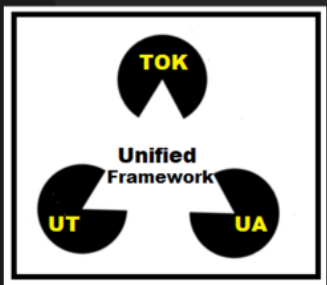# The Theory of Knowledge that

Grounds the Unified Framework

My goal in this essay is to lay out, in as plain of language as possible, the theory of knowledge that grounds the Unified Framework. For clarity, the Unified Framework consists of 1) a theory of knowledge, which is referenced as TOK; 2) the unified theory of psychology (UT); and 3) a unified approach to psychotherapy (UA).


The Unified Framework is a multi-level system with many parts, such that a glossary of terms and concepts has been constructed (and available on request). One key distinction that is should be made up front is the difference between the Tree of Knowledge (ToK) System and the Theory Of Knowledge (TOK) Tree. The Tree of Knowledge System is shown on the left, whereas the TOK Tree is on the right. The ToK System is the first branch on the TOK Tree.
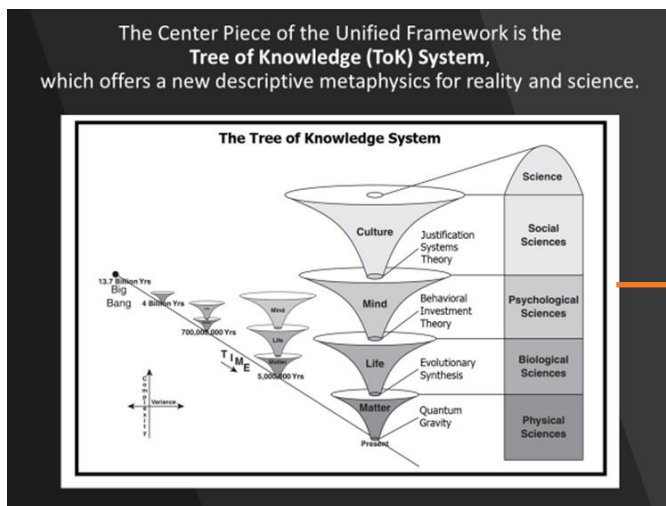
Defining our Terms to Navigate the Territory

The focus of this essay is to get clear about the theory of knowledge that grounds the Unified Framework. We can begin our understanding by defining what we mean by "knowledge." A useful way to conceptualize knowledge is to define it as "justified true belief." A belief is a (mental) representation about a state of affairs that 2) accurately corresponds to the actual state of affairs (i.e., is true) and that the representation is 3) legitimized by logic and empirical evidence, such that the description is judged to be apt and better than alternative contradictory claims. This conceptualization can be depicted as follows:
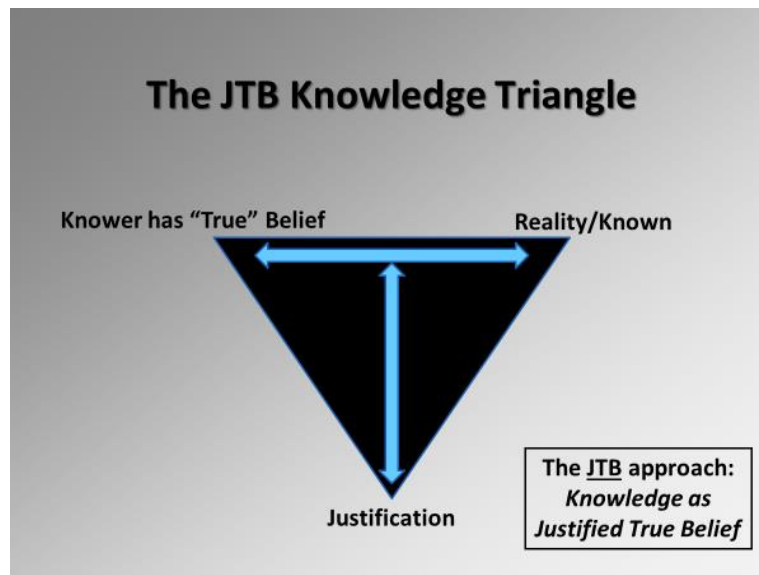
This conception of knowledge gives rise to two other key concepts. The first key concept is epistemology. Epistemology is concerned with how a knowledge claim is made and how it is determined to be legitimate. Ontology refers to ideas we have about reality. That is, if you say that atoms are real, that is an ontological claim.

Ontology needs to be divided into ontology proper and the ontic reality. The ontic reality refers to that which is actually real independent of any theory or idea. Ontology refers to the conceptual claim that reality. Thus, the idea that there is an ontic reality that exists independently of our beliefs about it is an ontological claim. If we have good evidence to believe that 4 billion years ago planet earth existed independently of our beliefs about it, we can consider earth the ontic reality. However, we consider it through our ontological idea about that reality, which is supported by evidence.

For our purposes, we can divide evidence into the two categories of logical arguments and empirical data. There are two broad categories of logical, which are deductive and inductive. Deductive is when we deduce conclusions that stem from premises. Inductive is when we generate larger generalizable claims from sets of data.

There are two meanings of the word empirical. One meaning refers to information brought in through the senses. This is the subjective interior meaning of the word. It translates into "I saw it with my own eyes". The second meaning of the word empirical is the objective exterior meaning. This is the scientific meaning. It refers to events or entities that can be viewed from a third person perspective. Ideally, this will involve quantifiable measurement of some sort. Quantification enables linkages with mathematical and statistical systems of logic. We will come back to this when we explore the important epistemological distinction between interior and exterior views on knowledge and the world.

So, we now have our basic definitions of knowledge, epistemology, ontology, ontic reality, and the two meanings of the word empirical, interior and exterior.

There is one other term that we need to introduce to round out our philosophical tool kit. That is metaphysics. In general, metaphysics refers to the concepts and categories we use to carve up the world. Because of this, metaphysics is closely connected to ontology. However, rather than being a theory of reality or beingness like ontology, metaphysics is how we talk about reality.

It is important to distinguish this proper, philosophical meaning of metaphysics from the more colloquial meaning of the word, which is that metaphysics refers to "fluffy," "new age" or dubious philosophical or scientific claims. If someone were to say, "Now you are just talking metaphysics," that implication would be the claim was not very serious. I refer to this as "pure metaphysics". That is, someone is doing pure metaphysics when they are simply inventing categories and playing with concepts that have no referent in the ontic reality. Thus, the question, "How many angels can fit on the head of a pin?" is a *pure* metaphysical question. In contrast to pure metaphysical claims divorced from ontic reality, descriptive or systematic approaches to metaphysics involve analyzing and developing the proper concepts and categories to effectively divide up the actual world in an accurate, sensible, and apt way.

This brings us to the Tree of Knowledge System. We can ask: What is meant by "system"? It is a descriptive metaphysical system for defining our core concepts and categories that make up our scientific knowledge. That is, it a proposal or working model for framing a scientific worldview and for defining our terms in systematic relationship to one another to foster clarity and effective sense making.

