determine the manner of living which in turn connects the living being with other dimensions of its existence.

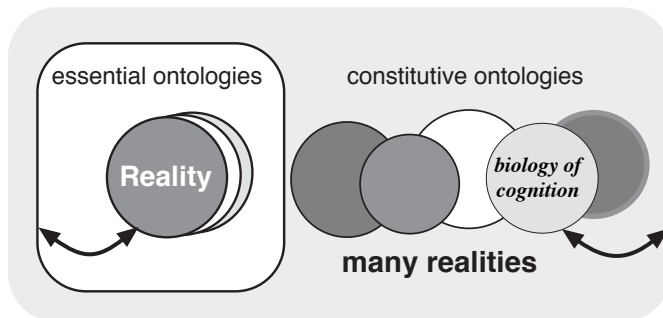


Figure 8. An essential ontology is reflexively self referential in the same manner as the biology of cognition is self reflexive.

The Reality that arises in the essential ontologies has the unique characteristic that it offers transcendental arguments, or essences, as the grounding referents. I think, like the patriarchal culture, this reality has the characteristic of overwhelming other realities through actively denying them, and that this is the reason it has become commonplace.

There are two more aspects to Figure 8 that I wish to briefly address. First, the reality of the essential ontology also has a self-referential dynamic with respect to its frame of reference. Second, one does not “choose” a reality, one finds oneself already engaged in one. However, one’s reality does shift its character through the process of

reflection, as the reflection results in the budding of a new lineage of explanations and hence a new reality. The biology of cognition conserves the observations that one has lived and offers a new manner of explaining them as well as explaining the explaining itself.

The final element in Maturana's diagram (Fig. 1) that I have not yet alluded to is the curved, two-sided arrow labeled emotioning. I think that what Maturana is pointing to is that the fundamental difference between a transcendental ontology and a constitutive one is emotional. One accepts or does not accept one or other of the two explanatory paths according to emotion, not reason. The emotion that pertains to acceptance of multiple realities must be love—love as that domain of relational behaviors in which the other arises as a legitimate other¹ in coexistence with oneself. As I mentioned above, the transcendental ontology denies others, it is a world of “us” as legitimate and “them” as tolerated or accepted as coexisting on principle. In this world there is an implicit primacy according to who has the best access of best interpretation of the essences, and this primacy is taken for granted as applicable not only to other humans, but also all nature. That is not to say that constitutive ontologies cannot discriminate, or have preferences, but there is no fundamental exclusionary (or inclusionary) principle, otherness is legitimate whether one likes or dislikes it.

Given that there is no external referent of an essential nature, in the constitutive ontologies social behavior is a matter of responsible autonomy. People make agreements, design and accept rules, laws, and guidelines; but they do so in the desire of social harmony rather than in the belief of some essential order. The acceptance of preference as a grounding motivation to how one responds to those others that one does not like or finds dangerous, is not a way of justifying unethical behavior. It makes ethical behavior a matter of autonomous social responsibility.

I would like to conclude my reflections on the ontology of observing with a final figure, and given all that I have said so far this figure is only meaningful after one understands what Maturana intends with the ontology of observing. In Figure 9 I trace various paths that one may take through the conceptual map which has been developed and consider what emotions or attitudes are likely to lead one way or another. When someone is invited to consider the question of how we explain, and declines the question as irrelevant, superficial, or otherwise uninteresting, s/he is usually doing so either through compliance with the world that s/he has grown in or through a disinclination to reflect. Alternatively s/he may do so through a desire for certitude, a desire for a world where questions can be answered in reference to absolutes. If the question is accepted as interesting, significant, and valid, it is usually accepted in a mood of curiosity, or in pain. The pain may be through a suffering that the person somehow attributes as being caused by someone or something acting in accord with Reality, or it may be a psychic or intellectual discomfort of feeling that things are not as solid or as real as they might have once appeared. The curiosity may

1. “Other” includes not only another human or any other being, but also oneself and whatever circumstances arise. This does not mean that one must like or seek out everything simply because it is legitimate.

manifest, in appropriate circumstances, as an interest in or liking of a person who one sees living in a manner that one likes but does not understand.