The Enlightenment Gap and the Problem of Psychology

The ToK is a new descriptive metaphysical system that solves the problem of psychology. The problem of psychology is the fact that there is no adequate system for defining the field (i.e., for specifying in an adequate way, what exactly is psychology?). Why does psychology have this problem? The reason is a consequence of what I refer to as "the Enlightenment Gap." The Enlightenment Gap refers to the failure of philosophers and other big picture scholars and theorists to simultaneously solve two key conundrums that plague effective descriptive metaphysical systems. The first conundrum is the relationship between the concept of "matter"

and the concept of "mind". The failure here is seen in the failure of psychologists to have a clear ontological reference point regarding what, exactly, is meant by the term "mind".

The second problem is the relationship between social pragmatic intersubjective knowledge and scientific knowledge. The nebulous, unresolved tensions between social and scientific knowledge are seen in the tensions between modernist and postmodern sensibilities, or between objective realists and hermeneuticists.

The point from a Unified Framework perspective is that the Enlightenment Gap remains and there has been no synthetic philosophy that has adequately framed-via a clear descriptive systematic metaphysical picture—both the matter v. mind and society v. science knowledge relationship with the same framework.

The Enlightenment Gap led to the breakdown of the modernist project in the 20th Century. It is apparent in both the failure of a coherent science of psychology and it is apparent in the rise of postmodernism and the breakdown of the quest for synthetic metaphysical systems of understanding. Solving the Enlightenment Gap can lead to a knowledge and wisdom revival in the 21st Century.

Enter the Tree of Knowledge System

The Tree of Knowledge (ToK) System and larger TOK that grounds the Unified Framework directly addresses and resolves the Enlightenment Gap and sets the stage for a clear metamodern synthetic view of modernist and postmodernist sensibilities.

First and foremost, the ToK System introduces a new ontological claim about complexity, called the "planes of existence" argument. The planes of existence argument is the idea that there are fundamentally different dimensions of complex adaptive behavior. These are depicted clearly in the primary Tree of Knowledge diagram.

Matter is the first dimension of complexity. Entities in the Matter dimension are complicated and operate based on physical mechanisms. Life is the second dimension of behavioral complexity. Cells are the fundamental unit of life. They are not just complicated, but cells and organisms more generally are complex adaptive systems. Life, then, is the complex adaptive landscape that cells and organisms navigate in ways that atoms, rocks and stars do not. The fundamental reason that cells behave so differently is because of information processing and communication that takes place at the gene-Cell level of analysis.

Importantly for our considerations regarding knowledge, cells are the first full "proto-knowers". That is, cells are living organisms that exhibit functional awareness and response sets. They take in information which functionally corresponds to some state of affairs and behave accordingly. Thus, with cells we have our first "active knower". Of course, that does not mean that cells experience the world in terms of the kind of things we experience when we open our eyes and see things. But they do have a form of knowing. That is, we can speak of "cell cognition" in terms of how cells behaviorally demonstrate functional awareness and response sets and

dynamically self-organize in response to changing environments. They do so in a way that inanimate entities that are merely complicated do not. These are the living processes that make Life so behaviorally different from Matter.

Mind is the third plane of existence. Like Life, it is a separable dimension of behavioral complexity because of novel information processing and communication patterns that take place via animals with brains. With brains and animal actions, we get an entirely different level of complex adaptive responses than we see in multi-celled organisms like plants. Animals move in "real time" as whole units and produce systematic, complex, functional responses.

Culture is the fourth dimension of behavioral complexity. Just as with Life and Mind, Culture emerges as a novel complex adaptive plane of existence as a function of information processing and communication systesm that link up entities to operate on a higher order of organization. Just as genes link molecules to enable information processing and communication to foster cell behavior, and nervous systems link cells to enable information processing and communication to foster animal behavior, language links minds together to enable information processing and communication to foster the behavior of persons. This is the Person-Culture dimension of complex adaptive behavior.

The ToK frames the Person-Culture dimension in terms of the dynamics of linguistic justification, self-conscious reason giving, and large-scale ideologies and institutional rule governing structures. As depicted, Culture, as systems of justification evolve. They evolve from local indigenous systems, to premodern formal systems, to modern scientific systems.

Modern scientific justification was a major jump in the kind of justification humans engaged in. Specifically, the scientific method enabled much greater levels of objective truth to be achieved. The ToK identifies science as a kind of justification system within culture that also emerges out of culture and functions to scientifically map reality in a new way.

Solving the First Enlightenment Gap Problem: Defining Mind in relation to Matter

The problem of psychology exists in part because there is no good definition of mind. The ToK helps us see that there are, in fact, three different conceptions of mind that need to be sorted out if we are to have an adequate descriptive metaphysics that allows us to systematically map the ontic reality.

The complex adaptive animal behaviors that represent a qualitative jump in complexity give us our first definition of "mind". This is what I call the "neurocognitive functionalist" definition of mind. This is the idea that the brain and nervous system is a kind of information processing and computational control system that computes and coordinates the animal's expenditure of behavioral energy. When we observe animals act and engage in functional awareness and responsivity and learning, we are watching, from the outside, mental behavior. Externally observable mental behavior emerges as a function of neuro-information processing grounds our first definition of mind. Specifically, Mind is the overall plane of complex adaptive behavior.

We can more specifically refer to "the mind" as the information instantiated within and processed by the nervous system. So, Mind is the overall set of mental behaviors. When observed from the exterior, scientists can track animal functional awareness and response. Our ontological claim is that the functional response sets of animals emerges as a result of neuro-information. This neuro-information is our first definition of "the mind". We can call it mind[1].

Notice that mind[1] does not directly relate to what is normally referred to as "consciousness". This is complicated, because as we noted, it does relate to functional awareness and responsiveness. So, when an animal is asleep or anesthetized, we say it is unconscious and when it wakes up, we say it is conscious. This is the basic sense of functional awareness and response. However, we might be able to anesthetize a bee so that it is knocked out. However, although we can know that a bee wakes up based on its behavior, we do not know if a bee has an inner experience of being. This meaning of consciousness as the experience of being gives rise to another aspect of mind that we need to be clear about.

Sentience is the capacity to experience the world in some way. Seeing red is an example of a sentient experience. Perhaps the most basic sentient elements are things like pain or pleasure. This brings us to the second definition of mind, or mind[2]. It that refers to the subjective, first person experience of being. It can be called either experiential consciousness or phenomenology or pure subjectivity. It also relates to the first-person definition of "empirical" we covered earlier.

There are two "hard" knowledge problems associated with subjective consciousness or phenomenology. The first is the epistemological problem. This pertains to the fundamental difference between "first person" and "third person" viewpoints on knowing, as described by people like Ken Wilber and his distinction between interior and exterior quadrants.

It is as follows: A third-person or exterior viewpoint is a view that can be taken by an external observer. An easy way to think of an exterior view is that it is anything that can be captured by a video camera. In contrast, the first-person interior view is the view behind your eyes. This is fully "contained" within the individual and, of course, cannot be filmed by a camera. This containment results in two important epistemological difficulties, which are mirror images of each other. I sometimes call this the "epistemological gap" because it pertains to how we can know what we know. The first is the problem of directly knowing another's subjective experience—the problem being it cannot be done. This is the problem of, "How do I know that you see red the way I see red?" This problem also relates to our knowledge of consciousness in other animals, which we can only know indirectly. This is the point that Nagel makes in his famous text *What Is It Like to Be a Bat?* The second issue is the inversion of this problem. This is the problem that, as individuals, we are in some ways trapped in our subjective perceptual experience of the world. That is, the only way I can know about the world is through my subjective theater of experience.

The second problem of subjective consciousness pertains to what is called the "ontological problem". This refers to the difficulty in understanding exactly how (and even where) the brain produces the first-person experience of being. The common term for this problem is the "neuro-binding" problem. Consider that much of the "neuro-information processing" that goes on in your brain is nonconscious. So, we can ask: What is the magic ingredient that turns the light of experience on? This can also be termed the "engineering problem" in that we do not know how to build things that are sentient and have a subjective experience of being in the world. All these complications pertain to mind[2]. They emerge at the animal-Mental dimension of complexity.

There is yet another definition of mind, which is the meaning that Rene Descartes invoked in his (in)famous philosophical analysis that led to him concluding that the universe must be dualistic in nature. Mind for Descartes was the self-conscious reflecting portion of human awareness. His famous dictum, "I think, therefore I am" clearly captures this self-referential point. We can refer to this as mind[3]. It is different from mind[1] and mind[2] in that mind3 both pertains to human and exists on a different complex adaptive plane, namely the Person Culture plane of existence.

As this discussion suggests, the concept of mind is deeply related to, but also different from the concept of consciousness. Deep attention to the descriptive metaphysics of both concepts is crucial. To understand the Unified Framework's approach to human consciousness, it is crucial to understand the Updated Tripartite Model. This model builds off Freud and modern science and is informed by the Justification Hypothesis and Justification Systems Theory. It identifies three key domains of human consciousness as 1) subjective phenomenological/experiential; 2) narrative private story telling; and 3) public persona. The model is directly in accordance with the larger ToK descriptive metaphysics, which is shown here.
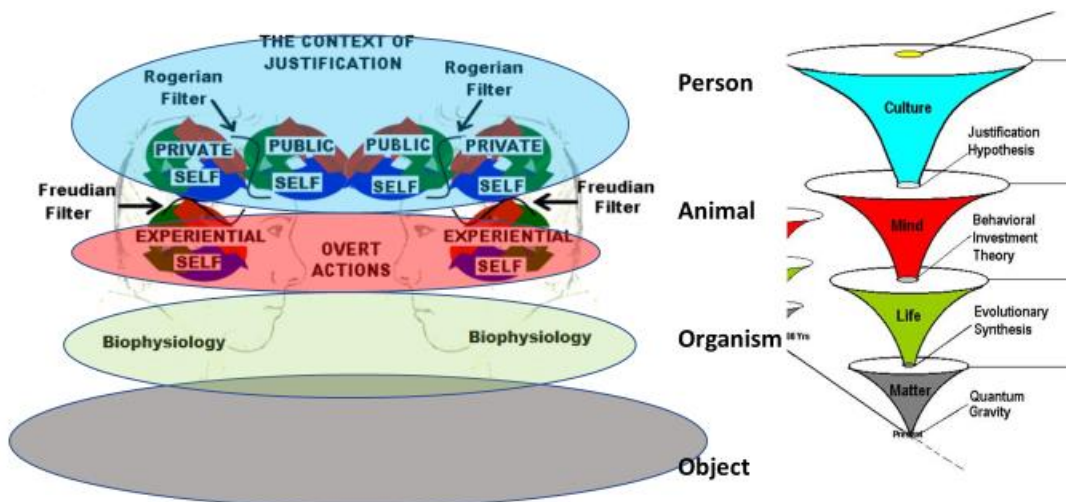

The fact that there are three radically different reference points for mind and the fact that they exist at different dimensions of behavioral complexity and are mediated by different mediums is diagnostic of profound ontological confusion. And this is why modern psychology is a

conceptual mess and the problem of psychology has not been solved. Instead, mainstream psychology tries to solve the problem of mind via scientific empirical epistemology. However, scientific empirical epistemology does not address the issue where the actual problem is, which is at the level of ontological reference points in ontic reality and the proper metaphysical operating system to describe and define one's terms. The reason is because philosophers and scientists did not have the right framework to make sense of the issues. That is one of the benefits of the Tree of Knowledge theory of knowledge.

Solving the Problem of Psychology

Developing the effective descriptive metaphysical system for the three definitions of mind addresses the ontological reference aspect of the problem of psychology. Although this problem is arguably the most "foundational" aspect of the problem in the sense that definitions, concepts and categories are the foundational tools that we use when we employ our language games to achieve the desired effects, my initial focus in developing the solution to the problem of psychology was focused on the level of metatheory. The metatheoretical level concerns itself with the problem of how the various paradigms are related to one another. This continuum of abstraction can help clarify what I mean by the difference and relation between metaphysical and metatheoretical levels of analysis.
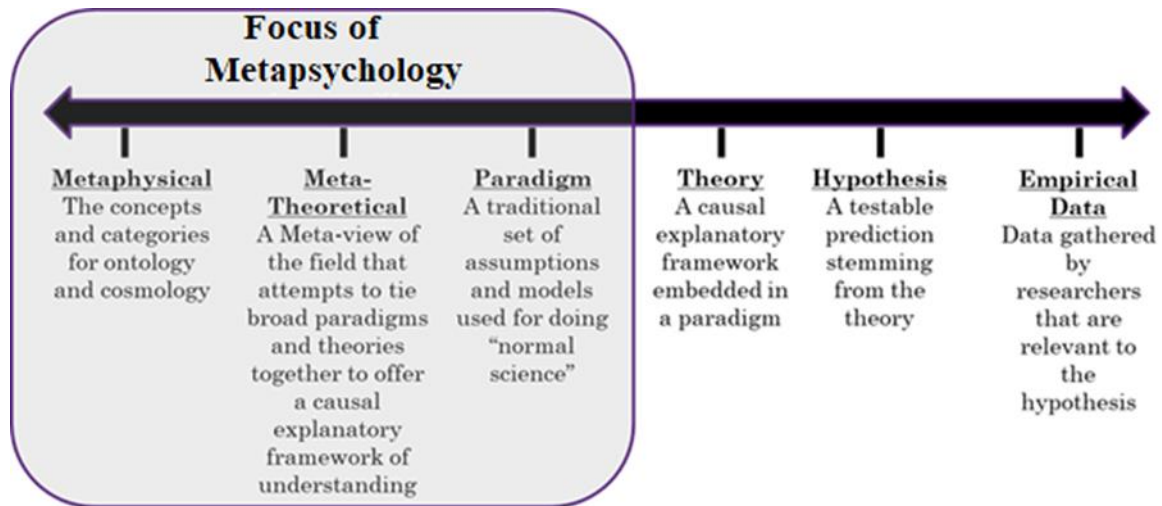
The Unified Framework is a metapsychology for the 21st Century that operates at both the metatheoretical and metaphysical levels of abstraction. The metatheoretical level is filled in by the specific work on the "joint points" between the different dimensions of behavioral complexity. The Life-to-Mind joint point is called Behavioral Investment Theory (BIT). It is a theory of a neurocognitive functionalist analysis of mental behavior, whereby mental activity is framed as an investment value system that functions to expend work effort on a cost benefit analysis toward particular animal-environment relations. It is a theory of mind[1] and frames mind[2].