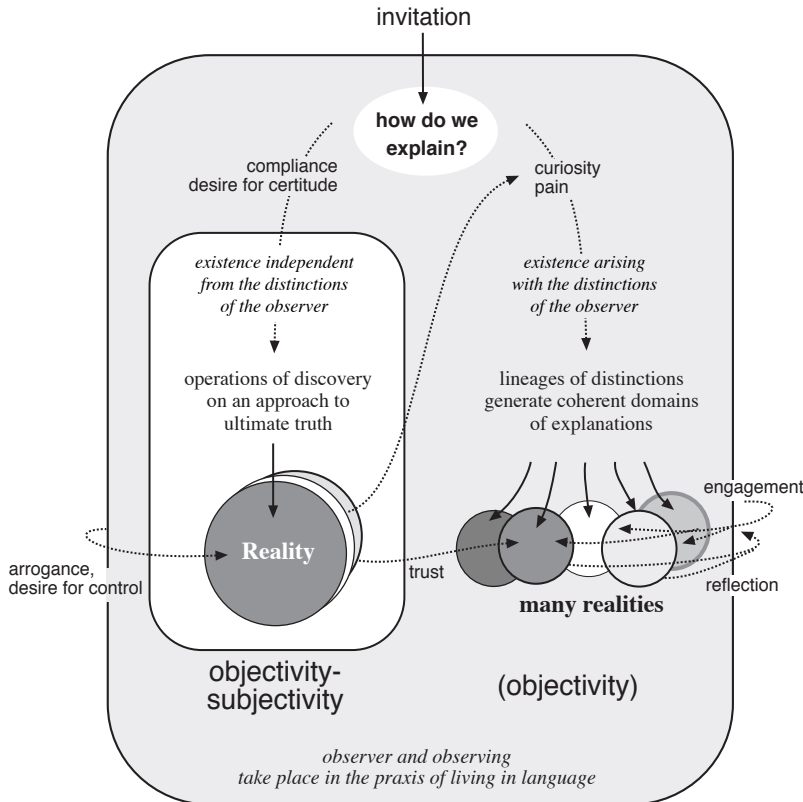


Figure 9. A reflection on the various paths that an individual may follow through the dynamics presented in the ontology of observing upon being presented with the invitation to consider the alternatives.

If a lineage of (objectivity) is followed, a person can live that lineage, totally immersed in it in a manner that is in most daily life instances no different from living a similar world in objectivity. However, the person who has in some moment accepted that existence arises as distinctions of an observer, is inclined to occasionally or habitually reflect. That is, s/he may step out of his or her engagement in daily living and see this as a constitutive composition, as a work of art lived forth by him or herself in the context of a culture that he or she composes as he or she is composed by it. Reflection is but a moment, but it is a moment in which one is structurally changed, so that as one re-engages to continue living daily life in its various forms, one does this grounded in the change of that reflection.

One can, however, conceptualize the constitutive ontology as the “real reality”, the one that even encompasses Reality. In other words one can take it as the way things really are, and hence live it with an arrogance which transforms it into a special form of Reality that supersedes others. This can happen as an easy slip from one side

to the other...I know, I have made that mistake. It can happen as the re-engagement from the stance of reflection if that moves into a different emotion (arrogance, or desire for certainty, or for control. I have also followed the arrow back from Reality to one of the constitutive ontologies that explains the constitutive ontologies – and my route back has been through the emotion of trust. I think other escapes from arrogance, to understanding once again what one may have once seen are again through curiosity or pain, the same emotional orientations that would have put one on the path to first consider the Biology of Cognition.

Although I consider emotions to be as much a part of cognition as behavior or languaging, or any other distinction we may make about our sensory motor coordination, I can see the value of declaring that the Matrix of Human Existence consists of the biology of cognition and the biology of love; as the latter is a requirement for the understanding of the former.

I now wish to turn to a reflection on the overall philosophical stance inherent in the change in the way the question concerning experience is cast. In the title of this issue, and in my introduction I refer to as the change in the question.

Although the naming of this as a shift from “being to doing” is evocative, I think that the shift is not evident in the phrase for the simple reason that if it is regarded from the premises and perspective inherent in the “being” side, one sees “doing” as the way of operating in what is. As I have discussed above, the consequences that arise from a shift in premises cannot be seen from the perspective of a different set of premises. This is exactly the same issue as the one that arises when Maturana’s body of work is read, thought about, discussed and evaluated from the epistemological and ontological premises that we normally grow accepting as fundamentally valid.

When I had first spent a couple of years familiarizing myself with the work of Maturana I thought that his body of work represented a new cosmology. At that time I declared a cosmology to be “a process through which the understanding of the whole dynamics of existence takes place. It is not a specification of reality, rather it is a dynamic that happens in language wherein the experiences that happen to a languaging being are explained as coherent”(Bunnell, 1997). I asked Maturana why he did not present his work as a cosmology, and he explained that it bent the listening in the wrong direction. I have discovered that this is the case, and no longer make that claim—after all the standard dictionary definition of cosmology is “a brand of metaphysics that deals with the universe as an orderly system” (Merriam-Webster, 1981).

Recently Maturana has claimed that his work is a new metaphysics (Maturana & Poerksen, 2004). Having become more sensitive to the heard meanings of words, I wondered what listening this might evoke. The same dictionary tells me that metaphysics is “a system of principles underlying a particular study or subject.” Depending on which meaning of principles one assumes, in my view this makes the word *metaphysics* an unlikely candidate to explain or evoke what the work encompasses and offers.