The Mind-to-Culture joint point is framed by Justification Systems Theory (JUST) in general and the Justification Hypothesis (JH) in particular. The JH is the idea that the problem of social justification gave rise to the human mental organ of justification, which is the human ego, or self-conscious justifying portion of the human psyche. JUST includes the JH and specifies human consciousness in terms of an updated tripartite model. JUST also defines the concept of persons as entities that self-consciously give accounts for their actions on the social stage. Finally, JUST posits that the fundamental structure and functional organization of human Culture are large scale systems of Justification.

Taken together, the ToK, BIT and the JH solve the problem of psychology at both the metaphysical and metatheoretical levels. Here is the depiction.
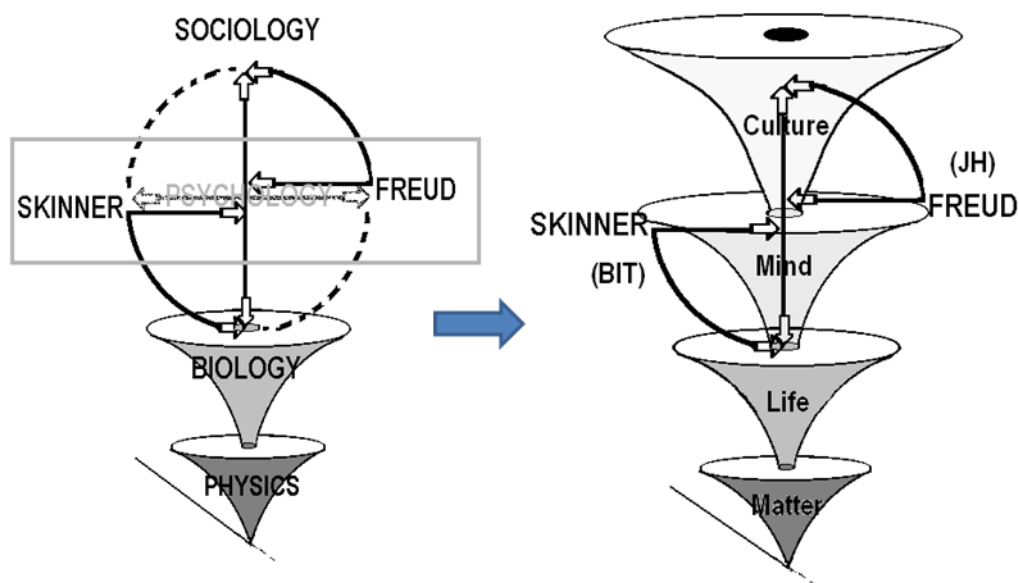
Solving the Social versus Science Knowledge Relation

As noted in defining the Enlightenment Gap, in addition to deep systematic and descriptive metaphysical problems associated with the matter versus mind relationship, there is also the problematic relationship between the nature of socially constructed knowledge and scientific "objective" knowledge.

JUST and the theory of science and the scientific naturalistic worldview afforded by the ToK are key to untangling this conundrum. To understand how, it is helpful to see the evolution of Culture justification sensibilities in terms of five stages or phases of cultural code. The first stage is of pre-formal indigenous justification systems.

When exactly the transition into this mode of being and perceiving happened is unclear. However, by 50,000 years ago, a remarkable transition in human culture and consciousness had taken place. Following Donald, the archeological evidence suggests that a transformation

occurred such that human communication had gone from a fractured "mimetic system" into an open language system with syntactical rules that enabled the emergence of abstract reasoning, symbolic thought, and the ability to pose questions. Many things are shared across human indigenous cultures that separate us from the other great apes such as language, music, animism, shamanism, art, and complex tools. During this period, all culture was oral and thus stored knowledge in other symbols, such as rituals, body ornaments, song, and dance. In addition, indigenous cultures are mainly hunter-gatherers, do not amass more artefacts and tools than can be carried around, and do not differ much in material wealth. The day-to-day groups are no bigger than a few dozen people, power differences are small, and everybody can talk to everybody, though wise elders and shamans / medicine (wo)men have higher status than others. Hunter-gatherers tend to nature as animated by spirits, with humans thought of as an integral part of nature.

The central insight of the JH is all of this likely was triggered by the fact that propositional language sets the stage for the capacity to ask questions. This dialogical, rhetorical Q & A feedback loop created the adaptive problem of social justification and ultimately gave rise to the first systems of "social epistemology." These are the intersubjective, linguistically mediated socio-cultural construction of knowledge. They constitute the emergence of the Person-Culture plane of existence. In retrospect, we can call the pre-modern indigenous and note that they were oral and engaged via dialogue and narrative traditions.

The next kind of cultural code to emerge was pre-modern formal. Approximately 10 to 12,000 years ago a massive shift in human behavior emerged. Humans in the Middle East (and gradually elsewhere) transitioned from a hunter-gatherer and sporadic horticultural culture to an agrarian way of life. This coincided with a major climate change 11,000 years ago, which quite abruptly ended the last ice age as Earth entered the Holocene.

In God: A Human History, Aslan argues that it may well have been humanity's search for meaning and the idea of God [or gods] that drove the construction of temples and thereby the emergence of cities. One such example is the site at Göbekli Tepe. Such temples required the alignment of investment practices, technology, and meaning making. Whatever the ultimate cause of agriculture, the net result was that people formed permanent settlements that and created new social arrangements. Although the new lifestyle presented new challenges, it set the stage for human organization on a much larger scale than ever before.

Humans began accumulating resources and wealth, while engaging in systematic trade practices. The need to record such practices set the stage for the earliest forms of writing. However, once writing emerged, it added to the technological mix, and spurred another massive transition. Writing is external memory. Its importance can be seen when we consider that the term "history" really references human written history.

Writing and massive human civilization gives rises formal systems of justification. These systems function to operate as grand narrative systems to coordinate people, enable shared

identities, meanings and values, and to provide a structure that frames and legitimizes institutions, such as governance, law, slavery, gender roles, trade, religious codes and sects and the like.

Premodern formal systems of also give rise to another key development in the evolution of justification systems, which is formal philosophy. This development is perhaps most clearly seen in the Greeks, and the Pythagorean-into-Socrates/Plato/Aristotle line of thought. It is the difference in the kind of epistemological justification for what constitutes "real" knowledge as opposed to conventional knowledge. Real here means epistemologically defensible rather than just true because of practical or social reasons.

A strong argument can be made that prior to the Greeks (at least in the West), knowledge was essentially justified via social and pragmatic reasons and effects. The combination of the social construction of knowledge with the pragmatic power/capacity to effect impressive, difficult to achieve accomplishments was how people "knew" what was true. Thus, the Pharaoh was King and this was true in part because he had the power to build pyramids. Then, advances in mathematics to depict a kind of "knower-independent" logical deductive truth that transcends the social epistemological claims. Such deductive knowledge demonstrations set the stage for Socrates and his method of questioning human justifiers with the challenge to define their terms. Via such advances in epistemology, it is realized among those who could engage in formal analytic justification that maybe human knowledge was basically a bunch of BS and at the level of genuine epistemology humans "knew nothing".

On the heels of Aristotle, we get two great ontologies that attempt to give us synthetic philosophical pictures of the universe and how we know about it. Plato climbs out of the cave of appearances and ends up advocating for a formist/idealist ontology. Aristotle saying no, the ontologically real is material substance. Yes, there are formal causes and we make forms out of the world via perception, but those forms are not a priori to material substance but are a function of it. The point here is that we get formal religions and synthetic philosophies that attempt to answer in systematic logically defensible ways what is true (and good).

Another change happens with the Enlightenment and the emergence of the modern scientific cultural code. At the level of ontology, there is, over time, a shift from a dual world Christian view, to a substance monist view. In addition, with Kant, there is a significant shift from primarily ontological concerns to epistemological concerns. That is, Kant argues that the reality we actually deal with is phenomenological rather than nomenological and it is the categories of mental perception and conception that are, in the end, the defining features of human knowledge.

We simultaneously get modern science with its external empirical (as opposed to internal empirical) reference epistemology and the logical coherence/correspondence/inference to best plausible explanation theory of truth.

This is important because it is part of the Enlightenment Gap. It gives us the subjective-objective epistemological split, with the idea that science is humanity's best "objective truth knowledge system/method/process" which works by factoring out the personal and social conventional knowledge traditions and giving the best possible knower independent view of the universe. However, because there are important gaps (as both the problem of psychology and the ToK highlight), the modernist system cannot hold because it is not a complete picture of the ontic reality, human epistemology and ontology.

As such, it is not surprising that in the 20th Century, we get the intersubjective turn and the philosophy of language and the ideas about the social construction of reality. This enables a postmodern critique of Enlightenment subjective-objective rational idealism. The matter v mind relation was already confusing. With the introduction of the intersubjective social construction of reality piece, the powerful postmodern critique muddies the waters and (at least temporarily) kills the dream of a grand synthetic ontologically-epistemologically coherent philosophy. Indeed, philosophy fragments into analytic, continental, pragmatic and is marginalized relative to science, at least in the public eye and academic investment.

With its metamodern sensibility of transcending and including the modernist and postmodern cultural codes, the Unified Framework enables a very clear picture of the nature of scientific knowledge relative to the Person-Culture plane of existence. As shown here, the ToK theory of knowledge provides a clear picture of the ontic reality as four planes of existence and shows how we can (and that we ought to) think of the body of scientific knowledge as an onto-epistemological system of justification that maps the universe as four different dimensions of behavioral complexity.
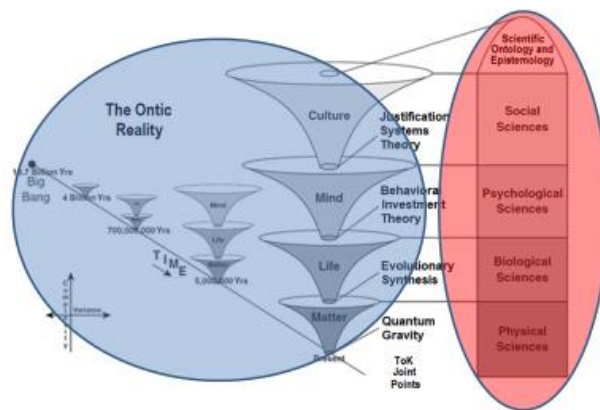
The ToK System maps the ontic reality as four separate, emergent "planes of existence" [1] Object-Matter; 2) Organism-Life, Animal- Mind and Person-Culture].

And depicts how science exists in the dimension of culture, and it shows how scientific theory emerges out of culture and its "onto-epistemology" functions to map the four planes as different domains of behavioral complexity.
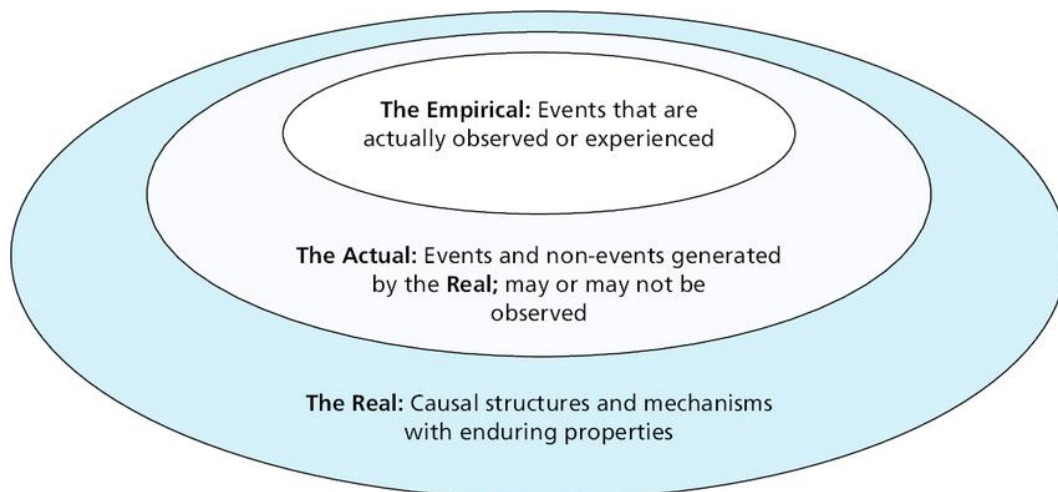
The Unified Framework and Critical Realism and Integral Theory

It has been argued by a number of scholars that Ken Wilber's Integral Theory and Roy Bhaskar's Critical Realism provide promising metamodern, metatheoretical approaches for understanding human knowledge and the human condition in the 21st Century. I argue the unified framework aligns well with both viewpoints, although it also adds much and alters them.

First, it embraces Bhaskar's basic critical realist formulation that we need an ontology that embraces key aspects of critical theory and thus offering a useful bridge between modern and postmodern sensibilities. Critical realism manages the complicated and complex dynamic relation between the social and material worlds and between the ontic reality and our ontological theories about that reality. The central ingredients of Bhaskar's critical realism are readily assimilated and integrated into the ToK Theory of Knowledge.

Key to basic critical realism is the claim that ontology does not reduce to epistemology. Bhaskar argued that the Kantian emphasis on the categories of the human mind in shaping what we can know caused an excessive emphasis on the world as phenomenology as opposed to the world as also consisting of a knower-independent reality. Bhaskar introduces the distinction between the intransitive and transitive aspects of ontology. The intransitive refers to the existence of a knower-independent reality that can be discovered. The transitive refers to the current (but also changing and fallible) conceptions that we have of the intransitive.

Bhaskar also introduces the useful distinction between the real, the actual and the empirical. The real refers to the generative mechanisms that give causal efficacy to the world independent of human knowers. The actual refers to the actual events of history. It is the set of that which actually exists at the energy/matter/substance level of existence. The empirical refers to what can be observed.