I have explained, and have heard Maturana claim, that his work is both an epistemology and an ontology. In other words it deals both with the nature and relations of being, and the nature and grounds of knowledge. Yet this too, has not properly satisfied me as a way of indicating the “change in the question.” I think the reason it does not is that we live in an implicit premise that knowing rests on being; namely that epistemology rests on ontology. I have not seen this stated anywhere (I am not a philosopher in any formal sense), but I hear it when I listen to how people mean what they say.

Maturana has made a connection between knowing and doing. Many of the readers of this journal will be familiar with the phrase “all knowing is doing” (Maturana & Varela, 1987; Maturana, 2003) or the more explanatory statement that knowledge is attributed by an observer when s/he sees a living being acting in a manner that the observer considers to be adequate in the circumstances. Thus equating knowing with doing, I can graphically represent being, not resting on, but arising from doing (Fig. 10). This is, in a simple way, a graphical representation of the premise that underlies changing the question.

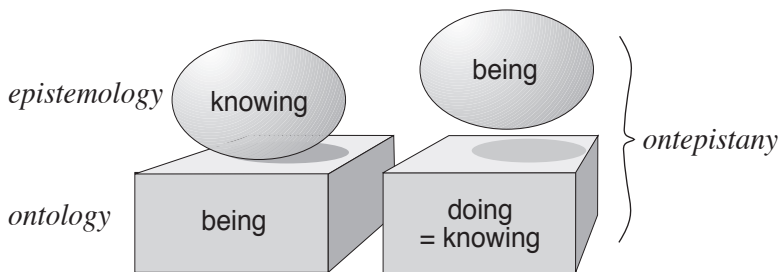


Figure 10. A graphic analogy of a change in the question concerning experience from implicitly assuming that knowing rests on being to the premise, grounded in the biology of cognition, that being arises as a consequence of knowing. I name this awareness of the grounds for one’s understanding *ontepistany* (see text).

But how shall I refer to it? I am shy to propose a new word, yet a new word at least alerts the listener to consider that a new notion is being proposed. If I look at the Greek roots for epistemology and ontology, I find that *epi histanai* is to cause to stand on top of, which became *epistanai*, or understanding. The prefix *onto* means in or into a state of awareness. I would like to combine these roots in a new way to say *ontepistany*, to denote an awareness of the grounds for one’s understanding. I think that is what Maturana’s change in the Question leads to, in a manner that is in and of itself an open path of expansion of both awareness and understanding.

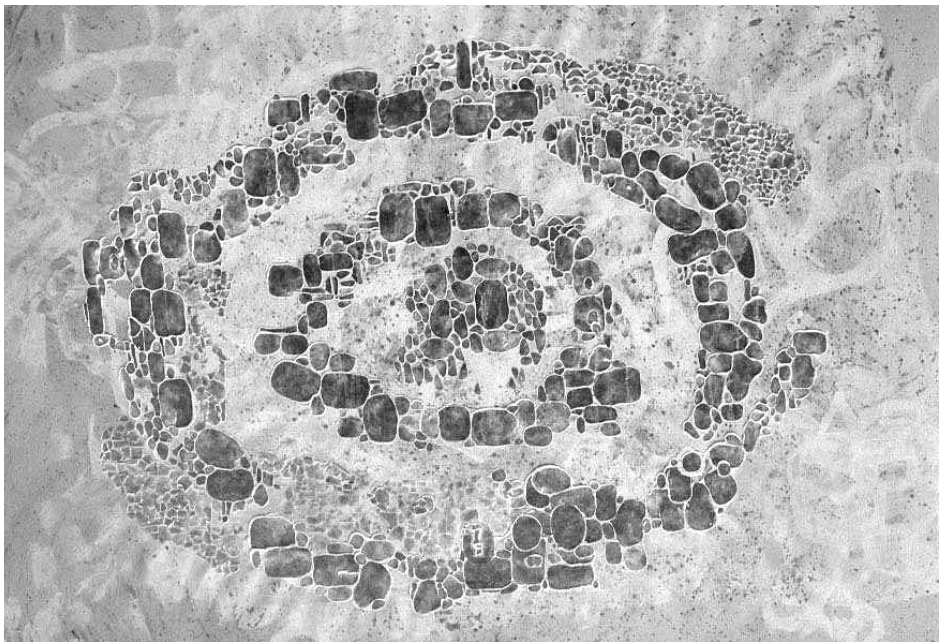
Acknowledgements

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thank David Tait, Doug Seeley, and Søren Brier for their comments and questions. The pleasure of these reviews has made it obvious to me that a review conducted in the biology of love, is grounded by curiosity and is thus an invitation that results in reflection and expansion through conversation. This in my experience contrasts with the common approach to review as criticism and correction.

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Perelandra

1999, acrylic and mica on canvas, 68 x 86"