The Empirical: Events that are actually observed or experienced

The Actual: Events and non-events generated by the **Real**; may or may not be observed

The Real: Causal structures and mechanisms with enduring properties

This lines up nicely with the ToK's its frame for ontology, ontic reality, and scientific epistemology. The correspondence is that the real refers to the ontological forms that frame the concepts, structures and mechanisms that either are real in they exist completely
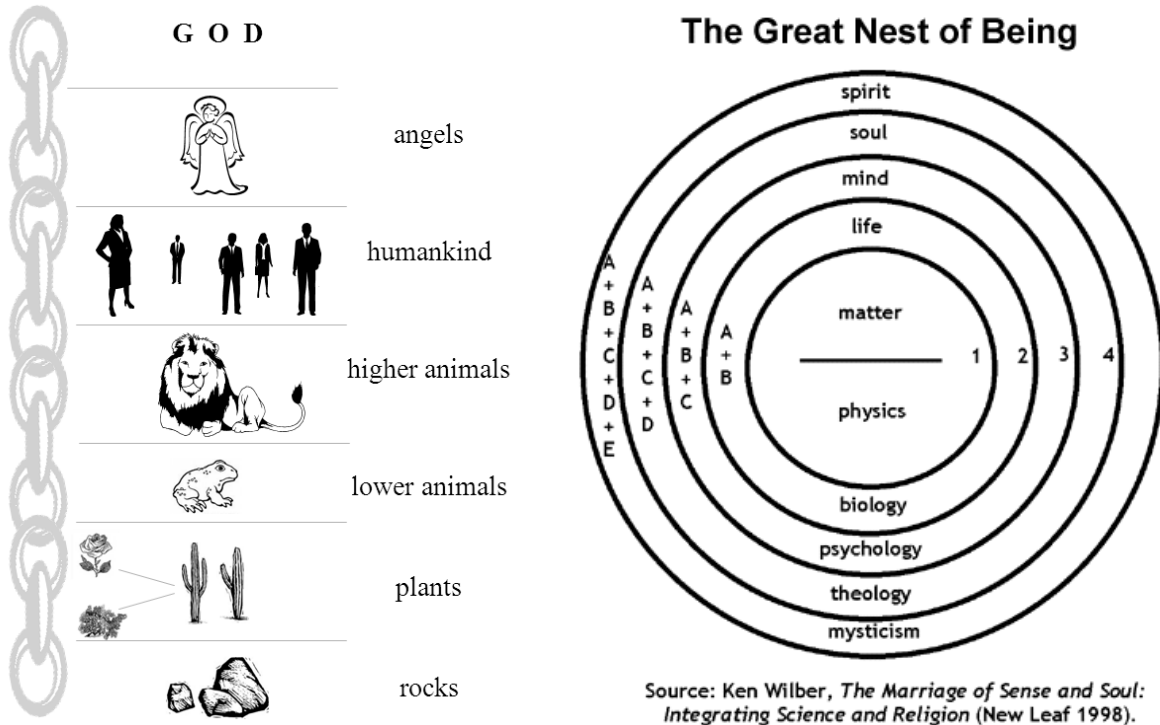
indepdently of the human mind, or they are the best ways humans have found to represent the actual, which is a more Kantian interpretation.

Newton's second law of motion, F = ma, is an example of the real. It captures general relations with generative causal mechanism properties. With it, we can also make a comment about the transitive versus intransitive, and its connection to the real. The transitive nature of Newton is apparent when we consider Einstein's $E = mc^2$ to be "more real" than the Newton conception. Presumably, general relativity describes the real spacetime energy matter relations the way they have always been. And we can note that some future physicist might advance our understanding further, such that the transitive nature of Einstein's general relativity would then become apparent. With these transitive scientific constructs of the formal relations, we are mapping the intransitive real.
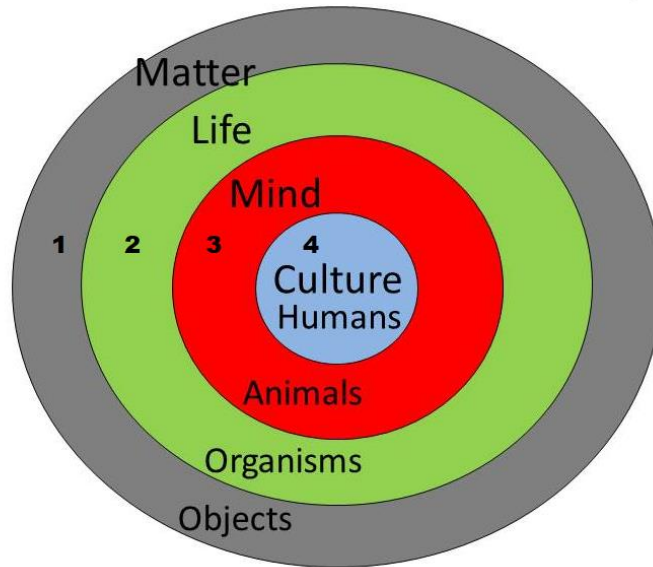
We can further say that to the extent that "the real" forms are fully independent of the human mind, one is a neo-Platonist. To the extent the forms are scientific constructions of the mind that map perceived logical patterns that emerge from the necessities and categories of the human mind, one leans more to the Kantian version of a substance that must be given form by the knower. I find Aristotle's notion of "formal causation" to be helpful here, and I more of a realist than an idealist when it comes to things like general relativity. If we ever find extra-terrestrials and learn how they make sense of the real-actual, then we will be in much better place to sort out this argument.

Bhaskar's critical realist ontology bridges social and material realities with his "four-planar social being" model, which includes the material plane and transactions with nature, the interpersonal social plane, the large-scale societal structures and institutions that frame social interaction and the stratification of the embodied personality. The lines up strongly with the Updated Tripartite Model. The only difference is that Bhaskar is missing the "planes" of life and mind, and is only emphasizing the distinction between the socio-cultural person dimension and the material dimensions.

Whereas Bhaskar focuses on reviving ontology, Ken Wilber's strength in Integral Theory is in his integrative approach to epistemology. Prior to diving into Wilber's "quadrants," it is useful to comment on his view of ontology and his embrace of the Great Nest of Being, as it lines up with the ToK System. Wilber points out that most society's have a holistic, multi-level view of reality. In the West, this has been represented by the Great Chain of being, which refers to the hierarchical levels of material entities, living entities, animals, humans, angels and, finally, God. Wilber points out that, with minor variations, this basic hierarchy has been present in almost every major worldview. Building off the work of Arthur Koestler, Wilber re-organizes the great chain into the Great Nest of being, via the concepts of holons. A holon refers to way parts and wholes are related. Consider that an atom can be either a whole or a part of a molecule. A cell can be either a whole or a part of an organism. Wilber points out that nature consists of nested holoarchies. The following diagrams show the correspondence between the Great Chain, Wilber's Great Nest and the ToK.

G O D

angels

humankind

higher animals

lower animals

plants

rocks

The Great Nest of Being

spirit
soul
mind
life
matter
physics
biology
psychology
theology
mysticism

Source: Ken Wilber, *The Marriage of Sense and Soul: Integrating Science and Religion* (New Leaf 1998).

The ToK Nested Hierarchy

Matter
Life
Mind
Culture
Humans
Animals
Organisms
Objects

One of Wilber's most important contributions to metatheory has been his conception of the epistemological quadrants. In the 1990s, after reviewing a large number of paradigms, Wilber realized that he could create a powerful classification system by dividing the paradigms into whether they focused on the interior, first person or exterior third person, and whether they

were focused on the individual level of analysis or the collective level. This gave rise to the quadrants which are as follows.
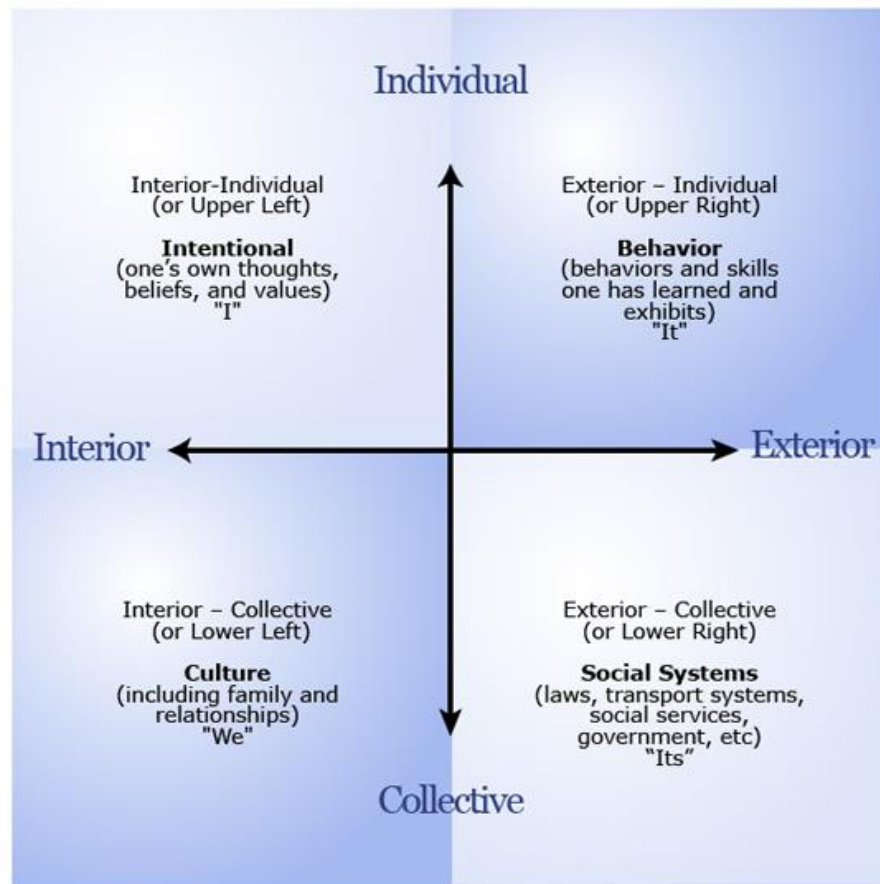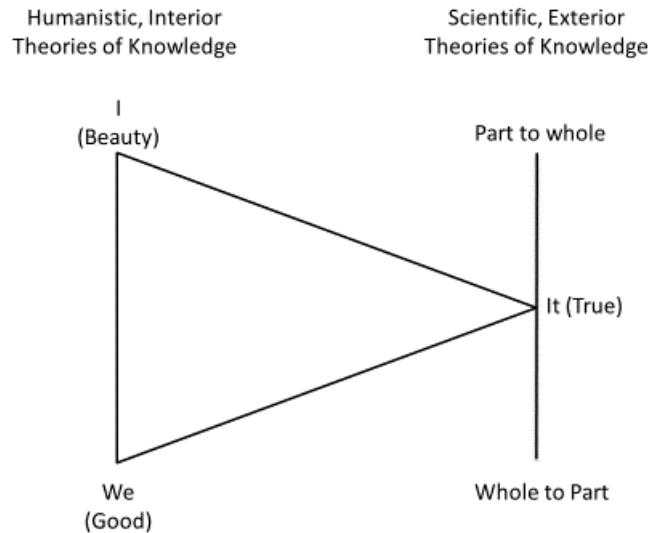

This gives rise to a powerful conceptualization of how to understand phenomenology (Upper Left), behavior (Upper Right), Culture (Lower Right) and Social Systems (Lower left).

Wilber makes a number of crucial points about knowledge and wisdom that are embraced by the Unified Framework. First, he points out that prior to the success of modern science, a much broader integrative pluralistic view of knowledge and epistemology was embraced. This can be captured by the "big three" of the Beautiful, the Good, and the True. Wilber insightfully notes how these concepts are perspectival and refer to the first, second and third person perspectives of "I", "We", and "It". Wilber further points out that modern science is fundamentally about "It" in that it emphasizes a third person, objective epistemological perspective.

This fact can be seen in the two meanings of the word "empirical". Historically, the word empirical referred to one's first person experience of data brought in through the senses. That is, empirical referred to subjective experience and the interior perspective. However, with its focus on objective observation and measurement, science shifts the meaning of empirical to the external reference point. The scientific conception of empirical is to generate an external

objective, measurable/quantifiable conception of empirical so as to remove the idiographic subjective nature of the knower and produce more generalizable knowledge. This is what Wilber captures when he talks about how science removes interiors, although this provides the positive rationale.

This brings us to a number of points. First, we can see "I" and "We" are humanistic positions in that they embrace the interior and perspectives that take seriously subjective values, such a beauty and goodness. "It" is a more objective position that attempts to reduce the influence of the specific knower and describe in as most "independent knower" terms as possible how objects behave and events emerge and unfold. For clarity, let's diagrammatically represent the I (Beauty), We (Good), It (True at individual and systems levels) in line with Wilber's quadrants.

Humanistic, Interior
Theories of Knowledge

Scientific, Exterior
Theories of Knowledge

I
(Beauty)

Part to whole

It (True)

We
(Good)

Whole to Part

The second important point that Wilber makes repeatedly is how the success of modern science resulted in a tremendous imbalance, whereby the "Truth" of the "It" has come to completely dominate the Good and Beautiful quadrants in terms of focus and development. This pertains to the emergence of the "materialistic flatland" view of the world, where science dominates and discounts or ignores interiors and collective values. Wilber correctly emphasizes the need for a more holistic view of knowledge, one that embraces science and humanistic (i.e., subjective, moral, or spiritual) epistemological viewpoints.

Despite these strong forms of agreement, there are two areas that result in some important differences between the Unified Framework and Wilber's Integral Model. First, at its ontological core, Wilber is a spiritualist. That is, the ultimate substance or ontological reality for Wilber is

"spirit". The Unified Framework is more naturalistic, and posits "energy" as the ultimate substance. Thus, from a Unified Framework perspective, Wilber tips over into what the Unified Framework identifies as the "metaphysical empirical" edge of our knowledge. That said, the Unified Framework fully embraces the concept of God or Absolute Spirit or Godhead, without committing to any separate objective ontological status for such an entity or entities. This correspondence with the idea of the Absolute Spirit is found in the representation of the Elephant Sun God as an integrative pluralistic placeholder for the ultimate or transcendent concern or Omega point.

The Tree of Knowledge
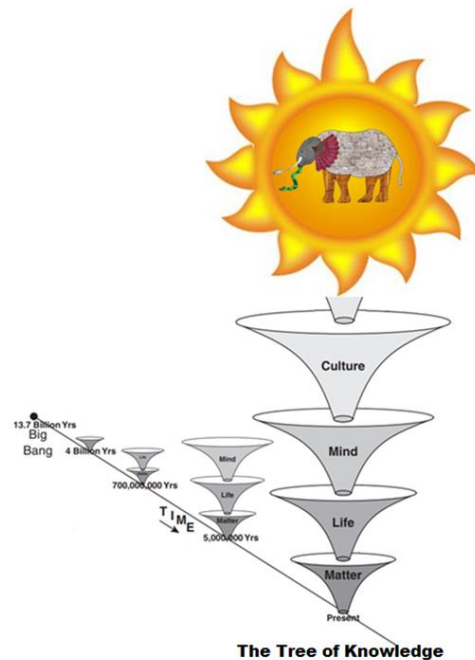
The second major problem with Wilber's interpretation of the quadrants has to do with his understanding of the Upper Right quadrant. Wilber rightly sees that righthand side of the quadrants represent "science". He also appropriately realizes that although many in science emphasize reduction, many do not. Thus, there is and has always been both reductive individualistic approaches to science (i.e., UR), but also broader developmental systemic perspectives (LR).

The problem with Wilber's view from the vantage point of the Unified Framework is that he conflates physicalism with behaviorism in the UR quadrant. This is a serious error and it throws off the effective relationship between ontology and epistemology. That is, Wilber is right that the UR is the particulate/object/external/ behavioral view. But erroneously frames it as necessarily being a physicalistic, reductionistic, flatland mechanical view of reality. That is one interpretation of the UR, but as I argue vociferously, that is the wrong interpretation. The correct interpretation is a universal behavioral view, not a flatland view. This means that
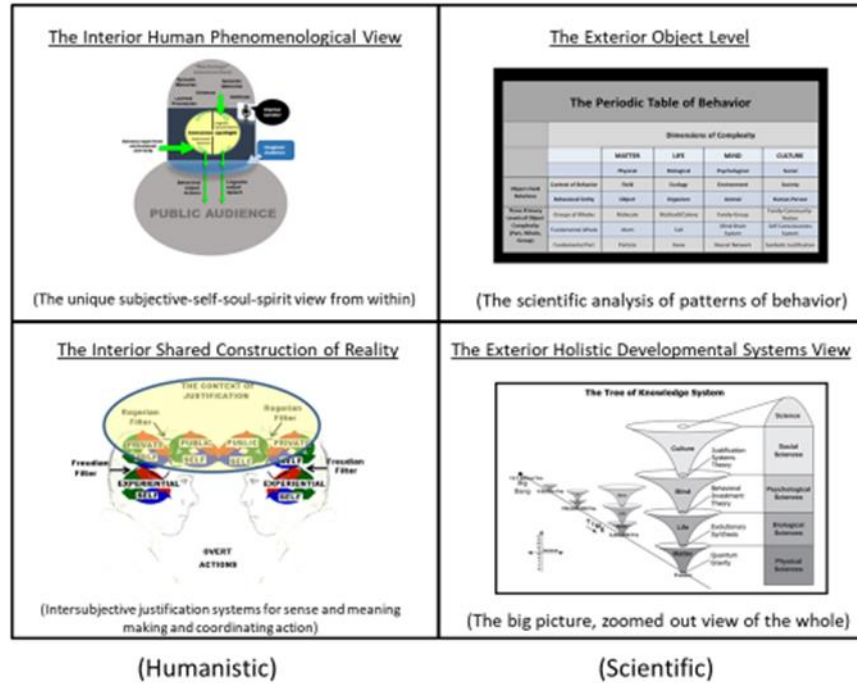
Wilber's conception of the relationship between both the UL and UR and the relationship between the UR and LR are not coherent or consilient.

In contrast, the via the ToK, the Unified Framework is a scientific behavioral view that is not a flatland (i.e., it explicitly rejects physicalism). The ToK map of behavioral kinds is seen in the Periodic Table of Behavior, which divides behavioral patterns of various entities according to the levels and dimensions fo complexity that are operative. This is the proper behavioral taxonomy lens, which is very different than Wilber's frame for reducing behavior to brain in this quadrant. With the PTB representing the UR, we can then place the ToK as a whole as representing the LR, as it provides the external, developmental systematic view that is completely consistent. In short, the ToK provides an effective map of science; that is, it embraces a third person epistemology that affords an individual-object-behavioral view and a holistic systemic Big History developmental view.

Moreover, with its map of the concept of mind and its clear map of animal and human consciousness, the Unified Framework is well positioned to map the UL in a way that is consistent with the PTB. Wilber's frame is such that the interior and exterior are so different that he sometimes seems to embrace a substance dualist view of spirit on the inside and matter on the outside. The ToK is a nondual view of interior and exterior. Put in different terms, the Great Nest with a spiritual foundation is Wilber's ontology. The ToK updates the Great Nest and offers an emergent naturalistic scientific ontology of the Great Nest/Chain. It is an "Energy-Information-to-Spirit" ontology, where Spirit is the human person/Culture's concept of God as the ultimate oneness and the ultimate good. The soul-into-spirit refers to the individual transcending their "ego-situated-in-culture" to see the "higher whole".

Finally, there is the idea of knowledge systems being justification systems defined by particular rules and parameters. JUST allows us to link the it/science, we/morality, I/aesthetics together as systems of justification that play by different rules of knowledge. In short, this allows for the metamodern project of reintegrating the Big Three into a wisdom ethic. The unified metapsychology achieves this via using tools of the system to more effectively characterize and achieve consilience across the epistemological quadrants, as show in the follow figure.

Mapping the Integral Epistemological Quadrants via the Tools of the Unified Theory

The Interior Human Phenomenological View	The Exterior Object Level
(The unique subjective-self-soul-spirit view from within)	(The scientific analysis of patterns of behavior)
The Interior Shared Construction of Reality	The Exterior Holistic Developmental Systems View
(Intersubjective justification systems for sense and meaning making and coordinating action)	(The big picture, zoomed out view of the whole)
(Humanistic)	(Scientific)

A Metamodern Consilient Theory of Knowledge and Wisdom for the 21st Century

The Unified Framework a new kind of knowledge system. It is specifically positioned to address the Enlightenment Gap, which is the failure of modern science and philosophy to generate a synthetic system of understanding that effectively captured both the matter versus mind relationship and the relationship between societal knowledge and scientific knowledge. The direct conceptual consequences of the Enlightenment Gap are seen in the problem of psychology, which is the fact that, unlike physics, chemistry, and biology, there is now shared center of coherence that defines the field of psychology. Instead, what one finds at the center of the discipline is a pre-paradigmatic muddle.

The Unified Framework solves the problem of psychology. It is does so from the vantage point of a new, metamodern integrative pluralistic sensibility. More specifically, it does so via the Tree of Knowledge System, which offers us a new descriptive metaphysical system for capturing a scientific worldview that effectively clarifies the relationship between the ontic reality, and scientific onto-epistemology generating transitive truth claims about the intransitive ontic reality. Doing so also affords us an opportunity to effectively bridge a scientific world view with a humanistic world view.

The Unified Framework is proposed as a consilient scientific humanistic philosophy for the 21st Century. Toward that end, it is has been represented as the "Garden of UTUA", which is as follows:

The Garden is a "knowledge ecology" that connects to a "knowledge economy" represented by the "iQuad Knowledge Coin".

The Garden and the coin together form a metamodern sincere ironic form of art that functions via vision logic and metaphor to capture the meaning of the Unified Framework.